

**NURSING PROCESS MODEL APPLICATION IN
MALAYSIAN NURSING EDUCATION**

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UNIVERSITY OF MALAYA
KUALA LUMPUR**

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EDUCATION**

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ABSTRACT

A mixed method survey was conducted in four Malaysian public and one private universities from September to December, 2015. The purpose of this study is to identify the current status on the implementation of Nursing's Agenda Four which is the implementation of Nursing Process Model (NPM) application in Malaysian nursing context. Therefore, this study illuminates the status on the implementation of NPM which reflects how the future of Malaysian Nursing will be expected by the Department of Higher Education. The Department of Higher Education expects that all employers of new nursing graduates have minimum four basic nursing competencies, to be referred to as Key Performance Indicators (KPI) by 2016 through implementing NPM application from 2010 onward. Therefore, the study objectives are mainly focused on the extent of success in the implementation process in terms of investigating their level of knowledge about NPM, the attitude towards NPM, its application and implementation process and their impression towards the factors that support in the implementation of NPM application. The researcher also investigates the factors influencing in the implementation process, and interpret the respondents' opinions concerning NPM and the factors that promote or hinder on the implementation of NPM application in learning theory and performing practice. The convenient sample composed of Heads of Department (HODs) and academic staffs with different positions ($n = 50$) and student nurses ($n = 486$). Two sets of adapted questionnaire which combined closed-ended questions for quantitative and open-ended questions for qualitative inquiry. The findings of quantitative inquiry by using multiple regressions show that the student nurses' gender and different study modes were not significant predictors on their practice of NPM, whereas their extent of knowledge, attitude and their impression towards supporting factors are significant predictors in their practice of NPM. The mediation

analysis reveals the supporting factors is mediating in relation between knowledge and practice which indicates that supporting factors play an important role while turning knowledge of NPM into application in Malaysian nursing context. In addition, the HODs and academic staffs' gender and their different positions in the department were not the significant predictors upon their attitude and impression towards supporting factors which indicates whether they are male or female, clinical instructor or tutor or lecturer or HODs, they have the same attitude and impression towards supporting factors. While triangulating with the findings of qualitative inquiry by using qualitative content analysis support the findings of quantitative inquiry. Conclusively, the attitude in terms of internal factors show more driving forces rather than resisting, whereas the external supporting factors are needed to improve in terms of management support, adequate resources, to create balance nurse patient ratio which affect the workload and time available of nurses, to upgrade the documentation system to reduce much paper work, to aware of teamwork and collaboration among health care professionals, to aware the importance of motivation and effective monitoring and evaluation system within the implementation context, to aware to conduct workshops, seminars, and continuing nursing education program especially paying attention to NPM application. Furthermore, intra and interprofessional awareness and collaboration are also needed to make other health care professionals to aware about this change process and implementing policy which is the application of NPM.

APLIKASI MODEL PROSES KEJURURAWATAN DALAM PENDIDIKAN KEJURURAWATAN DI MALAYSIA

ABSTRAK

Kajian *mixed method* telah dijalankan di empat buah universiti awam dan sebuah universiti swasta di Malaysia daripada September hingga Disember 2015. Tujuan kajian ini adalah untuk mengenalpasti kedudukan terkini mengenai pelaksanaan Agenda Empat Kejururawatan iaitu aplikasi Model Proses Kejururawatan (MPK) di Malaysia. Oleh itu, kajian ini dapat menjelaskan tahap aplikasi MPK bagi memberi gambaran terhadap masa depan bidang kejururawatan di Malaysia sama ada dapat memenuhi harapan Jabatan Pengajian Tinggi ataupun sebaliknya. Jabatan Pengajian Tinggi menjangkakan bahawa graduan kejururawatan baharu akan mempunyai minima empat kecekapan asas kejururawatan, yang dirujuk sebagai Petunjuk Prestasi Utama (KPI) 2016, berasaskan kepada aplikasi MPK sejak daripada tahun 2010 sehingga kini. Selain itu, objektif kajian ini adalah tertumpu kepada sejauhmanakah kejayaan dalam proses aplikasi MPK daripada aspek tahap pengetahuan responden mengenai MPK, sikap responden terhadap MPK, dan tanggapan mereka terhadap faktor-faktor yang menyokong dalam pelaksanaan MPK. Penyelidik juga mengkaji faktor yang mempengaruhi dalam proses pelaksanaan MPK, mentafsir pendapat responden mengenai MPK dan faktor-faktor yang menggalakkan atau menghalang pelaksanaan MPK dalam aspek teori dan pengamalan. Sampel kajian terdiri daripada Ketua Jabatan dan staf akademik yang mempunyai kedudukan yang berbeza ($n = 50$) serta pelajar jururawat ($n = 486$). Dua set soal selidik dibina dengan cara mengadaptasi item daripada MPK yang menggabungkan soalan tertutup untuk kuantitatif dan soalan terbuka untuk kualitatif. Dapatan kuantitatif berdasarkan hasil analisis regresi berganda menunjukkan bahawa jantina pelajar jururawat dan kaedah pengajian yang berbeza tidak menjadi peramal yang signifikan terhadap amalan mereka di dalam MPK,

manakala tahap pengetahuan, sikap dan tanggapan mereka terhadap faktor sokongan adalah peramal yang signifikan terhadap amalan mereka di dalam MPK. Analisis *mediator* menunjukkan faktor yang menyokong menjadi perantara hubungan di antara pengetahuan dan amalan di dalam MPK. Faktor-faktor sokongan memainkan peranan penting bagi menukar pengetahuan terhadap MPK kepada aplikasi dalam konteks kejururawatan Malaysia. Di samping itu, jantina Ketua Jabatan dan kakitangan akademik serta kedudukan mereka yang berbeza dalam jabatan tidak menjadi peramal yang signifikan terhadap sikap dan tanggapan mereka terhadap faktor-faktor sokongan. Ini menunjukkan bahawa sama ada mereka lelaki atau perempuan pengajar klinikal, tutor, pensyarah atau Ketua Jabatan, mereka mempunyai sikap yang sama terhadap faktor sokongan. Triangulasi dapatan kualitatif berdasarkan analisis kandungan menyokong hasil analisis kuantitatif. Rumusannya, sikap sebagai faktor dalaman menunjukkan lebih banyak pengaruh menyokong daripada menentang, manakala faktor sokongan luaran diperlukan untuk meningkatkan aspek sokongan pengurusan, mencukupkan sumber, mewujudkan keseimbangan nisbah di antara pesakit dan jururawat bagi mengurangkan kesan bebanan kerja dan masa kepada jururawat, menaik taraf sistem dokumentasi bagi mengurangkan penggunaan kertas yang banyak, memberi kesedaran kerjasama berpasukan dalam kalangan pengamal profesional perubatan, mengetahui tentang kepentingan motivasi, pemantauan yang berkesan dan sistem penilaian, kesedaran untuk menjalankan bengkel, seminar, dan meneruskan program pendidikan kejururawatan terutamanya memberi perhatian terhadap aplikasi MPK. Tambahan pula, kesedaran intra dan interprofesional dan kolaborasi juga diperlukan supaya pengamal profesional perubatan menyedari tentang proses perubahan dan pelaksanaan polisi untuk menjayakan aplikasi MPK.

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LIST OF SYMBOLS AND ABBREVIATIONS

ADN	Advanced Diploma in Nursing
ANA	American Nurses Association
APIE	: Assessment, Planning, Implementation and Evaluation
GNC	: General Nursing Council
GST	: General System Theory
ICN	: International Council of Nurses
IOM	: Institute of Medicine
KPI	: Key Performance Indicator
MOHE	: Ministry of Higher Education
NANDA	: North American Nursing Diagnosis Association
NCHPP	: National Collaborating Center for Healthy Public Policy
NLN	: National League for Nursing
NMC	: Nursing and Midwife Council
NP	: Nursing Process
NPM	: Nursing Process Model
NLNE	: National League for Nursing Education
PBL	: Problem based Learning
PNPDF	: Professional Nursing Practice and Development Framework
UKCC	: United Kingdom Central Council for Nursing, Midwifery and Health Visitors
UNICEF	: The United Nations Children's Fund
UNESCO	: The United Nations Educational, Scientific and Cultural Organization
USAID	: United States Agency for International Development
WHO	: World Health Organization

WWI	World War I
WWII	World War II
ADN	Advanced Diploma in Nursing

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CHAPTER 1

INTRODUCTION

Introduction

Nowadays, nursing and nurses are among the most important professions in the health care industry. While looking back to modern nursing in Europe, Florence Nightingale helped in changing nursing as a profession forever. Nursing was becoming more important than ever which was around the early to late 1900 as nurses were needed as a front line in many wars such as the Crimean and Civil War. With the influence of Florence Nightingale, nursing turned to a profession arena.

Florence Nightingale started the very first nursing school in London officially in 1860. It was known as the Florence Nightingale School which offered the actual training and education for prospective nurses which was providing roots for modern nursing. Britain, France and Germany were the forefront of upgrading nursing into the modern era. In France, nursing was largely centered on the religion at that time. At early 20th century, the French government moved the hospitals from outside of the church to receive the proper support.

According to Willis Commission (2012), the World Health Organization European nursing conference in Vienna supported the degree-level in nursing education and provided detailed curriculum guidance since 1988. Nursing education in many countries around the world continued to move in this direction. The first edition of nursing process and documentation booklet was published from European WHO Regional Office as learning materials for nurses and midwives in 1996 (WHO, 1996). Nursing education in the UK upgraded to higher education level with Project 2000 in 1990s, however, it was diploma route. Delivery was mostly through the

diploma route. In 2008, the Nurse and Midwife Council (NMC) decided that the bachelor's degree would be minimum academic level for all pre-registration nursing education in future.

In United States, soon after Civil War, a nurse, Clarissa Harlowe Barton founded American Red Cross, whereas Linda Richards and Agnes Elizabeth Jones helped to build a number of nursing schools all over the United States and Japan in the middle to late 1800's. It was the efforts of these women which favors establishment of the model for nursing that still exists today. In United States, there was not attached to the Catholicism; therefore, the field of nursing was not included nuns. Nursing legitimately started in the early 1700's in Philadelphia. Many of the modern advancements in nursing took place after World War I (WWI) and into World War II (WWII). Britain's nursing presence was striking low when the WWI began. The WWII proved more positive effects for nursing within the United States and other countries with the support of respective governments. The nursing profession in the United States became as admired as it is today because of focusing much on nursing improvements during WWII (Nursing School Hub, 2014).

Nursing in Malaysia began from the year 1800 and it was inherited from British. The "on-the-job training" for nurses was established and organized in every state of Malaysia. Theory and practice were taught by the English matrons or assistant matrons, sisters and doctors at the hospital level. The "on-the-job training" was the only one education system for training of nurses until 1948. The more formalized training started with a curriculum which was based on the General Nursing Council (GNC) of the United Kingdom in 1952. A Certificated in General Nursing offered up until 1992. In 1993, beginning of tertiary education for nursing

established and started at the University of Malaya. The Bachelor of Nursing course and postgraduate courses on clinical nursing were established (MOHE, 2010).

When looking back to the nursing practice, the most basic level started with the industrial revolution which was in late 1800s. The hospital nursing which is known as Diploma nursing began late 19th century which was developed in hospital. The apprenticeship model was used to train nurses at that time which focus trainee nurses to provide direct patient care in exchange for a few educational lecture, room and board, and monthly stipend (King, 1987, cited by Scheckel, 2014). In spite the benefit of this model, the nursing education leaders criticized on that.

In 1917, 1919, 1927 and 1937, the standard curriculum was published by National League for Nursing Education (NLNE) for schools of nursing which encourage diploma programs to decrease the student's work time on the ward which in turn increase attention on their education. By 1960s, baccalaureate nursing education program started. In 1965, American Nurses Association (ANA) published a position paper which stated that nurses who had license to practice should be prepared in higher education institutions such as in universities. Scheckel (2014) also mentioned that the professional nurses should be prepared minimum baccalaureate degree.

Concerning to upgrade nursing as a profession, Fawcett (1980) stated that one of the characteristics that needed to name as a profession is to demonstrate a distinctive set of knowledge. The impetus of that knowledge might be in terms of nursing model or framework or theory (cited by Mensik, 2011). Many organizations chose from the currently existed nursing theories and invent a professional nursing practice to get a single theory. Their expectation is that the theory established must be adopted for all nursing units despite of the different kinds of patients or nursing

practices. All nursing theories explain some portion of phenomena in nursing. However, the problem encountered in the adoption and invention of a single nursing theory is that do not have only one theory which can apply to all features of nursing practice.

Sheehan (1989) mentioned that the final version framework for establishing professional nursing theory/model is called the Professional Nursing Practice and Development Framework (PNPDF) which composed of three interconnected circles; contribution to patient, profession and society which are equally refer to American Nurses Association (ANA) scope of professional practice, scope of ANA professional performance, and the dimensions of quality in Institute of Medicine (IOM). Closest to the patient-centre nursing care is known as nursing process (critical thinking model) which is the ANA Standards of Practice (ANA, 2010, cited by Mensik, 2011). North America had longer history of nursing process approach rather than in the United Kingdom. During 1970s, the British nursing was concerned with the nursing process as an innovative movement.

Seaback (2006) stated that the term “process” is a sequence of planned actions or operations directing toward a particular goal or result. American Nurses Association (ANA) (2009) stated nursing process as a scientific-problem solving model and step by step process which involves assessment, nursing diagnosis or problem identification, planning, implementation, and evaluation while planning care for patients. The steps of the nursing process are built on each other, overlapped to the previous and following steps.

Vivero (2008-2014) mentioned that nursing process is the same like detailed blueprints of architect. Nurses use Nursing Process as a blueprint in taking care of patients through focusing on a patient, apply problem-solving approach, goal

oriented that enable nurses to deliver care in an organized, scientific and professional manner. Likewise, Seaback (2006) also mentioned that the nursing process serves as a guide through ensuring purposeful steps are taken. It helps to avoid errors and untimely conclusions. It also serves as a framework for nurses in using knowledge and skill on helping the clients to meet their needs.

Mason & Attree (1997) stated that the Nursing Process was adopted originally from the General Systems Theory (GST) by the North American Nursing Profession. It became an icon of contemporary nursing and the ideology of a professional nurse as well. The initial introduction of nursing process in UK was not a complete success (cited by Salcedo, 2004). The nursing process was initially introduced as a mandate in educational and professional rather than a component in organization while providing nursing care. It has been essential to nursing practice and used as a problem-solving activity while thinking about a plan of care in their daily nursing practice. The activity of nursing process involves creating nursing care plan that enhances the student nurses to practice critical thinking and decision making skills in their learning contexts (Yildirim and Ozkahraman, 2011).

Hagos, Alemseged, Balcha, Berhe and Aregay (2014) also stated that nursing process is considered as a proper method to clarify the essence of nursing, support creativity and critical thinking, and allows solving problems. Seaback (2006) also stated that the nursing process is a scientific, as well as philosophical based model. Yildirim and Ozkahraman (2011) mentioned that nursing as a profession that must be exercised a reliable, high level of critical thought together with critical actions. Applying critical thoughts within nursing process is an important construct in the nursing practice as a professional practice.

The Malaysian Ministry of Higher Education (MOHE) (2010) also stated that while upgrading nursing in higher and professional education, implementing NPM is directly impact on critical thinking, problem solving and knowledge-based practice. To accomplish the Vision 2020 of Ministry of Higher Education, the Nursing Task Force committee published the project report which mentioned to improve the current nursing curriculum at tertiary level to produce professional nurses.

The committee planned eleven agenda to achieve the Vision 2020. Among them, the agenda one, two and four are mainly concern with the implementation of NPM in Malaysian Nursing context. From the higher education perspective, if the NPM is not applied in the practice, it cannot say that Key Performance Indicator (KPI) for nursing has been met. Therefore, the MOHE laid the strategies to implement the NPM in education and service sectors by 2010. The target is “the inclusion of the Nursing Process Model into nursing practice by 2015, as a basis for building a strong background in critical thinking and problem solving in its effort to provide the highest quality care to clients”. Furthermore, the fresh nursing graduates are expected to apply NPM in their practice by 2016.

Therefore, the Malaysian Academy of Nursing was founded by 2010 which leads, guides and supervises in NPM implementation process. The Malaysian Academy of Nursing is fully functioning as an academy by June, 2011 (MOHE, 2010). During the implementation, it is important to evaluate the status of the policy carried out. Through evaluating the current status of implementing policy which is evaluation on implementation of NPM application, it can identify the strengths and weaknesses in the implementing process within the system. Moreover, the result of this investigation may figure out some highlights for policy makers and health care

education planners to outlook the results on the implementation of nursing process application in Malaysian nursing education context.

Problem Statement

In Malaysia, the Nursing Task Force Committee, Department of Higher Education, Ministry of Education (MOE) formulated the eleven agenda to fulfill the Nursing's Vision 2020 which is based on the Vision 2020 of MOE. Among them, agenda one, agenda two and agenda four are intended to change functional nursing to become a professional standard. Therefore, commence from 2010, the Department of Higher Education implement the nursing process as a professional model to produce professionally prepared nursing graduates. The Department of Higher Education intends that all employers of new nursing graduates to possess at minimum four basic nursing competencies (critical thinking & problem solving, knowledge based practice, clinical competence & accountability and ethical practice) which are composed in the Nursing Process. It means previously practiced functional task-oriented nursing approach is intended to upgrade professional nursing approach through applying the globally accepted nursing model which is the nursing process.

Therefore, the strategies were established to implement nursing process. The Ministry's target in practical setting is inclusion of Nursing Process Model into nursing practice by 2015 and the new employees of fresh graduates apply NPM by 2016 in education settings (MOHE, 2010). The Ministry of Health Nursing Division enforces standards for clinical nursing practice to constitute the Nursing Process Model which outlines six important steps in its standard of care to clients. However, according to the study conducted by Nursing Task Force (2009/2010) showed that there was no evidence of applying NPM in diploma students' clinical training and no

evidence in using NPM as a tool of care in their study hospitals. It indicates that there is needed to find out what are hindering in application nursing process.

In education setting, the Department of Higher Education enforces to teach, assess and apply nursing process model in clinical practice session at all basic and graduate nursing programmes. In addition, the Ministry's strategy mentions that teachers of nursing have to be well versed and qualified to teach and practice the Nursing Process Model. Therefore, it is needed to investigate how the teachers (academic staffs) carried out teaching of nursing process in theory, what kind of references they are using in both theory and practical, how to match theory and practice to the student nurses, and how they evaluate student nurses' knowledge and skills of NPM.

Based on the different countries' successful and unsuccessful stories on implementation of NPM application, it is needed to assess the implementation status of nursing process in Malaysian nursing education context whether the implementation process is successful or not. According to Lewin's change theory, it is unfreezing the status quo which is starting change and implementing NPM is moving stage. During these stages, it is important to investigate the driving forces (the forces/factors that are favoring in the implementation of NPM application) and restraining forces (the forces/factors that are hindering the implementation of NPM application) to weigh whether the intended change is moving forward or standstill. National Institute for Health and Clinical Excellence (NICE) mentioned that to develop a successful strategy for change, it is needed to understand the types of barriers (restraining forces) that are commonly faced in health care area.

According to NICE (2007), changing process can take long time especially in a clinical guideline which can take up to three years to fully implement. It is needed to consider the scale of change that can be achieved realistically because even small changes can get a positive impact if the change engages an action which is repeated often. In any kind of change in any situation, there have certain factors that help to foster an environment to conducive and impede/prevent the change process. There are five types of barriers (restraining forces in this study) according to NICE (2007), namely, awareness and knowledge, motivation, acceptance and beliefs, skills, and practicability.

Awareness and knowledge are the vital first step in enabling change to occur. The evidence shows that the health care professionals are often do not aware the latest evidence-based guidance and lack of familiarity with it. Motivation is an essential part of nearly everything to carry out successfully. There have external factors such as the providing incentives or penalties as a part of regulatory checks and internal factors such as self-motivation derive and desire to improve of each individual which influence the motivation and change behavior. In addition, NICE (2007) explained that the personal beliefs and attitudes impact significantly. A person's belief in their own affords to adopt a new behavior also has an impact on whether a change can be implemented successfully or not.

Globally, the implementation of NPM application in nursing education and practice agenda was a new change process which is application of the nursing process as professional nursing practice model in daily nursing care activities. Many studies conducted to identify what are the strengths and weaknesses of NPM, the factors influencing in the implementation of nursing process since its evolution and application. Salcedo's (2004) study mentioned education and training are important.

In the Salcedo's citations, Walton (1986) and De La Cuesta's (1983) study pointed out that deficiencies in nursing education were a barrier, Farmer (1986) specifically pointed out that lack of critical skills in nursing education in the past is one of the causes in facing difficulties, Martin and et al. (1997), Serrano et al. (1994), Miller et al. (1987) and, Specht and Drey (1987) highlighted to provide knowledge about the nursing process and the skills to carry out it in their practice, Serrano et al. (1994) concentrated on the importance of education programmes and taking into account upon the attitude of nurses, DHSS 1986 report mentioned on the importance of understanding and favor of managers, staff nurses and other health professionals concerning the introduction of the nursing process.

Additionally, Aseratie, Murugan and Molla's (2014) study highlighted the influence of organizational factors, level of knowledge and skill which are highly influencing in implementation process, Foroozan and Tahereh (2011) study focused on the personal-managerial factor which includes awareness, attitude and skill of the person involved, human resources, reinforcement and punishment, suitable tools and conditions, cooperation, and supervision at the managerial levels. Foroozan and Tahereh study highlighted that the impressions of nurses upon implementation of nursing process are varied and complex.

Based on the past and recent studies' findings, the implementation of nursing process is influenced by many factors such as the level of knowledge, the attitude towards NPM and its implementation process, and the practicality and practicability of nursing process. Furthermore, the practice is influenced by many factors such as the organizational factors, personal and managerial factors, the education status, the socio-demographic status, the willingness and the attitude towards change, and the professional factor which is the reflection of the social change (lack of critical skills

in nursing education in the past, mentioned by Farmer, 1986; deficiencies in nursing education stated by De La Cuesta's, 1983).

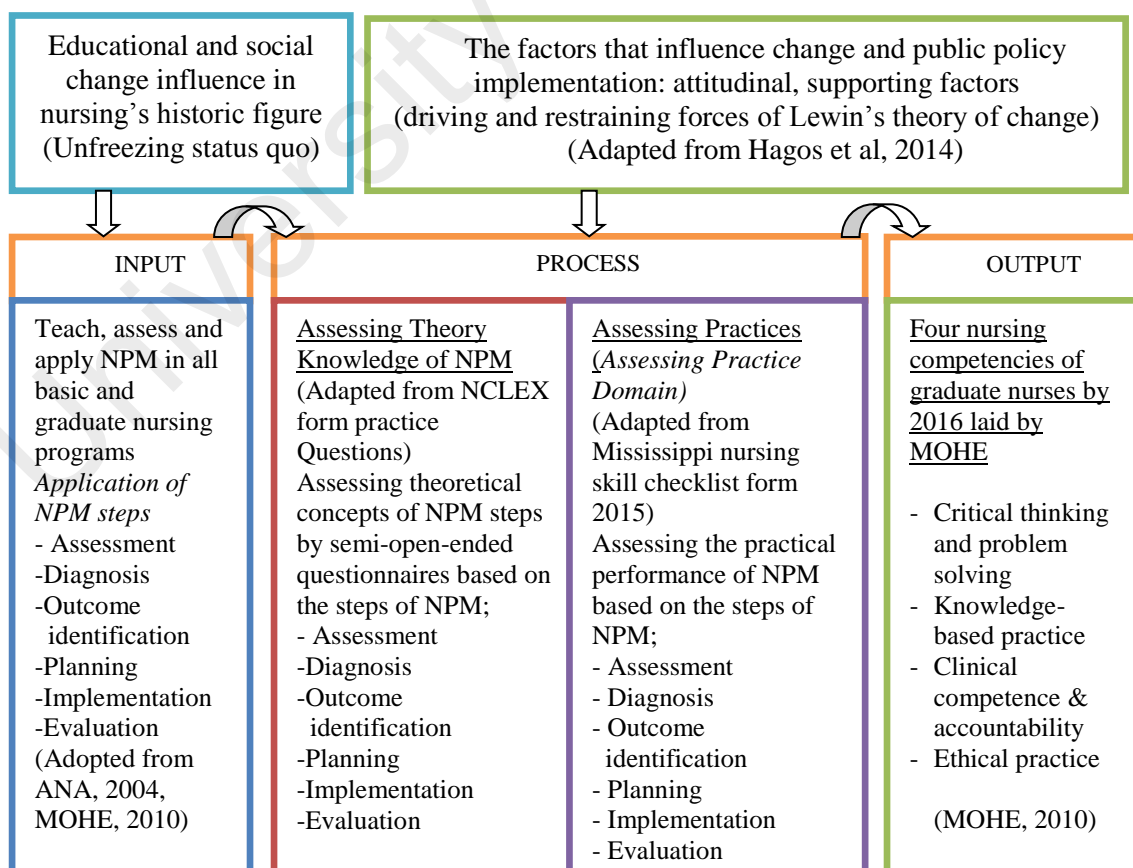
Conclusively, any change process produces certain amount of stress and the success depend on the ability to overcome the barriers (restraining forces). To investigate the status on implementation of NPM, it is needed to identify the factors influencing in terms of identifying the extent of knowledge about NPM, how much they can practice it in the clinical settings, the attitude towards NPM and implementation process as internal motivation factor, the factors that support in the implementation of NPM as external motivation factor. In addition, it is needed to identify whether the demographic characteristics, extent of knowledge, attitude and supporting factors are influencing on the practice. Furthermore, it is needed to identify the main barrier that hamper in the successful implementation of NPM in Malaysian nursing education.

Related Theories and Theoretical Framework

There are one model and three theories applied in this study. The researcher includes the concepts of nursing process model to assess the student nurses' knowledge about the steps of NPM. The researcher includes Fullan's educational change theory and social change theories to highlights why and how the change started under the influence of history of nursing and social change movement in nursing which reflect the results of implementation process and the reason of starting change. Therefore, the researcher includes Kurt Lewin's theory of change which composed of three stages, namely initiating change (unfreezing), implementing change (moving) and once the intended change had established, refreeze it

(refreezing) and manage it to get sustainability. Sustainability is an important issue to maintain the new change practices in the change process to get long-term stability.

During moving stage, it is important to identify the opposing forces which are driving and restraining forces. Lewin's force field analysis is used to decide which factors within a situation drive towards or away from intended state. In this study the researcher includes the attitude and impression towards the supporting factors in implementing NPM which are adapted from Hagos et al. (2014) study to investigate whether their attitude and impression towards supporting factors are more on whether positive (driving force) or negative (restraining force). Based on these three theories, the researcher discusses the driving and restraining forces of Kurt Lewin's behavioral change theory in nursing. The detail discussions about these model and theories are presented in chapter 2. The following theoretical framework demonstrates the theories and the steps of NPM.



Conceptual Framework

The conceptual framework starts from the MOHE's Strategic Plan 2007 which is based on the Vision 2020 of Malaysian Ministry of Education. Based on that, the Nursing's vision 2020 established in the year 2010. Nursing in Malaysia started change with this Nursing's Vision 2020 which is upgrading the functional to professional nursing standard. According the concepts of policy process, the Department of Higher Education formulated eleven agenda and adopted the nursing process as a model for practice of nursing to produce professionally prepared nursing graduates which is mentioned in the fourth agenda.

Implementation started which is unfreezing the status quo and moving stage in the change process defined by Kurt Lewin (1950). The target to achieve mentioned by Nursing's Vision 2020 is 2015 in clinical sites and 2016 for fresh nursing graduates who suppose to practice nursing process in their daily practices. According to the policy process, monitoring and evaluating policy during and after implementation is an important step to identify whether the implementing policy is functioning well in the local context. Therefore, the researcher conducted this evaluation study on implementing policy to find out whether the implementing policy is functioning well in terms of whether the implementing policy is improve or improving or not improved.

While considering about evaluating policy, it is needed to find out how much the student nurses understand about nursing process in terms of assessing their current level of knowledge (knowledge factor as a variable), their attitude towards the implementing model, its application and implementation process as an internal motivation (attitude factor as a variable). As an external motivation to carry out policy implementation, this study includes the impression towards supporting factors

which composed of administration and management support, resources and time available to apply NPM, the nurse and patient ratio (supporting factor as a variable). The researcher also includes the student nurses' ability to practice (practice as a dependent variable).

Based on the findings, the policy outcome can be acceptable or rejected in the local context. If rejected, it is needed to find out why it is rejected which can be whether the policy itself is wrong or need to improve the planning process. If the results revealed it is improved, it is needed to sustain which is refreezing stage of change process. If it is improving, maintain it and move until achieving it. Therefore, the following conceptual framework is explaining the basic concepts composed in this study which is evaluating whether the implementation of NPM application is improved or improving or not improved based on the concepts of the public policy process.

Research Objectives

The main purpose of this study is to evaluate the current status on implementation of NPM application and its affecting factors in Malaysian Nursing Education. The research objectives for this study are as follow;

1. To assess knowledge of student nurses on 6-steps NPM basic concepts
2. To investigate the status of student nurses' clinical practice
3. To investigate the attitude of Academic staffs and student nurses towards NPM, application and implementation process
4. To investigate the impression of academic staffs and student nurses towards supporting factors
5. To find significant predictors among academic staffs' demographic characteristics (gender and position) to the attitude and impression towards supporting factors
6. To find significant predictors among demographic characteristics (gender and mode of study), knowledge, attitude and impression towards supporting factors to the practice of student nurses
7. To investigate any mediating effect of "Student Nurses' attitude towards nursing process on the relationships between the student nurses' knowledge and practice"
8. To investigate any mediating effect of "Student Nurses' impression towards supporting factors on the relationship between the student nurses' knowledge and practice"
9. To explore how academic staffs implement NPM in Malaysian nursing education according to the agenda laid by the MOHE

10. To explore the nurses' (HoDs, lecturers, tutors, clinical instructors, student nurses) opinion on NPM and factors that promote or hinder on implementation of NPM application

Research Questions

1. How much extent of student nurses' knowledge on 6-steps NPM basic concepts?
2. How much extent student nurses can practice NPM in their real clinical setting?
3. How much extent of positive and negative attitude of academic staffs and student nurses towards NPM, application and implementation process?
4. How much extent of positive and negative impression of academic staffs and student nurses towards supporting factors?
5. Is there any significant influence of academic staff's demographic characteristics (gender and position) towards their attitude and impression towards supporting factors?
6. Is there any significant influence of student nurses' demographic characteristics (gender and mode of study), knowledge, attitude and impression towards supporting factors in application of nursing process?
7. Is there any mediation effect of student nurses' attitude towards nursing process on the relationship between knowledge and practice of nursing process?
8. Is there any mediation effect of student nurses' impression towards supporting factors on the relationship between knowledge and practice of nursing process?

9. How did the academic staff implement NPM in Malaysian Education Context according to the agenda laid by MOHE?
10. What are the opinions of nurses (HoDs, lecturers, tutors, clinical instructors, student nurses) on NPM and the factors that promote or hinder on effective implementation of NPM in learning theory and performing practice?

Rationale of the study

Education is one of the key drivers to transform from a middle- to high-income nation through its impact on the productivity of human capital development. The Malaysian education sector supports a lifelong learning experience through tertiary and post-graduate education (Economic Transformation Programme, 2010). Based on National Education Blue Print, the Ministry of Higher Education (MOHE) sets the Vision 2020 which is intended to produce knowledgeable and competent graduates, who are innovative, possess high cognitive skills (analytical and critical, problem solving, and reasoning abilities), multi-lingual, able to communicate effectively and technology savvy, able to inculcate good views and contribute to the well-being of the society, nation and the global community. The achievement of the plan depends on effective implementation and monitoring system (The National Higher Education Strategic Plan, 2007).

To implement the MOHE's vision, the Nursing Task Force Committee, under the guidance of MOHE has identified the eleven agenda to produce professional nurses with four basic nursing competencies for new graduates and for those entering nursing service which are practicing critical thinking and problem solving, knowledge-based practice, clinical competence and accountability, and ethics. To fulfill the higher education strategic planning, the Nursing Task Force Committee,

Department of Higher Education, MOHE laid strategies to implement NPM which convinces the nurses to practice critical thinking and problem solving, knowledge-based practice, clinical competence and accountability, and ethics. In educational planning, the policy process is an important component and involves a variety of process such as analyzing the current situation, generating and assessing the policy options, preparing and monitoring of policy implementation vigilantly, and expecting that leads to redefining a new policy cycle eventually.

Therefore, a considerable amount of planning and real policy formulation happens even during the real implementation phase. This is due to possible appearance of certain issues like; circumstances related with the constraints in implementation that convince policy to modify, the feedback gained during implementation which is needed to reassess the policy decision aspects and subsequent modifications are needed to carry out by policymakers, and the simple translations of policy from abstract into concrete implementation contributes re-assessment and re-design during implementation. These certain changes can occur frequently because the estimated problems for implementation are often greatly underestimated during the policy planning stage. Therefore, subsequent evaluation on the implementation process is crucial part to succeed the intended mission, vision, agenda and implementation strategies. Therefore, effective evaluation system is critical concern throughout the implementation process of NPM and evaluation is a crucial issue to identify and explore concerning whether the implementing model is functioning well or not and what are the factors that hinder or promote the ongoing process of implementing the nursing education policy.

Rationale of choosing Malaysia for this study

Barrett, Sheffield and Richardson (1996), Wilson Barnett and Bateup (1988) highlighted that nursing is rooted in the religious and military inheritance. The development and culture of hospitals were also alike militaristic, authoritarian, bureaucratic institutions such as concern for order, rules and regulations, and focusing on infection control. Therefore, it has been analyzed as disempowering and deprofessionalizing during the first half of 20th century (cited by WHO, 1996). According to the Nursing's Vision 2020 of Malaysia, Malaysian nursing started 18th century and its development is also the same trend British nursing. Therefore, Malaysian nursing training and practice was greatly concern on rules and order and follow the authoritative style. In the Malaysian Nursing's Vision 2020, it was mentioned that "while British nursing has evolved with time, the old British system is still within.

Commence from the middle of 19th century onwards, nursing practice changed due to rapid medical and technological advancement and the primary role of nurses' caring function deteriorate. The roles of nurses become unclear, under questioning and arguing in various countries in different scenario. Nurses were trying to search the professional ideology of nursing. The nursing process developed from United States of America become the professional icon in nursing's history. It has also adopted by important global organizations such as World Health Organization (WHO) and International Council of Nurses (ICN) (WHO, 1996).

Mellanova (2005) stated that the national governments and nursing organizations based legal prescription of quality nursing on nursing process such as Sweden, Germany, UK, South Africa, State Practice Act in USA, the American Nurses Association (ANA) and the United Kingdom Central Council for Nursing,

Midwifery and Health Visitors (UKCC). At the end of 20th century, Czech Republic recently followed this trend of implementing nursing process (Mellanova, 2005). According to Uys and Habermann (2005), the “blind spots” on the international map with regard to application of nursing process are quick to adopt it as soon as they join the global nursing discourse.

Commence from 2010, Malaysian nursing adopted nursing process as nursing process model as a legal prescription in all level nurses including student nurses to upgrade professional nursing standard to enter global nursing discourse. Based on the stories of different countries’ implementing process of nursing process as a mandate, it is worth to study concerning the driving vs. restraining forces within the change context of Malaysian nursing education and practice.

Significance

Education policy is soaring agenda of governments across the world. The focus progressively more attention on the policy outcomes becomes worldwide. In planning policy, it would be estimated concerning the desirability, affordability, and feasibility while choosing the policy option in compare with the current situation. The desirability involves three dimensions; the impact of the policy option on various interest groups or stakeholders, compatible with the main ideology and target economic growth, and the impact of a policy option upon political development and stability. Affordability relates with fiscal cost and evaluation of social and political costs as well. The feasibility concerns with the availability of human resources and enough duration for implementation which is more difficult to calculate than fiscal resources. There is a short supply of highly trained personnel in many developing countries (Haddad, 1995).

Furthermore, the other equally important factor is the presence of the institutional culture (norms, procedures, and environment) which is necessary to attract, retain, and effectively utilize the human resource while transforming policies into plans and implementation. Throughout the implementation stage, the many possible causes such as inadequate human capital, funding, or economic stimulus cause failure even though the policy is well designed. When the assessment shows the deficiencies in outcomes and, the implementation can be shown to have been not well done, it is needed to re-assess the policy decision and to decide what kind of modifications or what new policies should be replaced for the ordinary choice (Bell and Stevenson, 2006).

Assessing the policy impact (policy evaluation) is distinctly important to determine whether the policy should maintain, modify, or reject. Interpreting the assessment results has a very strong influence on what come next. There are three possible while interpreting the results of assessment. Firstly, the policy is right track and should maintain. Second, there is lack of policy outcome because of having problems on implementation and should be adjusted. As a third, the poor policy outcomes due to the nature of the policy itself, and it should decline. There have three conditions which can lead to a decision to abandon it. The first condition is to abandon the policy is when the outcome was not what was expected. The second condition is that the policy-makers often did not get into the main point of the matter, and the third condition is mistaken the implementation problems for shortfalls of the policy itself (Haddad, 1995).

Through conducting this study, the results may contribute some important issues such as the practicing policy (implementation of NPM) is whether it is in right track and should be maintained or need to modify in implementation process or need

to reject it through identifying the extent of success and the factors that favors or hinder in implementation process. Therefore, the main aim of this investigation is to carry out evaluation on the implementation of Nursing's Agenda four which is application of NPM in Malaysian nursing education and it's affecting factors. The results of this study also can be referred as a baseline data for future related studies and will provide important points to the policy makers, health care and education planners.

Operational Definitions

Term	Operational definition
Evaluation	Evaluating the current status on implementation of nursing process model application
Nursing Process Model (NPM)	A model composed of six steps; assessment, nursing diagnosis, outcome identification, planning, implementation, and evaluation which is a systematic decision-making and problem solving method based on critical thinking that focus on identifying and treating responses of individuals or groups to actual or potential health alterations.
Implementation	Implementing NPM in theoretical teaching and clinical teaching in practical settings to reach the professional nursing practice targeted by the Department of Higher Education, Malaysia.
Functional Nursing	The apprentice style which was applied in Malaysian Nursing's past training style which is assigning nursing staff/nursing students that is task-oriented and activity-oriented.
Professional Nursing	Practicing and teaching nursing care activities through application NPM to get four basic nursing competencies for fresh nursing graduates in Malaysian nursing education context.
Knowledge	The level of knowing concerning the facts and information acquired by the student nurses from theoretical and practical understanding of NPM.
Attitude	The attitude of student nurses, lecturers and clinical instructors' way of thinking or feeling upon NPM, application of NPM in their theory and clinical practices.

Term	Operational definition
Practice	The actual application of NPM based on its steps which are assessment, diagnosis, outcome identification, planning, implementation and evaluation.
Knowledge factor	Knowledge of NPM as a factor that influence the status on implementation of NPM application in Malaysian Nursing Education context.
Attitude factor	Attitude towards NPM as a factor that influence the status on implementation of NPM application in Malaysian Nursing Education context.
Practice factor	Practicing NPM as a factor that influence the status on implementation of NPM application in Malaysian Nursing Education context.
Supporting factor	The factors that reinforce and support in implementation of NPM in Malaysian Nursing Education context.
The status on implementation of NPM	The current status on application of the steps of NPM stated by MOHE (assessment, diagnosis, goal/expected outcomes, planning, implementation, evaluation) in teaching and practical settings to get the four basic competencies of new graduate nurses which are critical thinking and problem solving, knowledge based practice, clinical competence and accountability, and ethical practice.

Conclusion

With the influence of the wars and social changes in the history, the caring function of nurses plays an important role in health care industry. The status of nursing improves from informal to formal education standard due to the changes of social needs and demands, medical and technical improvements after wars. The formal nursing education was formed by Florence Nightingale. The nurses at that time were practicing apprenticeship model which is based on hospital. Nurses had less theory input and practice under the guidance of senior nurses in the hospital. From ninetieth century onwards, nursing practice was greatly influence by rapid technology improvement and medical science advancement which disrupt the fundamental caring function of nursing in many ways. Nursing become functional

task oriented rather than person-centered. It affects the development on knowledge of nursing itself (WHO, 1996).

In the WHO 1996 report, Barret et al. pointed out that there has been a growing popular demand for health care to become person-centered more in different countries at different times. It was questioning on what the roles of nurses are and what is nursing. Nurses became increasingly dissatisfied with the lack of clarity between their role and their surrounding in contribution of health care. In the late 19th century, nurses became more concern on the professional nursing practice which demonstrated critical thinking while performing nursing practice. Closest to the patient-centered nursing care is nursing process and it became the ANA Standards of Practice which demonstrate the critical thinking process (ANA, 2010, cited by Mensik, 2011). North America had longer history of nursing process approach rather than in the United Kingdom. During 1970s, the British nursing was concerned with the nursing process as an innovative movement (Sheehan, 1989).

Nursing process, started from its evolution, it disseminate around the world as a professional ideology and most of the countries adopted as a professional development model and implementing it as a mandate (legal prescription) to change current status of functional nursing and to build global nursing culture. While looking into nursing and nursing training in Malaysia, it also started during 1800s with hospital-based apprentice model training. However, with the influence of nursing's history, internationalization and globalization concepts, nurses in Malaysia become concern upon their status quo. Malaysia became involved in creating global nursing culture in 2010 as they do not satisfy the status quo which is practicing functional task oriented nursing. In respect to the Vision 2020 of National Higher Education strategic plan, Ministry of Higher Education (MOHE) (2010) upgrade

nursing in higher and professional education through implementing NPM to get into professional nursing context. The Ministry targeted that all employers of new nursing graduates have a right to expect the graduates to possess at minimum four basic nursing competencies, to be referred to as 'Key Performance Indicators (KPI)' by 2016. According to the Lewin's change theory, this is unfreezing the status quo. To move this change, the Department of Higher Education formulates the policy and adopted nursing process as professional education and practice model in Malaysian nursing context.

This policy implementation commence in 2010. With the concepts of public policy process, subsequent monitoring and evaluating the implementation is crucial part to succeed the intended mission, vision, agenda and strategies. In addition, it is needed to weigh the driving vs. restraining forces according to Lewin's change theory, and Fullan's educational change theory as factors influencing in this nursing education and practice change process. To get overall picture of evaluating the implementation status of NPM application, the researcher include the demographic characteristics, knowledge about NPM, attitude towards NPM (internal motivation), impression towards supporting factors (external motivation), and extent of practice as the main variables in this study.

Through evaluating these variables, it can identify the strengths (driving forces) and weaknesses (restraining forces) within implementing process. This study findings figure out some importance facts for policy makers and health care education planners to outlook the status on the application of nursing process which is their target to transform the functional nursing status to professional nursing status in Malaysia.

CHAPTER 2

LITERATURE REVIEW

Introduction

This chapter composed of three categories embedded with five main themes which are; development and evolution of nursing profession globally, development of nursing training and roles of nurses in Malaysia, the milestones of Nursing Process Model (NPM)/Nursing Process conceptual framework, theories of change, public policy process and chapter summary. The six main themes composed of twenty four sub-themes and discussing in details about when did nursing start, how it developed, and how did functional vocational nursing training become professional nursing status in Europe, United Kingdom, United States, Australia and Malaysia.

The meaning of focusing these issues is to look into the trends concerning the training and education development of nursing which are ups and downs together with the social and educational change movements of the global inclination. Within these social and educational changes, this session is trying to highlight on what are the factors/conditions that contribute nursing from the status of handmaiden towards higher education sector and profession arena, what are the barriers/constraints during change process of training nurses into higher education and professional arena, and what are the favorable factors/conditions that support in this movement from the policy process perspectives which are the reflections and the influences of social, educational and behavioral change process.

Furthermore, this session is intended to looking for the ways that create the favorable conditions, the favorable environment, and the favorable culture and climate in implementing the NPM which is the globally accepted as a professional nursing training framework/tool/model while upgrading training of nurses in a

professional way. In addition, this session is looking for the constraints and barriers while implementing public policy from the education policy perspectives, especially for nursing education and practice training development and the ways to overcome these barriers and constraints in Malaysian nursing education context.

The first main theme, development and evolution of nursing profession globally compose five sub-themes. The first sub-theme discussed about the highlights on how the nursing training developed and how did nursing education become professional education through changing in practicing apprentice model to applying nursing process model as a global concept and perspective. The rest four sub-themes are discussing on the development of nursing training, roles of nurses and nursing trainees, and, what were the factors that contributed to the nursing and nursing training to become a professional status in Europe, United Kingdom, Australia and United States. Development of nursing training and roles of nurses in Malaysia as local context is presented as a second main theme. These two sessions are intended to match and reflect with the findings of other related studies which are the implementation on application of NPM in different countries and local context.

In fact, about nursing and nursing training development can see every place as a global context. However, according to the propose study area, the sub-themes are mainly focus on certain countries which are mostly related and influencing on training development of nursing and nursing education in Malaysia. This study is focusing on how does nursing in Malaysia is intending to move from functional nursing (applying apprentice model which is hospital-based training) towards globally accepted professional nursing through implementing nursing process model/framework/tool in their daily nursing practices.

The third main theme, the milestones of NP consists ten sub-themes which are introducing Nursing Process (NP), the evolution of NP, the dissemination and innovation of NP around the world, the fundamental concepts of NP, the phases/steps of NP, the theoretical features of NP, the practical features of NP, the different models and theories used while carrying out nursing process, the implementation of NP, the issues related to implementation of NP, and the factors influencing implementation of NP. The idea of expressing about these sub-themes is to explain why the NP was evolved and how it was developed. In addition, this session is aimed to show the evidence of effectiveness on application of NP in nurses' daily practice, how much it can improve in providing evidence-based quality nursing care, how much it is helpful in nursing education and evidence based practices, and how did the application of NP disseminated globally.

Through understanding these issues, it helps to highlight why the Malaysian nursing education sector decided to implement NPM in Malaysian nursing education and practice context. Furthermore, it can reflect how nurses in both teaching and clinical settings implement the NPM in their teaching and clinical practices. In addition, this session is trying to explore the theoretical and practicality features of NP.

The fourth main theme, theories of change comprises five sub-themes. The first three themes are discussing about three change theories; Kurt Lewin's behavioral change theory, Michael Fullan's educational change theory and social change theories. The rest sub-theme is discussing about the factors that influence in change process. The meaning of exploring these three theories is to explore and relate on how the change process is going on in the changing circumstances of nursing education and practice trend. In addition, it is going to explore about what

are the factors that influence to get success or fail in policy implementation process in nursing education and practice arena. Furthermore, this session is trying to explain on how to handle and how to overcome the constraints and barriers during change process. Kurt Lewin's behavioral change theory is helping to find out and relate the driving forces and restraining forces (the factors influencing in this study) that occur while implementing NPM in Malaysian Nursing education and practice context. Michael Fullan's educational change theory is going to relate with the changing paradigm of nursing education and practice context, and explaining what factors are important in any educational change process. Additionally, the social change theories support how the social change movements influenced and bring along in the movement of nursing education and practice pattern.

The fifth main theme, public policy process involves four sub-themes which are introducing about the public policy, policy process, the factors influencing policy implementation, and the importance of policy evaluation. The meaning of explaining the public policy process is to explore the fundamental concepts of the policy process steps to match these concepts into the changing paradigm of Malaysian nursing education context. Additionally, it is intended to find out the factors that involve and influence in implementing the nursing education and practice policy implementation which is implementation on application of NPM in nursing education context.

The last main theme, summary of chapter is discussing about how the public policy process is going on upon the change process of functional nursing to professional nursing status through implementing NPM/NP conceptual framework from the global perspectives. Therefore, this session is intended to sum up the historical development of nursing education and training shifts in relation with global, social and educational change process. In addition, this session is going to

summarize the factors that contribute the changing of Malaysian nursing education context which is upgrading functional nursing towards professional nursing status through implementing NPM in education and practice sectors.

Development and Evolution of Nursing Profession Globally

The Highlights on the Development of Nursing as a Profession. Globally, the evolution and development of nursing as a profession is intricately linked to historical influences throughout the ages (Egenes, 2014). Nursing evolved within traditional pattern of caring for and curing to others; therefore, nursing is viewed as a fundamental human activity (WHO, 1996). Tracing the training of nursing history in each country is various and expressing the history of its various branches is difficult. Barrett, Sheffield and Richardson (1996), and Wilson Barnett and Batehup (1988) mentioned that the historical context of nursing is rooted in the religious and military inheritance such as concern for order, rules and regulations, and focusing on infection control. This trend greatly influenced on what nurses do in during the first half of twentieth century. Similarly, the development and culture of hospitals were also alike militaristic, authoritarian, bureaucratic institutions. Therefore, it has been analyzed as disempowering and deprofessionalizing (cited by WHO, 1996).

The report of WHO (1996) mentioned that from the middle of ninetieth century onwards, the practice of nursing was greatly influenced by rapid technology development and medical science advancement. It led to an erosion of the fundamental caring functions of nursing in many ways. Due to the influences of medicine, nursing became increased concern to the changing needs of doctors to delegate technical medical tasks more and more. Therefore, nursing was not developed as a profession in itself. However, it followed the direction of

developments in medicine. Along with medical sciences, many other health related professions and profession of behavioral and human sciences were expanded. Such kind of situations eroded the contribution of nurses to people's care by taking many roles and activities. Therefore, nursing became functional and task-oriented rather than person-centered. It created slowing down to develop its own knowledge base for practice. It was often not used to inform nursing practice even where knowledge existed.

In the WHO 1996 report, Barret et al pointed out that there has been a growing popular demand for health care to become person-centered more in different countries at different times. It was questioning on what the roles of nurses are and what is nursing. Nurses became increasingly dissatisfied with the lack of clarity between their role and their surrounding in contribution of health care. Nurses became greatly concerned by the failure of authorities to find adequate solutions to a critical situation. The view of the society on nursing was that nursing was about supporting and complementing medicine. Nurses, especially in North America started to argue the need to define the unique contributions of nursing. Nurses have done and still doing the work of doctors and dieticians, cleaners and clerks, porters and priests at different times which all create ambiguity to the uniqueness of what is a nurse. Therefore, the issues of "what the role of nurses is" and "what is nursing" are still under questioning and arguing in various countries with different scenario. Because of these issues and context, many countries are trying to change functional task-oriented approach to upgrade towards a professional nursing during late 19th and 20th century.

The Nursing Process (NP) as a professional image was started to introduce by Lydia Hall in 1955 in America to improve the status of nursing to become a professional. Currently, NP composed of six steps and nurses are practicing it in their professional practice contexts. Through practicing NP, nurses are providing holistic care with holistic point of view, practicing decision-making, critical thinking which in turn reflect nurses' uniqueness, autonomy which leads nursing towards a profession. The next session is highlighting the historical development of nursing training, the role of nurses and how the nursing process involved in European nursing context.

Development of Nursing Training and Roles of Nurses in Europe. In Europe, nursing began with the hospital and prison reformers of the late 1700s. Until 1800s, the famous Augustinian Sisters were the figure of providing public nursing. In 1863, European governments developed their own training programmes and nursing was reformed by the International Red Cross across in worldwide. The new training for nurses became remarkably available as the Deaconess Institute at Kaiserworth in 1836 at Germany. The first 'Nightingale nurses' were trained in 1860 and, widespread throughout the UK and the British Empire. Professional nursing associations existed in 35 countries by 1930 (Science museum, accessed on 2/2/15).

Nursing School Hub (2014) also mentioned that Britain, France and Germany were the forefront of upgrading nursing into the modern era. In Germany, deaconess is basically an incharge nurse to provide health care for the women in the early 1800s. There were reportedly well over five thousands deaconesses in all of Europe, primarily in Germany by the dawn of the 20th century and nearly fifty thousand by the late 1950's. Such kind of deaconesses was even found to be located in the U.S.

and Canada. Nursing was centered largely based on religion in France. Most of the nursing staff was comprised of Catholic nuns in 1870. It was increased in the next 40 years. In the early 20th century, the French government secularized hospitals outside the church which allowed all patients to have a better quality of care. The World War I (WWI) created a huge shot to nursing inside the country. A national diploma in nursing started to offer in 1922. The same like UK, the milestones of nursing development and training occurred during and after Crimean War. The military hospitals were developed to deliver care to the soldiers and military patients which is also the same way of nursing development in UK.

According to the Brigg's and WHO 1996 report, the European and UK nursing mainly focused on task-oriented approach. Four European countries; Iceland, Turkey, United Kingdom and Spain offered an undergraduate nursing programme at university level at the end of the 1970s. Nurses are caught up in the dilemma of providing a satisfactory health service against the decrease supply of resources and economic restraints among all European countries. In historic time, nursing has not been effective in expressing the nursing point of view or the contribution of nursing to health. As mentioned by Farmer (1986) cited in Salcedo (2004), WHO played a decisive role in the initial implementation of the nursing process in Europe through conducting multidisciplinary studies at the end of the 1970s. There has a will from within and outside the profession to commence the nursing process to improve the quality of care and the status of nursing. However, according to Salcedo (2004), the implementation was not an easy and smooth process in real contexts.

In 1988, WHO acted as a catalyst in the first European Conference on nursing which was carried out in Vienna. European nurses increased awareness on the need for reorientation of practice and education. The participants of this conference

recommended that innovative nursing services should be developed, especially focusing on health rather than disease (WHO, 1996). Additionally, WHO published the nursing process and its steps to practice in European countries. Nursing in Europe upgraded into higher education through Bologna declaration to harmonize the nursing and midwifery education system and programmes within European Union (EU) countries in 1999 (WHO, 2009).

Conclusively, when flash back to the milestones of European nursing, it seemed the task of nurses were much influenced by other health related professionals, it was task-oriented and mostly based on medical model at the beginning of the second half of the 20th century. Therefore, the roles of nurses were underdeveloped, only carrying out routine functions according to the medical orders. Because of the outputs of European nursing conference, nursing care turned to focus on individualized nursing care approach based on nursing process rather than disease oriented. The next session is going to highlight on the historical development of nursing training, the role of nurses and how the nursing process involved in United Kingdom's nursing context.

Development of Nursing Training and Roles of Nurses in UK. Before 18th century, a good deal of nursing work inevitably included ministering to the spiritual comfort to the patients before effective treatments were available. Consequently both hospital and home nursing were matters of concern to religious interests (Dingwall, Rafferty and Webster, 1988). Before the middle of 19th century, nurses employed in hospitals and private homes were not educated and no official training. In 1840s, nursing sisterhoods were founded to improve standards of nursing in Britain. For the appreciation of Florence Nightingale's achievements during the

Crimean War, a fund was raised by public subscription. In 1860s, she founded a training school for nurses at St. Thomas' Hospital with this fund (London Metropolitan Archives, 2010).

During late 19th century and early 20th century, Florence Nightingale founded nursing schools and tried to upgrade the status of nursing. Based on her own assessment, she stated that sanitary engineering, hospital architecture and health education were greater importance than the direct care of the sick. She was a sanitary reformer first and a nursing reformer second in throughout her life (Dingwall, Rafferty and Webster, 1988).

Training of nurses in Britain was offered through hospital schools with strict residency requirements. Hospitals run its functions by using inexpensive labor in the form of nursing students, who satisfied varying levels of care within an overworked National Health Service. The student nurses were the backbone of nursing care for many institutions (Shkimba and Flynn, 2005). A British student nurse, Sheila F. stated that her first experience as a student nurse was sitting and holding the hand of a dying man who was alone in 1946 (Boschma, 1999, cited by Shkimba and Flynn, 2005). Shkimba and Flynn also mentioned that a British-trained nurse would be expected to take on the responsibility for an entire ward during night shift within three years of their training period. Moreover, many nurses needed to undertake an additional year of training in midwifery, earning the necessary qualifications to deliver babies.

In 1970, Briggs Nursing Committee was set up as part of a long process of occupational development (Report of Committee of Nursing, 1972, Dingwall, Rafferty and Webster, 1988). Dingwall (1974) has previously shown that many of the experiments in education during the late 1950s and early 1960s could be seen as

part of a strategy of professionalization by certain segments of the occupation (cited by Dingwall, Rafferty and Webster, 1988). Chairmanship of Professor Asa Briggs recommendations in the 1972 report of committee of nursing was that review the nurse and midwife roles in the hospital and community settings and prepare the education and training needed to get this role to meet the current needs and integrated health services.

However, the recommendations were not implemented until 1979 (Report of Committee of Nursing, 1972, Dingwall, Rafferty and Webster, 1988, Bradshaw, 2001). Briggs report suggested that the development of joint appointments to fill the gap between education and service. Therefore, Briggs report was focusing that educating and training of manpower is an important issue to move forward nursing and midwifery to meet the needs of the hospital and community.

The teaching at this time was based on medical model to care despite the 1977 syllabus stated to view nursing with nursing process. The clinical teaching was carried out by the ward staff who were expected to instruct to the student nurses practical nursing (Jacka and Lewin, 1987, cited by Ousey and Karen, 2011). Introducing the nursing process was considered as a 'revolution' by the nursing profession (DHSS, 1986; Walton, 1986, cited by Salcedo, 2004). Since the 1980s, there have been great changes in nursing and the question remains that the nursing process can be successfully implemented given the current nursing conditions and taking into account past experience (Salcedo, 2004).

According to Judge Report in 1985, the nursing education status upgraded to higher education. The Project 2000 which was a widespread reform of nursing education was launched by United Kingdom Central Council for Nursing, Midwifery and Health Visiting (UKCC) in 1986. Therefore, nursing education status gradually

upgraded to higher education in the UK as a Project 2000. Since 1988, the World Health Organization European nursing conference in Vienna supported for degree level of nursing education and provided detailed curriculum guidance. Degree-level preregistration nursing programmes commence in Wales. In 2004, all pre-registration nursing programmes in Wales were upgraded to degree level. Commence from 2008, the Nursing and Midwifery Council (NMC) decided bachelor degree would be the minimum academic level for all pre-registration nursing education target to achieve in September, 2013.

Therefore, in the UK nursing context, started from Florence Nightingale era, apprenticeship (hospital based training) was the model for providing nursing care. Providing knowledge and practice performance was usually undertaken in the hospitals nearby. The more experience clinical colleagues guided the student nurses and the student nurses principally learned from them. What they learned and practical performances were sometime did not have scientific foundation, and often inadequate and unsafe. Moreover, they had less opportunity for the development of critical thinking and reflective skills, gaining clinical experiences in other care settings. Therefore, application of nursing process started from 1977 syllabus to turn nursing into profession through practicing autonomy, critical thinking and decision-making (Willis Commission Report, 2012).

According to Ousey and Karen (2011), nursing training and nursing education in UK changed dynamically and changed hospital based training towards university education. The philosophy was building nursing to become a more academic form of training rather than apprentice training style. The move to all-degree profession represented that nursing is recognized as a profession to change previous image which is a hand maiden of medical staff.

Conclusively, the training and education development, and the roles of nurses in Europe and UK are mostly the same. The nursing started with religious and military based, did not have formal training and education system before the Crimean War. Florence Nightingale was the first founder of Modern Nursing and brought up nursing to a professional status. Moreover, according to the WHO criteria, nursing midwifery training in both Europe and UK applied nursing process as a mandatory input and heading towards professional nursing context. The next session is continued to highlight on the historical development of nursing training, the role of nurses and how the nursing process involved in United States' Nursing context.

Development of Nursing Training and Roles of Nurses in US.

Development of nursing in United States was distinctly different path. It was the absence on a stronghold of Catholicism and nursing field was not comprised of nuns (Nursing School Hub, 2014). According to Larson (1997), within a decade of Crimean War, the United States experienced Civil War. There had not nursing training schools, trained nurses and nursing credentials. It was estimated that more than thirty thousand women served as nurses for the sick and wounded soldiers during the Civil War. The female volunteer nurses went to the war with the basic knowledge of nursing care gained from their personal experiences. Three years after end of the war, American Medical Association president strongly endorse the formation of nursing training schools in 1868 (cited by Egenes, 2014).

Egenes (2014) mentioned that the nurse training school was established in 1872 at Women's Hospital of Philadelphia. Most of the female physicians in this hospital opened the field of nursing to a better-quality type of women. The school had a set curriculum, paid instructors, equipment to practice nursing skills, and let

the student to experience in other Philadelphia hospitals and the nurses' library according to Nightingale model. The physicians' support for the formal education of nurses was unfortunately not involved in the establishment of early nursing training schools.

Goodnow (1953) stated that a number of famous physicians were opposed to any education for nurses other than the most basic training. In spite of opposed by a number of physicians, with the efforts of laywomen committees founded three notable nurse training schools in 1873. Ten years after that, the number of training schools across the country had grown to 35. Unlike the Nightingale School, training schools in United States were economically depend on the hospital they were located. Hospital board and physicians recognized the economic advantages of using student nurses' labor under guidance clinical training later. Hospitals got many advantages by using student labor and they liked to use student nurses as they are very obedient and compliant, cheap, efficient and more cost effective than graduate nurses (cited by Egenes, 2014).

The important issue was the lack of educational standard in nursing. The nursing training schools offered different training duration (from few months to 3 years) and the curriculum and entrance criteria varied as well. Therefore, American Society of Superintendents of Training Schools on Nursing established in 1893. Later, it became National League for Nursing Education, and, still later, became National League for Nursing (NLN). Great depression in nation's economy collapse in 1902 and nurses were more affected. During WWI, the army and navy nurse corps were established. College education women were recruited into military nursing in 1918 (Egenes, 2014). During the WWII, the ANA along with the American Red Cross worked together to recruit the registered nurses into military service. The

profession of nursing had gained positive figure and highest respect from members of the lay public during the war times (Kalisch and Kalisch, 1981, cited by Egenes, 2014).

Later, the apprentice training system was criticized by the academicians and external review agencies in student training system because it was not favor intellectual rigor. Goldmark Report (1923), first evaluation of nursing education and the Burgess Report, second evaluation of nursing education (1928) recommended that nursing education should have educational standard and the school of nursing should more focus on education rather than on patients. However, hospital administrators resisted to change. The third evaluation of nursing education, Brown's report recommended school of nursing should be striving for autonomy from hospital administration to improve the program, and recruit the faculty with baccalaureate or graduate degree. Brown's report also added that the practices in nursing need to be founded on the principles from social and physical sciences.

According to Klainberg (2014), the hospital-based diploma nursing training schools were the first form of nursing education in the United States. Advanced Diploma in Nursing (ADN) was initiated in 1951 after WWII as a testing basis and it was 2 years training period. In 1965, the ANA position paper reconfirmed the status of nursing education should be in the higher education institutions rather than in hospitals. Based on educational standard, nurses' positions defined professional nurses and technical nurses. The ANA 1965 position paper also mentioned that professional nurses should have minimum baccalaureate degree, the technical nurse should have minimum ADN and the nursing assistant should be a short, and offered as vocational education. Even though, the societal and technical changes suppose the nursing education to change as a profession, the current situation did not favor. Only

14% of nursing students enrolled for degree program in 1960. However, it was increased rapidly in 1970s.

Along with rapid improvements in science, it spilled over into health care with medical technology. Furthermore, advances in civil rights movement which including women's rights that drive women as well as nurses attended university. It makes increase aware of nursing and aspired to develop nursing as a profession apart from medicine. The word a "profession" defined by Freidson (1988) was that one of the characteristic was the possession of a distinctive knowledge (cited by Murphy, Williams and Pridmore, 2010). Therefore, the former theorists aware that it was needed that nurses needed to show their unique body of knowledge about nursing and nursing models were one of the ways to achieve this. However, in history, the nursing theory and practice were greatly influenced by the goals of medicine and the approach was apprentice style. Therefore, growing concerns between nurses regarding the appropriateness of distinct nursing knowledge and practice with the medical model, they added some impetus while developing models for nursing (Pearson et al, 1996, cited by Murphy, Williams and Pridmore, 2010).

While developing models for nursing, it had numerous difficulties, not least of which was a lack of defining on "what is nursing?" They tried to develop nursing theory based on scientific techniques by research. In addition, it had concerned upon systematically describe and analyze concepts which was important features in nursing practice. They introduced the idea of the nursing process as a four stages problem solving method to improve individual care giving in 1970s (Aggleton and Chalmers, 1986, cited by Murphy, Williams and Pridmore, 2010).

According to Walsh (1998), the nursing process was not without its critics like other nursing models. It was increasingly questioning on whether the linear problem solving approach to care was really reflect on the clinical decision making, especially for experienced nurse. There were significantly moved away from the nursing process while providing care to the patients and it became potential threat to individualized care in UK (cited by Murphy, Williams and Pridmore, 2010).

To conclude the historic developmental context of US nursing, there had not formal nursing training during Crimean war. The formal education for nurses started which was based on Nightingale's training system in 1872. The status of nursing was upgraded with the government concern and the status of nursing was influenced by the socioeconomic status of the government. The NLN was established and the standards of nursing education were ruled out. Starting from 1960, nurses were trying to establish nursing models to improve the quality of care and upgraded the status of nursing as a profession. The application of nursing process started in 1970s and the various nursing programmes are applying these concepts. Additionally, the nursing process concepts are embedded in the national licensure examination which is the examination for all nurses to become the registered nurses. The following session is continuing to highlight the historical development of nursing training, the role of nurses and how the nursing process involved in the Australian Nursing context.

Development Nursing Training and Roles of Nurses in Australia. The history of nursing in Australia also started in 18th century. In Sydney, the first trained nurses were charity sisters in 1838. The care in this time focused on religious consolation, regular and reliable attention and dispensed medicines. The influence of

the sisters increased after St Vincent's hospital was formed in 1857 (Nelson, 2001, cited by Godden, 2008). The Sydney doctors became recognized that trained nurses were needed in 1860s. They came to know conscientious nursing was important for their outcome of medical and surgical practices (Godden, 2004 & 2008). Trained lay nurses could contribute little impact on nursing until 1868 in Sydney. Lucy Osburn and five other nurses had been trained in the School of Nursing at St Thomas' Hospital in London. They returned back to Sydney in 1868 and worked in the colonial government. They expected to found the first nursing training school for nurses in Australia (Godden, 2006 & 2008).

Therefore, in the late 1800's to early 1900's, training nurses in Australia began with Nightingale's system by providing theory and clinical component for trainee nurses, board, lodging and uniforms, and often did not charge for training. It was vocational and the student nurses also received a minimal wage. However, the student nurses were expected to serve in the hospital. Due to the nature of vocational training, trainee nurses were rotated different specific clinical areas inside hospital and directly supervised by registered nurse in each area. In fact, the Nightingale system of training nurses was improving successfully in providing quality nursing service. Therefore, any attempt to change the system was, and still it, resisted strongly. Because of this existed and resisted condition, this system of training remained static in Australia for some hundred years which provided economical very heavily workforce for hospitals (Russell AO, 2005).

In 1899, the doctors and patients experienced differences between trained and untrained nurses. Therefore, the Australian Trained Nurses' Association established and starting nurses to register as trained nurses voluntarily. The outstanding Sydney nurses tried to upgrade the status of nursing into a profession during the doctors'

dominant period in this association (Godden and Forsyth, 2000, cited by Godden, 2008). The hospital budgets were severely cut during the 1930s. However, the ratio of trainees to registered nurse increased and the working condition of nurses became deteriorated (Sydney Morning Herald, 1933, cited by Godden, 2008).

Started from 1940s, nurses' shortage became severe worldwide and entrenched. Nurses in understaffed hospital struggled to cover the adequate patient care by the 1960s (Russell, 1990, cited by Godden, 2008). In the post war period, nursing changed dramatically because of improvement in technology and nursing became focus in holistic care for patients (Nursing Times, 1989, cited by Godden, 2008). In 1949, post registration nursing course was established in New South Wales College of Nursing (Pratt and Russell, 2002, cited by Godden, 2008).

Throughout 1960-1970s, many problems besetting nursing became so acute. A surplus of expert committee and workshops were conducted to investigate from different aspects including preparation of education for nurses, however, it only had little immediate actions. In addition, there was disagreement between whether the place and responsibilities for pre-registration program should be within higher education sector or remain the same under the health care sector. Because of this report and various recommendations, nursing education issues became popular concern within and outside nursing profession which created a climate of change. By 1985, New South Wales Health Minister decided to shift all basic nursing education into the higher education sector (Russell, 2005).

Nursing had been barraged with many expert reports on identifying weaknesses in training nurses by 1980s. The New South Wales government made a decision to phase out hospital training because it was found the hospital training had become more expansive than educating and preparing nurses in tertiary institutions.

Therefore, the pre-registration nursing courses were moved from hospitals to advanced education colleges in 1985. It was a “long cherished dream” for many Sydney nurses; however, others indignantly disparate it as “bloody murderous”. The nurses from Sydney came out to the streets and successfully opposed for a return to hospital-based training in 2007 (The Sun, 1956, Russell, 1988, Russell, 1990, Rosenthal and Godden, 1988, Head, 1984, Sydney Morning Herald, 1983 and 1985, The Australian, 1985, Howard, 2007, cited by Godden, 2008). The other shock happened in 1990 when colleges of advanced education were engaged into universities which upgraded all pre-registration nursing education to university level in New South Wales. This movement increased to conduct long-needed research into nursing practice (Daily Telegraph, 1989, Sydney Morning Herald, 1989, Rosenthal and Godden, 1988, cited by Godden, 2008).

According to Taylor and Game (2005), the nursing process in Australian nursing context has gone through phases of resistance, acceptance and institutionalization. The establishment of the first undergraduate program and the movement of nursing process from America to Australia happened together in 1974. Pat Staler who had undertaken master in USA introduced nursing process through the Royal College of Nursing, Australia (CNA). The first cohort started with 20 students in 1974. CNA educators were also applied nursing process to develop assessment tools as formal and summative assessment for each student in each year. Following the successful implementation of pilot study in diploma in nursing program in 1974, stage 1 report on evaluation of first cohort was released in 1977. The Commonwealth Tertiary Education Commission (CTEC) approved to establish further diploma in nursing programmes.

From 1978, it took 5 to 6 years for tertiary based nurses in hospitals and the profession slowly to accept and established nursing process. The present-day status of nursing process in clinical setting is that nursing process is being applied in most clinical areas such as medical and surgical ward. However, in the settings where there is emphasize on getting the work done within the available resource allocations, and because of lack of staff, it has been reduced to practical checklists that require little more than a tick in a column as tokenistic problem solving within minimal practice requirements (Taylor and Game, 2005).

To summarize the Australian Nursing context, nursing was started with charity sisters and care was especially focused on religious comfort and paid attention on dispensed medicine. Later, the doctors recognized that nurses are needed to support them to get good outcomes of their medical and surgical practices. The six nurses were trained in London. Therefore, the nursing in Australia was practicing Nightingale apprentice model (hospital-based training) which is training nurses as a vocational. During 1930, the hospital budgets were seriously cut and the working condition of nurses became deteriorated. After the war, nursing was turning to improve along with technology and focusing on holistic care. The Minister for Health in New South Wales made a decision to transfer all basic nursing education into higher education sector in 1985. Nursing education was shifted to the universities and the hospital-based training program planned to cease. Nursing was upgraded as higher education at university level, and practicing nursing process model in their daily practice with some exceptions. The next session concerns the historical development of nursing training, the role of nurses and how the context of nursing process model involves in Malaysian Nursing context.

Development of Nursing Training and Roles of Nurses in Malaysia

The same like Europe, UK, US and Australia, Malaysian Nursing began during 1800s with the formation of East India Company. Hospital for sick was established in Penang and Singapore. Firstly, the catholic nuns delivered nursing care which was replaced by English nurses from England later. The same like training of nurses from Europe and UK, nursing practice in Malaya was carried out by nurses who received “on job training” with lectures given by European sisters, matrons and doctors at the hospital level (Ministry of Higher Education Malaysia, 2010, Nursing Colleges Malaysia, 2014-2015).

The practice of nursing was emphasized mainly on the curative aspects and task-oriented which was entirely based on the doctor’s orders. Three regional school of nursing established at Hospital Johor Baru in 1946, Hospital Pulau Pinang in 1947 and Hospital Kuala Lumpur in 1948 which are headed by English tutors. The training became more formalized in 1952 by using a curriculum based on General Nursing Council (GNC) of the United Kingdom. They adopted the block system curriculum comprising 20% theory and 80% practice for the duration of three years and four months. The main intention of training at this point in time was that to get reciprocity with hospitals in England and Wales to enable Malaysian nurses to precede their studies in England and Wales. Many nurses were sent to Great Britain, Australia and New Zealand to attend nurse tutor course during 1952 (Ministry of Higher Education Malaysia, 2010).

The certificate curriculum was upgraded with more theoretical input which is up to 50% and it became a diploma in nursing curriculum by late 1992. The tertiary education was started in University of Malaya in 1993. This first university program admitted diploma graduates to prepare them to become nurse educators and nurse

administrators. It was three-year programme to award a Bachelor of Nursing Science (BNSc) with honors to the diploma holders. The Quality Assurance Division, Department of Higher Education, Ministry of Higher Education and a member of the Nursing Board of Malaysia developed guidelines in curriculum design for a four-year Bachelor of Nursing (Honors). In the hospital sectors, the nurses used the functional method in delivering nursing care which was evolved in World War II (WWII). The functional method was used in this time to overcome shortage of nurses. This method is based on the function that the nurse supposed to perform such as an injection nurse, a dressing or medication nurse and so on. It creates fragmented care and the possibility of overlooking the patients' needs (Ministry of Higher Education Malaysia, 2010).

In Malaysia, there are 98 public and private institutions which offer diploma and degree in nursing programmes. Among 98 institutions, 17 institutions in Ministry of Health, 10 public universities, 70 private colleges/universities and 1 in the Ministry of Defense. The total 88 institutions are offering diploma programme. According to this figure of institutions, the entire nursing service sector is dominated by diploma graduates which favor placing nursing in the sub professional group within the government structure. In education sector, nursing is existed as a faculty or as part of a faculty of medicine or health science. The education standard for diploma graduates varies between colleges such as entry requirements, curriculum content, delivery and evaluation system (MOHE, 2010).

In addition, MOHE (2010) mentioned that diploma nurses are task-oriented, obedient and passive due to the consequences of low entry requirement, teach-center approach of teaching style and didactic approach in education. However, based on the Vision 2020 of MOE, the Nursing Task Force Committee under Department of

Higher Education has identified the internationally recognized basic competencies (critical thinking and problem solving, knowledge-based practice, clinical competence and accountability, and ethics) through implementing Nursing Process Model application for new graduates and the nurses in the service sector as well.

However, the study conducted by Nursing Task Force (2009-2010) mentioned that there was no evidence of using Nursing Process Model. The Ministry of Higher Education set a plan to reorganize the conduct of professional nursing programmes in both undergraduate and postgraduate studies. A plan mentioned that “major emphasis on all programmes must be in clinical specialty to ensure in-depth content and expertise in the practice of nursing to meet consumer needs; the need to participate in the growth of Malaysia economy through health tourism, foreign investments such as the presence of John Hopkins University; shift in paradigm with special focus on mental health, reproductive health, financial management, cancer survival nursing, research building capacity; the compulsory integration of Nursing Process Model, Problem-based Learning (PBL) approach in teaching and practice” (Ministry of Higher Education Malaysia, 2010). It showed that nursing in Malaysia is upgrading the status of nursing from functional task-oriented to professional nursing through implementing NPM.

The Milestones of Nursing Process Model (NPM)

Introduction about NPM. Mosby Medical Dictionary (2009) defined that Mosby Medical Dictionary (2009) defined that nursing process is serving as an organization framework in nursing practice and it is the nature of process which includes all the steps performed by the nurse while providing care to the patient. The steps included are assessment, nursing diagnosis, planning, implementation and

evaluation. Nursing 101: Fundamentals of nursing (2003) also mentioned the nursing process is a cycle of organized steps designed for nurses to deliver excellent care. This is one of the foundations of practice which offers a framework for thinking about the problems and provides critical thinking skills.

The evolution of Nursing Process as a Professional Ideology of nurses.

In Florence Nightingale era (1820- 1910), she tried to provide care the best for the patients and succeeded. She built a foundation from which nursing continued to evolve up to present. After Nightingale's era, there was a delay period in nursing until the WWII due to increasing of knowledge which included medicine advancement which was influenced to nursing (Mashaba, 1981). Therefore, earlier than 1955, the nurses provided nursing care to the patients based on the physicians' medical order before the nursing process developed and evolved (Seaback, 2006).

After that, the innovation was carrying in a manner of multi-disciplinary team approach while performing patient care. It created the role of each member to define within the team. Nurses became to know and concern about defining and retaining which are essential for establishing nursing as a profession. Since then, the definitions, concepts and theories of nursing began to appear by writers such as Olivia Gowan, Dorothy Johnson, Virginia Henderson and others. The concept of nursing process finally accepted after different nurses and nursing committees had presented in their versions. The nursing process can only described adequately against the concept and within the perspective of nursing (Mashaba, 1981).

The term "Nursing Process" was coined by Lydia Hall in 1955. In the late 1950's and 1960's, Dorothy Johnson (1959), Ida Orlando (1961), and Ernestine Weidenbach (1963) introduced three-step nursing process model. Virginia

Henderson identified the same step nursing process model which was based on scientific method: observing, measuring, gathering data, and analyzing the findings. It was in 1966. In 1967, the four-step model was proposed: assessment, planning, intervention, and evaluation. The application of nursing process in clinical practice continued to gain additional accuracy and recognition when the American Nurses Association (ANA) published it as Standards of Clinical Nursing Practice in 1973 (Seaback, 2006).

According to American Nurses Association (ANA) scope of nursing standard 2004 and 2010, the standard 1 is “assessment” which elaborates that the registered nurse collects comprehensive data relevant to the patient’s health or the situation. The standard 2, “diagnosis” concerns on analyzing the assessment data to determine the diagnoses or issues. The 3rd standard is “outcomes identification” which is asking the registered nurses to identify the expected outcomes to do a plan for individualized patient or the situation. The standard 4 “planning” mentions that the registered nurse develops a plan that prescribes strategies and alternatives to attain expected outcomes. The 5th standard “implementation” states that the registered nurse implements the identified plan with respect to coordinating the care delivery (standard 5A), to employ strategies to promote health and a safe environment (standard 5B). In addition, the standard 5C states that the advanced practice registered nurse and the nursing role specialist to provide consultation to influence the identified plan, enhance the abilities of others and effect change, and the standard 5D mentions that the advanced practice registered nurse uses prescriptive authority, procedures, referrals, treatments, and therapies in accordance with state and federal laws and regulations. The last standard 6 asks the registered nurse to do evaluation on progress toward attainment of outcomes.

Because of standard publication, it gave further legitimacy to the five phases or steps of the nursing process. The nursing educators and nurse clinicians began to apply the five-step nursing process model on a regular basis. Start from 1973, National conferences were initiated which result in the beginning on the classification of nursing diagnoses. North American Nurses Association (NANDA) conferences have been celebrated every two years since 1973 for the purpose of identification, clarification and refinement of nursing diagnoses. In 1980, ANA published social policy statement for individual nurses which provided guidelines to follow in practice. National Council Licensure Examination (NCLEX) was revised to comprise the concepts of nursing process as a basis for organization in 1982. The Joint Commission on Accreditation of Health Care Organizations (JCAHO) launched to use the nursing process as a means of documenting all phases of nursing care as requirements for accredited hospitals in 1984. Currently, the nursing process is combined a five-step process: assessment, diagnosis, planning, implementation and evaluation (Seaback, 2006 and 2012).

Conclusively, the intention on evolution of NP is letting the nurses to carry out nursing action in systematic and evidence-based manner. Within practicing NP context, nurses applied their expert clinical skills in all steps of NP, namely, assessment, nursing diagnosis, planning, implementation and evaluation. By doing this action, autonomy, technical skills, intellectual skills, interpersonal skills, critical thinking skills and decision-making skills are playing in each action of nurses which show the professionalism of nursing. The next session is going to highlight on how the NP disseminate and innovate in a global context.

Innovating, Disseminating, and Globalization of Nursing Process: A Move from the Status quo of Functional Nursing. As mentioned above, the nursing process concept was developed in USA in the 1960s, and became associated the books and training manual published by Yura and Walsh in 1967, 1978, 1983 (cited by Uys and Habermann, 2005). From this time onwards, the nursing process has been viewed as the key element of advanced, nursing practice based on theory and bringing into reality. It became core and essence of nursing and all nursing actions, it can apply in any setting and it provides a based form to proceed all actions to be systematic (Yura and Walsh, 1983:1, cited by Uys and Habermann, 2005).

The concept of nursing process has been transported all over the world after approximately 25 years later. The generation of all levels of nurses in different fields was trying to implement it. It has also been adopted by important global organizations such as World Health Organization (WHO) and International Council of Nurses (ICN). The national governments and nursing organizations based legal prescription of quality nursing on nursing process such as Sweden, Germany, UK, South Africa, State Practice Act in USA, the American Nurses Association (ANA) and the United Kingdom Central Council for Nursing, Midwifery and Health Visitors (UKCC). At the end of 20th century, Czech Republic recently followed this trend of implementing nursing process (Mellanova, 2005). Uys and Habermann, (2005) mentioned that nursing process represents a global concept that is being taught, discussed and implemented around the world.

The concept of nursing process has been transported almost all over the world and the generation of all level of nurses in all fields is trying to apply it as a framework in their clinical practice. The “blind spots” on the international map with regard to application of nursing process are quick to adopt it as soon as they join the

global nursing discourse. Those who evaluate the concept of nursing process with evidence of good quality in nursing work, this is a successful story. However, when taking theoretical and professional evaluation in many countries into account, it shows differently. Therefore, the issue rose up such as “what make it possible that ideas and concepts, which are not yet evidence-based and have a history of doubtful utilization in the practical field, are nevertheless disseminated globally?” on what structure and processes are innovation in nursing based, and how do they evolve in practice? (Uys and Habermann, 2005).

Therefore, there had an existed concern that need to search and explain properly about the adoption, innovation process and outcomes in proper way to prove about the nursing process model was the real central concept in everyday nursing practice. As an innovative concern, many authors in the field of innovation research have the same opinion that there is no single model that explains the adoption of all innovation (Estabrook, 1999:58, cited by Uys and Habermann, 2005). Roger's (1983) diffusion of innovation model described how the innovation process takes place through exploring six steps which are learning about innovation (knowledge), becoming interest (persuasion), making decision to implement it (decision), testing it (implementation), and accepting it permanently (confirmation). Roger found that most people took 2.2 and 2.7 years from the time they became aware of new innovation until they accepted it.

Although there seem to be individual factors influence in the implementation of an innovative issue, it would seem that international acceptance of the nursing process cannot explain only by such kinds of individual factors. In this scenario, organizational factors can be applied to the nursing profession within a country as well as the institutional setting that suppose to implement the plan into action. The

implementation success had been relied on giving motivation such as “progression of the profession” or using plain legal enforcement. Therefore, the comprehension of the wide-spread dissemination of an innovation such as nursing process is deepened in the light of globalization debate (Uys and Habermann, 2005). In fact, the nursing process model itself can be a central concept in nursing, however, the innovation and implementation of it was influenced by many factors such as individual factors and organizational factors as well. Furthermore, Woodward et al. (1999:3) stated that globalization is multidimensional process which encompasses economic, social, cultural, technological, and political components (cited by Uys and Habermann, 2005).

Followed by globalization context, the global trade concept was coming into this scenario. Gwele (2003, cited by Uys and Habermann, 2005) pointed out that a deal of international proportions, consisting of people and technology moving across borders on a substantial scale. WHO (1996) indicated that professional nurses are the most willing group to migrate worldwide to follow job and income opportunities which could not meet in the country’s origin. This trend supported and facilitated to evolve the global nursing culture. However, many discourses appeared on the outcome of implementation of nursing process. It was the issue rises by Welsch (1999) “do they indicate a global culture, representing the end of real or mentally confirmed national frontiers and an upcoming global consciousness of nurses as world citizens and a true international professional?” Additionally, it has one more issue come out that as the positive outcome from nursing process is limited, one can contemplate that dissemination of nursing process globally is due to a powerful discourse led and domination by some regions, fostered by global institutions and transported globally because of their background of global trade approach.

Therefore, it is needed to consider whether the concept of nursing process has contributed to internationally professional development or what can be learned from the dissemination and internationalization of this nursing concept (Uys and Habermann, 2005).

Conclusively, the involvement of nursing was more during the wars. In that period, the nursing training and care were mainly focused on functional vocational nursing and task-oriented. Hospital-based training was the main training area for nurses. Start from post-war period, the nurses turn to focus on what is nursing and tried to bring up nursing as a professional education. To define what is nursing and the role of nurses, many models and theories came out and tried to apply it. Finally, NP was the most suitable and applicable tool to carry out nursing activities in professionally evidence-based practices. Starting from 1970s, NP was used worldwide.

The ANA, ICN and WHO are accepted it as a global concept and legally stated as an ANA standard of practice and moving to create global nursing culture and context. Furthermore, most of the countries are trying to upgrade professional nursing through applying NP in both teaching and practice areas. The next session is going to explore the fundamental concepts of NP. It is intended to explore the nature of NP and the skills obtained through applying nursing process in service and education sectors and the benefits of using NP. However, the dissemination and innovation of nursing process as a global concept has its pros and cons, strengths and weaknesses, and its successful implementation is influenced by many factors.

The Fundamental Concepts of Nursing Process. As discussed above, the nursing process appears under many raising issues as a form of description in delivering quality nursing care and a legal regulation for many countries as well. It is also included as a definition of nursing in WHO and ICN. Because of defining as a global concept, the education of nursing internationally based on the application of nursing process primarily. According to Wanda Walker Seaback (2013), the nursing process is an organized and systematic method while planning and providing individualized care.

The nursing process serves as a tool that guide and organize in carrying out the desired outcome. Because of the nature of its structure, each step builds upon each other and overlaps. Because of universally applicability nature, it can be incorporated at any point on the wellness-illness continuum in a various health-related settings including schools, hospitals, home health care facilities and clinics, and across specialties in hospitals or acute care setting such as intensive care, pediatrics, labor and delivery, medical surgical units, and so on (Seaback, 2006).

The nursing process is a scientific problem-solving and decision-making method, and philosophical based. To identify actual and potential health problem, nurses need to knowledgeable and understand on the human body structure and response, the diseases and disorders. Furthermore, as a philosophical based, nurses have to be knowledgeable on the fundamental philosophical views, such as Maslow's hierarchy of human needs (physiological needs, safety and security needs, love and belonging needs, self-esteem needs and self-actualization needs) which are really essential to the practice of nursing and help in identifying the expected response to the illness or the client's sense of well-being. Because of the nature of cyclic,

ongoing and dynamic, the steps of nursing process use orderly step by step (Seaback, 2006 and 2012).

Yildirim and Ozkahraman (2011) mentioned that the NP has been applied as a problem-solving activity thinking about on planning care for daily professional nursing practices. In addition, they stated that through practicing planning nursing care helps student nurses to practice critical thinking and decision-making skills. Therefore, they concluded that the NP is seen as a decision-making approach that enhances critical thinking for nursing students and it is nurse educators' responsibility to make sure that nursing graduates to become professionally prepared nurses.

As mentioned by Wanda Walker Seaback (2006, 2012), critical thinking is a purposeful thought process that incorporate different strategies in looking for the meaning the patient's data and other pertinent data as well. Purposeful questions are asked in order to validate and evaluate the evidence, for example, "have any data been omitted? Are there any data to be verified or validated that otherwise would lead to possible inaccuracies? Do subjective data compliment and clarify objective data?" All these questions are needed to think in the assessment step and many critical questions need to ask to confirm each and every step in nursing process. After all information are gathered, problems are identified, labeled the specific problem, developed a plan to solve, and carried out a plan into action. The important fact is that the problems identified are depending on the client's daily changes of health status. Therefore, certain kinds of problems are changing day by day. For that reason, the application of this process is cyclic, dynamic and ongoing.

Decision-making, this is one of the skills mentioned by Seaback. It used throughout the nursing process which is based on systematic and scientifically based theories. The relevant decision-making and problem-solving result from the nurse's critical thinking skill, as well as combined usage of perceptual and intellectual skills. While thinking about the nursing diagnosis, the nurses need to think the rationale based on scientific and philosophic background. The implementations for each nursing diagnosis are also chose rely on scientific rationale. Therefore, by using nursing process, gain benefits to both client and nurse such as promoting quality improvement and continuity of care, promoting and encouraging the client's participation, delivery of care and problem solving are organized, continuous and systematic, efficient usage of time and resources, meet the expectations of both client and nursing profession standard and holding all nurses accountable and responsible for assessment, diagnosis, planning, implementation and evaluation in caring the clients (Seaback, 2006 and 2012).

Conclusively, the nursing process is an organized, continuous, systematic method which is cyclic, ongoing and dynamic nature. It composed of five interrelated steps: assessment, diagnosis, planning and outcome identification, implementation and evaluation. It encourages nurses and nursing students to think critically and give an opportunity to make decision-making in scientific, evidence-based and systematic way. Through practicing nursing process, it is safe and has evidence on whatever nurses performed and what are the client's responses. Both sides which are clients and nurses got the benefits.

The next session is going highlight the steps of nursing process which is mainly extracted from the books published by Wanda Walker Seaback 2001 (first edition), 2006 (second edition), and 2012 (third edition), and ANA's standard of

practice 2004 and 2010. The intention of discussing the basic concepts of NP is to explore the concepts embedded in its framework and the main concepts that suppose to reflect the instrument for quantitative method as a structured questionnaire which is going to assess the students' level of knowledge about it. Moreover, this session reflects the knowledge and application of NPM in nursing academic staff in their teaching practices as qualitative inquiry with open ended questionnaires. The researcher chose these references because it is only expressing the essence and concepts of the NP framework and do not mixed with the other contexts such as mixing with the disease related nursing process steps. It means it is only mentioning about the users' guideline or framework while performing nursing activities in different context, scenario and presentations that are relevant in any kind of situation.

The Steps of Nursing Process: Theory Knowledge and Practical Guide.

Nursing process is a common strand uniting different types of nurses who are working in various areas. It is an fundamental core of practice for registered nurses to deliver holistic, patient-centered nursing care. It composed of five interrelated steps, namely Assessment, Diagnosis, Planning, Implementation and Evaluation (Figure-1).

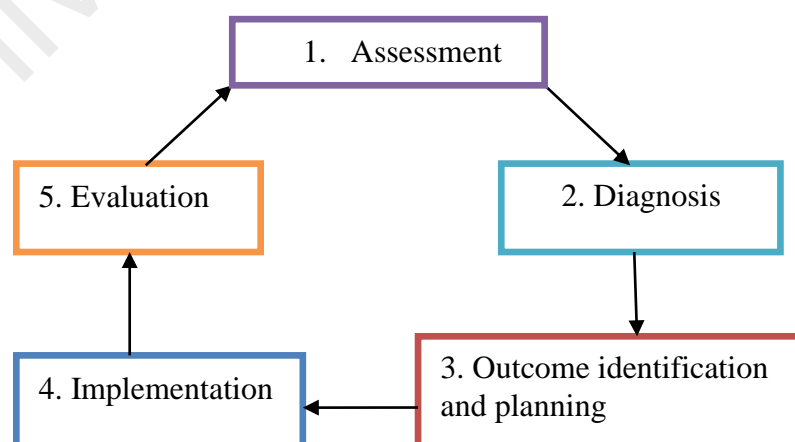


Figure 2.1. Steps of Nursing Process

Step 1: Assessment

It is the first step in nursing process and involves the act of collecting and analyzing data about a client who can be individual, resident, group of individuals (Seaback, 2006 and 2012, ANA, 2015, nursingprocess.org, 2015). Assessment data mentioned by ANA (2015) includes physiological data as well as psychological, socio-cultural, spiritual, economic, and life-style factors. The information is gathered by using a systematic approach. Then, organize, interpret, verify, and validate to ensure its accuracy. The nursingprocess.org (2015) mentioned that interviewing patient, performing physical examinations, referencing the health history of a patient, obtaining the family health history of a patient, and general observation can be used while gathering data in the step of assessment.

According to Salcedo (2004), various models are used to gather data to carry out the assessment phase of nursing process. The British nurses use the activities of the Daily Living Model developed by Roper, Logan & Tierney (1985 in Davis et al, 1994) as a framework for the assessment of patients and planning of care (Davis et al, 1994). In Spain different models are used. The 14 basic needs of Henderson (Serrano, et al, 1994); Orem (Martin et al, 1997) or Roy (Serrano et al, 1994); More recent authors have adopted models of nursing such as Gordon's (1996) model, which is based on the American Nursing Association's (ANA) definition of nursing which is the diagnosis and treatment of the human responses to real or potential problems (Iyer et al, 1997). The gathered data are documented. The initial collected data become the foundation of client's baseline data and are termed as baseline data. The professional nurse uses deliberate thought processes, judgment, and problem-solving skills while data are being compiled. As the nature of process, assessment is ongoing process and the later collected data add and compare the initial

baseline data to determine the client's progress or improvement or to find out trends which reflect the deterioration of the client's health status (Seaback, 2006 and 2012).

Therefore, the assessment phase is digging the client's data through collecting the subjective complaints of the clients and confirms its validity through obtaining objective data by the nurse. To perform assessment phase, the nurse needed to use one of the assessment forms such as created by Orem or Gordon or Henderson. Therefore, assessment of the first step used as a framework to get the client's information. The next step that the nurse ought to do is identifying the nursing diagnoses.

Step 2: Diagnosis

Diagnosis, the second step of nursing process involves the classification of human response, disease or condition which is based on scientific evaluation of history, signs, symptoms, and diagnostic studies. It is also referred to as analysis, problem identification, or nursing diagnosis. All these terms use interchangeably. Nurses use critical thinking skills and judgment to analyze and interpret assessment data during the assessment phase and identify problems, potential problems and strengths are labeled with relevant nursing diagnosis (Seaback, 2006 and 2012). In fact, the nursing diagnosis is the clinical judgment of nurses concerning the response of client to actual or potential health problems or needs (ANA, 2015; nursingprocess.org, 2015). The diagnosis needs to reflect not only that the patient's problems but also the related conditions that cause these problems. The diagnosis is the foundation for the nurse's care plan and it has three types: actual, risk and wellness diagnosis (ANA, 2015).

The actual nursing diagnoses describe the response of client to a physical, socio-cultural, psychological, and/or spiritual illness, disease or condition. The actual signs and symptoms must be present in actual nursing diagnosis. On the other hand, nursing diagnosis should communicate possible developing problems which result from a client's physical, socio-cultural, and/or spiritual illness, disease or condition. It is called risk nursing diagnosis. There have three components in actual nursing diagnosis: problem, etiology and defining characteristics (signs and symptoms). The problem is the identified label on the health condition or response of the client to the medical illness or therapy that are going to implement. Followed by the problem, the etiology, written as "related to" (R/T) consists of conditions most likely to be involved in the development of that problem. These conditions become the focus for nursing interventions. When the client is at risk for developing a problem, indentify the risk nursing diagnosis. It only consists of two components, the problem and risk factor. Defined by North American Nurses Association (NANDA), the wellness diagnosis is a clinical decision about an individual, family, or community to improve a particular level of wellness to a higher level. It has only a one-part statement (Seaback, 2006 and 2012).

In essence, the nursing diagnosis is based on the nursing related problem identified by the nurse after interpreting the collected assessment data. According to nursingprocess.org (2015), each nursing problem has to assign a clear and measurable goal for the expected outcome which must be really beneficial to the client. Based on the gathered data in the assessment phase, the nurse applied the nursing diagnosis defined by NANDA whether it is actual or potential or high risk or wellness diagnosis. After, the nurse identified, the next step is setting the outcomes

and planning nursing care based on the data obtained during assessment phase and the identified nursing diagnosis.

Step 3: Goals/Outcomes identification and Planning

According to ANA (2015), the nurse sets achievable and measurable short-term and long-term goals based on the assessment and diagnosis. Assessment data, diagnosis, and goals are written inside the client's care plan. By doing so, the nurses and other health professionals who are caring to the client have access concerning the client's conditions. Seaback (2006, 2012) mentioned the critical elements which need to focus in this third step of nursing diagnosis are; identify the priority problems and interventions; set the realistic goals and expected outcomes; determine relevant nursing interventions and recognizing when collaboration is needed; and communicate and propose the proposed care plan.

After identified, the problems are needed to prioritize according to the client's condition. Priority problems are those appraised to be more important or life-threatening conditions. Then, need to look for the strengths which include physical, psychological, or personal characteristics of the client. In the other way of thinking, strengths are the fact that promote a higher or improve level of functioning. Furthermore, the nurse needs to check the facility which is referred as health care facility. The facilities must be capable of providing the client's needed care. In addition, the nurse has to check out the resources which are the ways and means of obtaining health care, for example; is necessary equipment available at the facility? Does the client have transportation to obtain health care? Does the client have health insurance? Can the client afford to purchase medication or equipment prescribed?

Therefore, each aspect of care plan should be realistic for client and the hospital, facility or home care setting which depend on client needs (Seaback, 2006 and 2012).

Conclusively, as soon as the relevant nursing diagnoses ruled out, the nurse needs to set the relevant goals and prioritize the problem which is based on the client's conditions and urgency such as the most life-threatening condition. It is based on the nurse's decision-making ability which is the output of the nurse's critical and rational thinking pattern. After settle with setting the goals/outcomes and nursing diagnoses, the next step is carrying out it into action which is the step of implementation in NP.

Step 4: Implementation

The ANA (2015) stated that according to the nursing care plan, nursing care is implemented. The care provided by nurses is documented in the client's record. Therefore, continuity of care for the client during hospitalization and in preparation for discharge needs is assured. The nursingprocess.org (2015) also explored that the implementation phase is the point where the nurse follows through on the decided plan of action which is specific to each client and focuses on achievable outcomes. The implementation actions involve monitoring the client for signs of improvement or change, providing direct care or performing the needy medical tasks, educating and instructing the client about further health management, and referring or contacting the client for follow-up. As mentioned by nursingprocess.org (2015), implementation can take place within hours, days, weeks, or even months.

According to Brooking (1986, cited by Salcedo, 2004), the implementing care by applying nursing process is carrying out towards certain goals or objectives intentionally. The qualities such as delicacy, gentleness, and respect for the human

being and among others can create a difference while carrying out nursing implementation (Salcedo, 2004). Phaneuf (1993, cited by Salcedo, 2004) stressed that nurses were focusing on their activities that suppose to do for clients rather than think beyond the person behind. Therefore, nurses need to pay attention to the client while carrying out the implementation of the planned care. Webb (1981, cited by Salcedo, 2004) also pointed out that allocation of task favored passive clients and non-accountable nurses.

In fact, the implementation step is performing actions according to the plan to attain the intended goals/outcome. Because of the nature of individualized holistic approach, the nurse carries out his/her actions collectively based on biopsychosocial and spiritual aspects. The nurse's communication pattern also influencing the nurse-client relationship which also important fact while performing implementation step. After providing each action in implementation step, the next step has to perform is evaluating the results which is evaluated based on the intended goals/expected outcomes.

Step 5: Evaluation

It must be constantly evaluated in terms of patient's condition and how much effective of the provided nursing care. And, the care plan necessary to modify as needed (ANA, 2015). Even evaluation is the final step of nursing process; it is intertwined with all the steps. It involves critical analysis of the plan, begin with initial data collection and continue to evaluate implementation. The same like assessment step, evaluation is also continuous and ongoing. The nursing interventions and client responses are evaluated through asking certain questions: is the client progressing toward goal resolution? Have goals been met? Is this portion of

the plan complete and no longer a problem for the client? Have goals been partially met or not met? According to these certain questions, when the client's progress is not met as expected, answers are sought to determine why.

Even though evaluation is the last step, it is not an end to the nursing process. It is a mechanism that assures quality nursing interventions. Therefore, evaluation helps in analysis of the quality of nursing care provided at an institution or agency and helps to determine referral to other resources, consultation, or collaboration may be needed. Meaningful inquiries which are helpful in evaluating the application of nursing process involves: was assessment thorough and accurate? Were nursing diagnoses relevant? Did the client and family participate in priority problem identification and goal setting? Were goals specific, measurable, and realistic? Were expected outcomes achieved? Did nursing interventions and actions appropriately address the client's problems? Is the plan of care appropriate and accurate? Should any portion of the plan be modified or terminated?

Depending on the client's condition, progressing toward goal attainment most likely indicates that the planned interventions are appropriate and properly intervened. On the other hand, lack of progress toward goal attainment pointing out that the care plan needs modification. Unmet and partially met goals are needed to reactivate the nursing process sequence. Therefore, according to the client's progress determine whether all the steps are needed to improve or modify. When the specific problems have been solved and no longer require intervention from the nurse, this portion of care plan may be discontinued (Seaback, 2006 and 2012).

The nursingprocess.org (2015) mentioned three terms that can be seen as the possible client outcomes which are client's condition improved, client's condition stabilized, and client's condition deteriorated, died or discharged. Depend on the

client's outcome, if the client shows no improvement, or if the wellness goals were not met, the NP starts again from the first step which means assess the client's condition again, identify the client's problems and find out the relevant nursing diagnoses, set the goals/outcomes again, plan and carry out implementation according to nursing care plan. Therefore, it can say that evaluation is the final step in NP, however, it also can say the end step or also the decision-making step to rewind the process again which means if the evaluation step results show fail, need to repeat the NP cycle repeatedly. The next session will be focusing on what are the theoretical features of NP, what are the theoretically sounded features and how much NP is theoretically sounded while teaching and applying it in practical.

Theoretical features of Nursing Process: Strengths and Weaknesses of

Theory Construct. Charles Sanders Peirce stated theories are “guesses” at what underlies the data of our experience (cited by Crabtree, 2010). Crabtree (2010) also discussed that theories are necessarily flawed because of the three reasons: theories develop out of sets of data that will always be incomplete, even though concerted efforts be made to fill in the gaps; theories arise from particular perspectives from which the data are viewed; and the perspective taken is determined by personal and cultural factors that always have emotion attached. Because of these reasons theory-convictions are frequently formed and against to come up with really good theories. However, when theorists were aware of the limitations, the mistakes and value of theories will be few mistakes and more realistic.

Concerning theory development in nursing, MacCrae (2011) mentioned that over more than a few decades, the scholars have tried to encompass the three dimensions which were physical, psychological, and social aspects of care in nursing

theories and models intended to guide practice and provide a way for training curricula and research. However, because of misunderstanding and misused, the nursing models failed to bridge theory practice gap in preregistration training which was in 1970s and 1980s. Nursing theorists have provided many of conceptual models. Theorists expected that nursing models would facilitate practitioners to become more independent and accountable while making clinical decisions and organizing care.

However, it was not so much at the level of theory which can be operated evidence of applicable and benefit. Therefore, the question rose up “what has gone wrong?”. In spite of upgrading nursing by theoretically grounded practice, the models had been perceived as unrealistic view from the ivory towers. Consequently, the manuals were gathered dust on the library shelves. Developing, teaching and applying a nursing theory are undoubtedly a great challenge; however, that is no justification for it. A range of constraints were hindering practical application (MacCrae, 2011).

Concerning the nursing models, Orem’s “self-care model” (1991), Roper et al “activities of living model” (1990) were used widely in British nursing in the 1980s and 1990 to practice and guide the education of nurse. There were many books and articles written to explore the model and how to apply it. However, it was heavily criticized and seemed to have fallen out of favor in the past ten years. At first, formal model for nursing were considered as the representation of what nursing is, what it aims to achieve, and its components. To define the components of nursing are complex. Therefore, many models were developed which offered a different way of thinking about nursing and guiding nursing practice in different ways (Murphy, Williams and Pridmore, 2010).

When thinking back about theories and models in nursing, Pearson et al (1996) pointed that historically, the theory and practice of nursing has been heavily influenced and dictated by the goals of medicine, and practicing the apprentice style approach in nursing education. Therefore, the growing concerns among nurses about the suitability with the medical model through adding the impetus nursing while developing models for nursing (cited by Murphy, Williams and Pridmore, 2010). It was introduced the idea of nursing process as a model in the 1970s which composed of four stages as a problem solving method to enhance providing individualized care (Aggleton and Chalmers, 1986, cited by Murphy, Williams and Pridmore, 2010).

The adoption of the nursing process approach to nursing gave different thinking styles. McGlynn (1983) suggested that the medical model is frequently used to apply as an option for traditional or task-centered nursing. By using induction process, the focus is gathering the patient's specific signs and symptoms. Then, brought it together and a diagnostic label applied. McGlynn continuously pointed out that nursing model drawn the patient as a holistic being by applying several theories adopted from life sciences. At first, the condition of the patient was a vague generalization in this context. Then, from this formless generalization to the actual specific needs of each patient are found out through the process of deduction. Therefore, it was questioning that can nursing process be described as involving deductive reasoning? Therefore, the nursing process was not without its critics like other nursing models (Walsh, 1998, cited by Murphy, Williams and Pridmore, 2010).

According to Alligood (2014), Ida Jean Orlando was the founder of nursing process theory. She developed her theory through conducting the study at Yale University School of Nursing. Her study was carried out by observing and participating in experiences with patients, students, nurses, and instructors. Based on

the collected data, Orlando analyzed the content of 2000 nurse-patient contacts and created her theory (Schmieding, 1993, cited by Alligood, 2014). Meleis (2007, cited by Alligood, 2014). “The Dynamic Nurse-Patient Relationship” was published as an outcome of the project in 1961. In 1972, Orlando published “The Discipline and Teaching of Nursing Process: An Evaluative Study” which was modified of her first work. She redefined and renamed as nursing process discipline (Alligood, 2014).

Orlando’s theory stresses on the reciprocal relationship between client and nurse. In fact, it can say patient-centered nursing care/individualized nursing care approach which is demanding issue in this 21st century. May (2010) and Schmieding (2006) supported that, people do not feel any distress and do not need care from a professional nurse when they are able to meet their own needs (cited by Alligood, 2014). Orlando’s theory of nursing process remains a most effective practice theory which is especially helpful to new nurses as they begin their practice (Alligood, 2014). According to Salcedo (2004), in the literature, nursing process is considered as a problem solving method in providing nursing care. Its usage is recommended within a philosophy and model of nursing which gives meaning, content and direction to the process. Therefore, the nursing process is intrinsically united to the understanding of nursing as an autonomous profession and to the clarification of the nursing domain and theoretical and methodological aspects has already been considered.

The next session is going to explore on how the NP theory applies in the practical setting through expressing its practical features while implementing it in clinical settings. The researcher used the facts and findings from the previous old studies in this session because the nursing process was established in 1950s-1960s and its implementation was started and became serious during 1970s. According to

MOHE (2010) the implementation policy and strategies of NPM in Malaysia commence in 2010. Therefore, the researcher intentionally used the facts and findings from the previous old studies to reflect the events and the factors involved in this study context.

Practical features of Nursing Process: Strengths and Weaknesses in Practice. The two faces, theory and practical features are still under debate and still have the gap between them because of many issues between matching and bridging of them. These two issues are intertwined and interrelated. Theory without practical features is in fact useless. In each theory, it is necessary to analyze not only its theoretical features, but also need to evaluate its applicability, impact and outcomes. Start from its evolution (1950s-1960s), nursing process has positive and negative criticisms. In the early years of its evolution, it is principally discussed and developed in teaching. After that, it is extended to clinical professional practice and continues developing in the 1970s. The health centers and institutions in all over the world use the nursing process in nowadays (Müller-Staub et al, 2006, Lunney, 2003, cited by Huitzi-Egilegor et al, 2014).

According to Sheehan (1989) citations, Daws, (1982) asserted that the nursing process is the most innovatory and constructive thing which guide to go forward nursing practice into a new and exciting era. Senicle (1982) also supported that the evolution of nursing process is a prospect to come out of the marsh of despondency and move forward into a new era of nursing practice. However, Senicle mentioned the nursing process as a double-ended weapon which does not a rigid framework for nursing while providing care. On the other hand, Rawlins (1983) expressed that the nursing process in action is creating a mass of complicated and

repeated writing in the paper which designed the nurses more to trap in nurses' counter than improving care for patient. Furthermore, Kirwin (1980) commented that many nurses were likely to be more focus on documentation process as they are very preoccupied to fulfill documentation process which brings nurses to forget to consider about the quality nursing care they are provided. He also added that the General Nursing Council (GNC) acted most too early by incorporating nursing process as a part of training syllabus without adequate validation. Additionally, Gibbons, Bowmaker and Brewer (1983) questioned that whether the pilot study was carried out or not relating to the nursing process before widespread implementation was recommended.

The nurse practitioners mentioned that the patients and family were not involved as an active role, little knowledge shared, a fixed ward routine and relationships are seen in the traditional task centered method. In contrast, the nursing process encourages on patients and families involvement, much knowledge shared, personalized routine and relationships are viewed as needed (Sheehan, 1989). The comparative study was carried out by Richards and Lambert (1987). They did their comparative study between traditional care and nursing process with two groups of patient. Their findings concluded that there is no significant difference between these two contexts. However, Miller (1985) study revealed that nursing process had beneficial effects when it was used in long stay hospitalized patients more than short stay patients (cited by Sheehan, 1989).

From the teaching learning aspects concerning nursing process, in accordance with Sheehan (1989) citations, Crow (1979) stated it is a good teaching tool. There also had positive and negative issues while relating the nursing process theory to practice. Mallick (1977) argued that there is a big gap between the nurses' theoretical

understanding and their ability to apply it in practice. However, Grubb (1979) study mentioned that the concept of nursing process changed the old view and learners appreciate the value of integrating theoretical and practical skills through assessing actual and potential nursing problems. From the professional feature, Blake and Towell (1982) mentioned in positive way that the significant professional impetus through widespread implementation of nursing process which revitalize the current nursing practice.

Webb (1981) also asserted that nurses should derive greater satisfaction and a rise in their professional status which gets from more independence in their work. However, Dickinson (1982) viewed a rather different on this issue. Dickinson accepted the nursing process offered a mean of furthering their professional standard and independence. However, Dickinson suspected that whether the nursing process will carry out to achieve these objectives. Dickinson's analysis suggested that the concepts of nursing process designed to improve the quality of service and it may not be well-matched with the achievement of professional standard and independence. In addition, Dickinson added that the medical profession would likely to be resisted in such kind of independence, which is almost certainly true (cited by Sheehan, 1989).

Although different researchers discussed different issues in different places in different point of view about the nursing process, the implementation on application of the nursing process model was carried out all over the world. And, it is accepted as a global concept for professional nursing and become the legal rules to apply it in most of the countries. The initial practice started in teaching as soon as NP was established. Starting from 1970s, it was implemented in practice settings. In the teaching setting, the studies such as Crow (1979), Grubb (1979), Webb (1981) and Blake and Towell (1982) express the positively in applying NP in teaching. On the

other hand, Mallick (1977) and Dickinson (1982) argue on it. In practice arena, Senicle (1982) support the application of NP and the impression of nurse practitioners had good impression on NP. However, Rawlins (1983), Kirwin (1980), and Gibbons, Bowmaker and Brewer (1983) argue on its application process. Furthermore, with the evidence of Miller (1985) study, the application of NP for long-term hospitalized patients is more beneficial than short-term acute care settings.

Therefore, it can be concluded that there has both positive and negative criticisms on application of NP in both teaching and service sectors. It occurred due to the nature of change and it can be seen not only on implementation of NPM application but also in any changing contexts. The next session will focus on the common models and theories used while applying NPM in both teaching and clinical sectors.

Teaching Learning References: Different Models and Theories in Application of Nursing Process. As discussed the theoretical and practical features above, many theories and models established at the same time with nursing process to guide and implement. While applying the nursing process framework, it is necessary to understand the models and theories to get the meaning to this professional practice (Duran de Villalobos M. Marco epistemologico de la enfermería. Aquichan, 2009, cited by Huitzi-Egilegor et al, 2014). Many models such as Henderson model (satisfying the patients' needs and aim to make the independent person), Orem's model (maximizing the skill of clients' self-care) (Meleis, 2012), Carpenito's bifocal structure (Carpenito, 2013), and Gordon's conceptual structure (Gordon, 2010, NANDA-International, 2013) are used while applying the nursing process (cited by Huitzi-Egilegor et al, 2014).

Gordon's conceptual structure guides as a general reference framework while assessing each person's Functional Health Patterns during performing the first step of nursing process which is the assessment phase. The NANDA accepted this structure after having Gordon's permission and after being adapted by NANDA International's taxonomy committee, in April 1998. The bifocal structure model was introduced by Carpenito in 1983. It is a model which identifies the clinical situations in which the nurse implements, making reference for autonomous nursing work and co-dependent or collaborative work while performing the implementation phase of the nursing process (Huitzi-Egilegor et al, 2014).

Uys and Habermann (2005) discussed the features of NP that it is culturally and professionally neutral, it is a tool that can be understood and applied in every country because it gives an accessible means to support evidence-based practice which is contextual. Additionally, they stated that once the nurse had understood the basic concept and thought process, it can apply in many situations which mean the skills of using NP have transferable skills to any other situations. Therefore, they mentioned that it is a mean of empowerment for nurses. Finally, they concluded that NP is an integral part of nursing practice worldwide in nowadays and is recognized and acknowledged by nurses in everywhere and global acceptance of NP is a key indicator of the professional status of the nurse and scientific nature of their discipline.

Therefore, it can be concluded that the NP is a model/framework/tool that guides nurses to carry out nursing actions in systematic, scientific, and philosophic way by using relevant models and theories for providing client-centered nursing care through holistic approach. Without knowing, understanding and expert in relevant models and theories, the nursing process model/framework will not be carried

successfully. The next session is going to highlight on how the NP application implemented in different places in different context. Furthermore, it is going to express the findings and discussions of some studies which are related with implementation in some steps of NP (for example; study about the application of implementation step) or NP as a whole.

The Factors Supporting vs. Hindering in the Implementation of NPM.

As mentioned earlier, the term “nursing process” was used in the USA at first in the 1950s. It has been widely adopted worldwide for collecting the client’s data, analyzing that data for nursing diagnosis and individual nursing care planning. It gives a systematic and structured framework by applying critical thinking and professional judgment in providing individual care based on evidence and best practice (Willis, 2012). Since evolution and implementing nursing process, the studies were conducted on this. According to Salcedo (2004) there had many articles related with the implementation of the nursing process in the literature, however, research-based were very few. Furthermore, research-based articles are not adequately vigorous or lack of methodological rigor, and some did not indicate on what methodology they (such as Martin et al, 1997; Miller et al, 1987) used. Some evaluation studies focused on the degree of implementation or individualized nursing care such as Waters and Easton (1999), Davis and et al (1994) and Brooking (1986).

According to the study of Mahmoud and Bayoumy (2014), their findings show that practice training strategies for faculty and clinical nurses is needed. Moreover, they point out that there is needed to consider the meaning towards the nursing process and other related elements that can influence the implementation of nursing process. Their study focused on the barriers and facilitators that are

influencing on implementing nursing process from the nurses' perspectives in Saudi Arabia. Hagos, Alemseged, Balcha, Berhe and Aregay (2014) also conducted the study on the factors affecting implementation of nursing process in Northern Ethiopia. Their findings showed that nurses' did not have enough knowledge about nursing process to carry it out in their practice, and the patient nurse ratio is high which gave an effect on its application. They suggested to their studied hospital that it is needed to consider critically concerning motivating nurses, and the progress should be monitored and evaluated.

Aseratie, Murugan and Molla (2014), they conducted cross sectional study in Ethiopia which was also concerning about the factors influencing in implementation of nursing process among nurses. Their study identified organizational factors, factors relating with patients, and knowledge and skill levels which are highly influencing in implementation process. One of their findings says that the more the respondents have high level of knowledge were more likely to implement nursing process than the respondents who had low knowledge level. In addition, the stressful working environment creates the times less likely to implement nursing process than managing disorganized ward environment and the respondents are anxious on high patient flow. Adeyemo and Olaogun (2013) conducted survey in Nigeria concerning factors affecting using nursing process. Their result revealed that the knowledge factor is the most important influencing factor in using nursing process. They recommended that it is needed the introduction of educational programmes will enhance the ability of nurses to use it and motivation of nurses is very important which would further promote the consistency usage of nursing process.

Huitzi-Egilegor et al (2012) conducted their study related to application of nursing process in Spain. Their finding stated that the use of the nursing process is widespread in Gipuzkoa and the public is using more than private centers. They are using Henderson model while implementing nursing process model. Foroozan and Tahereh (2011) conducted their study in Iraq. They did grounded theory research and their study explored the nurses' perspectives on nursing process implementation. The total of eighteen clinical nurses, twelve nurse educators and six nurse managers were willingly participated in the semi-structured interviews. The result showed that personal factors such as awareness, attitude and skill whereas managerial factor such as enough human resources, reinforcement and punishment, suitable tools and conditions, cooperation, and supervision were a central core variable which means that a set of personal and managerial factors should be given to support nurses to apply nursing process. Their study concluded that the impression of nurses towards the factors that influence in the implementation of nursing process are varied, complex and, it is related to personal and managerial factors. Therefore, cooperating nurse educators and nurse managers to remove barriers and facilitating the ways to promote in implementing nursing process that increase the quality of nursing care.

Pokorski et al. (2009) conducted the study about how nursing process steps are implementing really in the hospital. Their study intended to describe the steps described in the literature and to investigate whether this process is actually applied in the daily practices. They did retrospective cross-sectional study in Porto Alegre hospital (Brazil). They reviewed and evaluated 302 medical records. Their results showed that the nursing records and physical examination were included over 90%. However, nursing diagnosis was not recorded in any records. They concluded their

study is that all the nursing process steps recommended in the literature (except nursing diagnosis) are performed.

O'Connell (1998) stated that even using nursing process is widespread in educational and clinical settings, some nurse clinicians show negative attitudes towards its use and state that it is not congruent with nursing practice. By using grounded theory methodology, O'Connell examined the clinical application of the nursing process in acute care hospital settings. The nurses in O'Connell's study experienced the basic social problem such as being a state of "Unknowing" which was linked to many factors such as the existence of a fragmented and inconsistent method of determining and communicating patient care and the work conditions of enormous change and uncertainty. The finding discovered numerous problems in clinical application of the nursing process and showed that the theory support was not able to be applied clinically.

Therefore, based on the above mentioned studies, the implementation of nursing process is influenced by many factors such as the level of knowledge, and the attitude towards the implementation process. Furthermore, the practice factor is influenced by many factors such as the organizational factors, personal and managerial factors, the educational status, the socio-demographic status, the willingness and the attitude towards change. Therefore, any changing process produces certain amount of stress and the success depend on overcoming many factors mentioned above. The next session is going to discuss the issues related to the implementation of nursing process.

The Issues related to Implementation of Nursing Process: Constraints as Restraining Forces and Suggestions to Overcome. The nursing process, its introduction by NANDA has proved to be a means of standardizing nursing care and in maintaining professional autonomy. Even though, in spite of its benefits, many nurses are needed to understand fully and put it into practice (Afolayan et al., 2013). As mentioned in ausmed.com (2012), care is transparent if it is based on clear rational by using a universal nursing process. It can give a clear picture of the client's care and health status. Because of its nature of individualized care, it can identify variances and the specific needs and goals. Additionally, the nursing process not only identifying the expected interventions and outcomes, but also addressing the adverse events, the decisions and actions can be taken. It means that through appropriate application of nursing process can help to avoid the legal action by showing transparency and evidence of making decision. Moreover, it creates professional collaboration and communication between and across health practitioners and professions. For a process of professional growth and development, it is a tool used to educate and assess the students and promote critical thinking and evidence-based knowledge for experienced nurse (Willis, 2012).

In respect to American and Canadian current practice standards, nursing practice stress on the application of nursing process proficiently and participate professional activities that contribute to the development of knowledge about application of this nursing process permanently (Alfaro-Lefevre, 2006; cited by Pokorski et al., 2009). Vaz et al. (2002) also stated that there is a demand to practice the nursing process practically in all health institution which means not only in hospitals but also in the community with the concept of community as a whole (cited by Pokorski et al., 2009). However, not all steps of nursing process are

systematically implemented in practice. The four studies; Davis et al. (1994); Ehrenberg and et al., (1996); Cunha and Barros, (2005); Lima and Kurcgant, (2006) revealed that there had difficulties to establish and apply the nursing process in Brazil and other countries during last years (cited by Pokorski et al., 2009).

Furthermore, one of the study from Nigeria conducted by Afolayan et al. (2013) identified the challenges such as lack of application due to inadequate practical knowledge, inadequate staffing, over workload, and inability to provide the needed materials from management. To overcome these issues and challenges, the researchers recommended that the Nursing and Midwifery Council of Nigeria should embark on seminars regularly, workshops and symposia which focused on practical implementation of nursing process. A study conducted in the United Kingdom by Hale et al. (1997), and Davis et al. (1994) showed that the analyzed nursing records were not providing a sufficient figure of patients' needs while implementing nursing care (cited by Pokorski et al., 2009).

Repetto and Sauza (2005) investigated concerning on the steps of the nursing process implemented as the routine in a university hospital. Their study showed that all steps were performed. However, there had problems in formulating nursing diagnosis and involved in recording the patient's history and nursing implementation prescriptions, and evaluation of the expected results were not recorded adequately (cited by Pokorski et al., 2009). Lima and Kurgant (2006) published study also mentioned that it has difficulties in developing the nursing process at all stages, Kurgrant suggested the need for changes to increase working process and to speed up the quality of actions in education and providing care (cited by Pokorski and et al., 2009).

At present, nursing process application in Brazil, USA and Canada has developed tools which were computerized or not in implementation of nursing process applicaiton. The three studies conducted by Lucena and Barros (2006); Lunney, (2006); and, Sperandio and Evora (2005) suggested that electronic records may provide a significant input in the implementation of the nursing process successfully (cited by Pokorski et al., 2009). In addition, Hermida and Araujo (2006) indicated that knowledge of the institutional structure which is the institution's demands and facilities are basic requirements while starting the systematization of the nursing process (cited by Mahmoud and Bayoumy, 2014). As mentioned by Pokorski et al. (2009), implementation of nursing process program need to train, improve and update the nurses. By doing so, the nurses can be implemented immediately.

Conclusively, the issues related with the NPM implementation is related with the factors that influenced in any change process. Introducing any new context create the issues such as adjustment, instability in using it, and trial and errors. In nursing education and practice arena, the NP was introduced to apply in education and practice because of its beneficial facts such as nursing care become transparent, show the evidence as a legal aspect, a clear picture of the client's care and health status, and express the evidence of decision-making. However, its implementation raises many issues such as lack of application due to inadequate practical knowledge on NP, staffing, overwork load, and inadequate needed materials from management.

Therefore, most of the studies suggested conducting education program, training, seminars, workshops and symposiums regularly on that is needed. Furthermore, one study highlighted that electronic record can help on successful implementation of nursing process. In fact, orientation to the program introduced and

practical training on the new program are the very important step to proceed in any move. The next session is focusing on the factors that influenced in implementation on application of NPM in different places in different contexts.

Internal Motivation (Attitude) and External Motivation (Supporting Factors) as Driving vs. Restraining Forces in Implementation Context. As mentioned before, nursing care has evolved over the years with the scope of disease focused medical model. Nowadays, its focus moves to scientific and holistic approach based on applying the nursing process as a model/framework in the daily nursing care activities. However, different setting brings different factors which influence in implementing the nursing process. According to the literature, the factors most important to consider in implementation of nursing process mentioned by Salcedo (2004) are; education and training on the nursing process, use of appropriate and meaningful nursing documentation, nurses assuming accountability for an independent role; understanding the culture of organization, and appropriate ward conditions and nursing work organization. Furthermore, setting as the legal rules and regulations by the respective nursing/medical/education related council is the first policy establishment bodies to implement it.

As mentioned in DHSS (Department of Health and Social Sciences) 1986 report, Walton (1986) and De La Cuesta (1983) studies pointed out that deficiencies in nursing education were a barrier for implementation of nursing process. Farmer (1986) specifically pointed out that lack of critical skills in nursing education in the past is one of the causes in facing difficulties in implementing the nursing process. Many studies by Martin et al (1997), Serrano et al (1994), Miller et al (1987) and Specht and Drey (1987) highlighted the preparation for implementing nursing

process was directed towards through providing knowledge about the nursing process and the skills to carry out it in their practice. Many educational methods such as case studies, seminars, workshops can be used to carry out this. One more factor added by Serrano et al (1994) was that need to stress the importance of education programmes taking into account/consider the attitude of nurses towards the nursing process (cited by Salcedo, 2004).

As mentioned by Serrano et al (1994) and Lauri (1982), the assessment forms with nursing approach and care plans based on the problem identified are the needy documents in carrying out the nursing process (cited by Salcedo, 2004). As discussed above, many models such as Orem's model, Henderson model, Carpenito's bifocal structure and Gordon's conceptual structure (Functional Health Pattern model) are most widely using documents in implementing the first step (assessment) of nursing process. Therefore, the first starting point on implementation of the nursing process is introducing the related models which are supporting the nursing process to be carried out.

The other one more important factor that affect in implementing nursing process is nurses themselves whom need to aware and assume their independent role and accountability. Many studies such as (Martin et al, 1997; Specht and Drey's, 1987; Farmer 1986, cited by Salcedo, 2004) highlighted the aim of nursing process as "nursing process is helping to define with much clarity on the nurses' scope of practice. By doing this way, it will specify their contribution to the population. Furthermore, the studies of Serrano et al (1996) and Miller et al (1997) stated that to incorporate the nursing process needed a change from nursing which depend on medications to an accountable nurse on every activities they performed through applying nursing process (cited by Salcedo, 2004).

According to DHSS 1986 report, it is vital to know and understand whether managers, staff nurses and other health professionals understand and favor for introducing nursing process. In addition, it is needed to understand whether the management style facilitates a climate of inquiry and enough flexibility to implement change. The culture and philosophy of each one playing in health care arena have to understand and need to accept the change which is implementation of the nursing process. The ward conditions (nurse patient ratio, workload, facilities, resources, the time available) and the support of nursing work organization are also important factors in implementing nursing process.

Therefore, while synthesizing the factors that needed to focus on implementation of nursing process are educating and training of nurses (continuing professional education for those who are not familiar with the nursing process), using relevant and meaningful nursing documentation, nurses attitude towards the accountability of their autonomy (independent role), understanding the organization culture (the culture of the practical area) and the appropriateness of the ward conditions and nursing work organization.

To summarize concerning NPM, it is globally accepted framework in 21st century nursing education and practice contexts, it is the tool to elaborate the professionalism and autonomy of nursing as a profession and the standard of nursing practice in ANA and ICN. It is also the guidelines in creating global nursing culture. It is helping nurses to practice in uniform way. Most of the countries in the world are practicing and trying to practice through setting the legal policy and struggling to apply it in their daily nursing practice. The teaching institutes are also trying to match between applications of NP in their teaching learning contexts. Furthermore, nurses, nursing researchers and nursing authorities are implementing NP by using

many ways such as conducting seminars, workshop, education and training program and trying to overcome the barriers/constraints.

The next session is focusing on three theories of change; Kurt Lewin's behavioral change theory, Micheal Fullan's educational change theory and social change theory. Furthermore, it is going to express the factors that relate and influence in change process. The meaning of discussing this session is to relate on how these change theories are relating to changing circumstances of nursing education and practice contexts. Additionally, the researcher intends to explore and find out the factors affecting change and what are the factors involved in changing context of Malaysian nursig into professional arena.

Theories of Change

Introduction about Change. International Network on Strategic Philanthropy (INSP, 2005) stated concerning theory of change as the theories of change represent beliefs of target population concerning what is needed and what strategies will facilitate them to meet those needs. National Institute for Health and Clinical Excellence (NICE, 2007) stated that any kind of changing established behavior is not easy task. It is mostly challenging in health care due to the presence of complex relationships among organizations, professionals, patients and carers.

Changes in the workplace create the employees to have feeling of uncertainty and emotional challenge which is happening naturally in any changing circumstances. When change is unexpected, can undermine the confidence and threaten sense of purpose particularly (Hlobeche, 2006, cited by Bowers, 2011). Hlobeche (2006) also stated that nurses who are working in constantly changing environments must continually adapt to new technologies, different demands,

policies and other innovations of government. In addition, it is important to identify people and reduce the possible resistances when managing change and while people are on the way in accepting new ways of practicing (cited by Bowers, 2011). Concerning change theories in nursing, many authors have attempted to address how and why changes occur; however, the pioneer is Kurt Lewin (Mitchell, 2013).

Every change process depicts certain degree of disequilibrium among those who are involving in the change context. Nursing profession itself is always struggling in dynamic health context. Therefore, to find out balancing factors and to get balance (success) during change process in changing context can contribute many more complex issues in today's dynamic world. Firstly, the researcher is going to discuss on Lewin's theory of change in nursing to relate how the change process is happening in nursing contexts.

Kurt Lewin's Theory of Change in Nursing. Kurt Lewin (1951) identified three stages in change process; unfreezing, moving and refreezing. Lewin's change theory shows the ways of doing motivation by change agents which are affecting the awareness of the members towards change during unfreezing stage. The problem is identified and the best solution is selected through collaboration. Roussel (2006 cited by Mitchell, 2013) mentioned that when the system's equilibrium is affected, it creates a need for change which means the unfreezing occurs.

Lewin proposed concerning meaningful structured change which means that creating psychological comfort to the employees which is psychologically "unfreezing" with the current state of affairs. Then, moving stage involves encouraging team members to change their values and ideally gain the ownership of change, explore the alternatives, define solutions and implement the identified

solutions. Once the change has become integral and established, refreezing occurs (Mitchell, 2013). Molbeche (2006, cited by Mitchell, 2013) stated that most changes in practice were not succeed in nursing because nurses' emotion are not supported and empowered to adjust to new ways of working.

Cook et al (2004) explained that Lewin's "force field" analysis guides a way of analyzing and foreseeing how people will respond to a given change during unfreezing period which includes assessing the current situation and need to identify what is needed to achieve to get the best outcome. The assessment involves identifying the driving forces such as new personnel, changing markets, new technology and the likely resisting forces such as individuals' fear of failure, organizational inertia which against the change (cited by Mitchell, 2013). Lewin (1951, cited by Mitchell, 2013) found that through making sure staff actively participated in analyzing opportunities was important to identify and compensate for resistant behaviors. This approach is a helpful way to consider how any changes affect people emotionally and what needs addressing to help in implementing the changes.

Holbeche (2006, cited by Browsers, 2011) suggested that change can only be sustained while the driving forces are outweigh on the resistant forces and encouraging everyone to participate and shaping ongoing change is important to reduce resistance (Curtis and White, 2002, cited by Mitchell, 2013). Lewin (1951) mentioned that process of managing structured change is one way in which busy leaders and practitioners can mentally step back. Therefore, it is needed to identify how sustainable changes can be achieved. Mitchell (2013) concluded that through helping nurses to get sense of belongingness and the leaders are more likely to look changes that become sustained and entrenched in practice.

Conclusively, Lewin's theory of change composed of three stages which are initiating change (unfreezing), moving which is implementing change and refreezing the intended change. During moving stage, it is important to identify the opposing forces which are driving and restraining forces. It is important to overweigh driving forces on restraining forces. Empowering people to embrace the new ways of learning, practicing and developing the new values, attitudes and behaviors, and communicating effectively between team members create successful movement of change. While the intended change had established, refreeze it and manage it to get sustainability. Sustainability is an important issue to maintain the new change practices in the change process to get long-term stability.

Meanwhile, Malaysian Nursing education and practice sectors set the policy agendas and strategies according to the Vision 2020 of MOHE which is unfreezing stage in Lewin's theory of change. This study is mainly focusing on evaluating the implementation of NPM which is the agenda 4 of the Nursing's Vision 2020 which is in the moving stage of Lewin's change theory. During this stage, it is important to look for the driving forces (the forces/factors that are favoring in the implementation of NPM application) and restraining forces (the forces/factors that are hindering the implementation of NPM application) to weigh whether the intended change is moving forward or standstill.

The next session is highlighting Micheal Fullan's educational change theory. It is intend to explore what is educational change and what are the main facts that involved in educational change process. The meaning of discussing about Fullan educational change is to link and relate the changing context of nursing education and practice movement in this study context and what are the educational needs in the educational change movement.

Micheal Fullan's Educational Change Theory. Fullan (2007) mentioned that the educational change is technically simple; however, it is socially complex. Real change, whether it is desired or not, represents a serious personal and collective experience distinguished by ambivalence and uncertainty. In addition, after the change works out successfully, it can result a sense of mastery, accomplishment and professional growth. The anxieties on uncertainty and the happiness on the mastery are the central meaning of educational change.

Fullan (2006) explained that change theory or change knowledge can be very influential while providing information concerning education reform strategies which is the way to get intended results. According to Fullan (2005), the knowledge of change at work is being used intentionally with self-reflective (system thinkers in action) and group-reflective which means key practitioners at all levels of the system and some academic colleagues are leading the use of change knowledge actively (cited in Fullan, 2006).

Additionally, Fullan explained the seven core principles that support while using change knowledge which are focusing on motivation, building capacity focusing on results, learning in context, changing context, a bias for reflective action, tri-level engagement, and persistence and flexible in staying the course. The last six premises support to accomplish the first premise (focus on motivation). The second premise, capacity building defined by Fullan is that any strategy that increases the collective effectiveness within a group to raise the bar and close the gap of student learning. It includes supporting the individual to be developed, collective knowledge and competencies, resources and motivation. These capacities are specifically raising the bar and closing the gap while implementing the change. The third premise,

learning context is especially paying attention in creating cultures on where learning in context is endemic.

The forth premise, changing context is changing the style to lateral collaboration and the fifth premise is concerning about shared vision and ownership. In addition, according to the fifth premise of Fullan's change theory, there have some distractors in changing context such as bargaining in group nature, conflicts and strikes, unnecessary bureaucracy and finding efficient ways to address managerial issues. Lastly, Fullan highlighted that the six premises which support to accomplish the first premise (motivation) are complex to manage and must be cultivated overtime which include bumpy rewinds and a strong resolve is needed to stay the course. Fullan named it as resilience which is persistence plus flexibility.

Fullan (2007) stated ten elements which are come out past six years experience based on neither too tight nor too loose strategies. It can be used while carrying out a large scale educational change. These ten elements are; i) define closing gap as the overarching goal, ii) paying attention to the three basics such as literacy, numeracy and well-being of students, iii) letting people to get sense of driven by tapping into the dignity and sense of respect, iv) making sure that the best people are running upon the problem, v) be aware that all successful strategies are socially based and action oriented, vi) assume that lack of capacity is the initial problem and work on it constantly, vii) stay on the course through continuity of good direction by leveraging leadership, viii) build internal accountability allied to external accountability, ix) establish the conditions for the growth of positive pressure, and x) use the above nine strategies to build public assurance (Fullan, 2007). Hargreaves and Fink (2006, mentioned by Fullan, 2007) state that the

mentioned listed elements are a meal, not a menu which mean that it need all ten, not any six or seven because it furnish a well-balanced reform agenda.

Additionally, Fullan explained the threefold in expressing the inhibitors while using change knowledge, which are 1) use of change knowledge does not stand for a quick fix which is what many politicians seeking for, 2) not only knowledge is difficult to grasp, but also many leaders have to have it simultaneously for its use to spread and be consistent, and 3) it does represent deep cultural change which many people resist, tacitly/silent or otherwise. Fullan and Stigelbauer (1991, cited by Montanari, 2014) mentioned the factors that are influencing while starting change involves existence quality of innovations, access to innovations, advocacy from central administration, teacher advocacy, and external change agents. In addition, there have three areas of major factors that affect the implementation of change include characteristics of change (need of change, clarity on goals and needs, the complexity of change, and the quality and practicality of the intended change program), local characteristics (the area that intended to implement and the people/community going to involved) and external factors (government and other agencies).

Listed by Fullan (1993), there have eight basic lessons while thinking about change. Lesson one states that change cannot mandate what matters (the more the change is complex, the less can force it). Lesson two states that change is a journey, not a blueprint which means change is not linear, full with uncertainty and excitement, and sometimes obstinate. Lesson three expresses that problems are friends which means that problems are unpredictable and it cannot learn without problems. Lesson four mentions that vision and strategic planning come later. Lesson five concerns individualism and collectivism must have equivalent power, lesson six

explores that it is neither decentralization nor centralization works which means both top-down and top-up strategies are necessitate, lesson seven states connection with the wider environment is important for success which means the best organizations learn externally and internally as well, and the lesson eight mentions that everybody is a change agent (pp. 21-22).

Therefore, Fullan (1999) mentioned that to get the successful change, it has to have the ability to work with polar opposites such as imposition of change vs. self-learning, planning vs. uncertainty, problems vs. creative resolution, vision vs. fixed direction, individual vs. groups, centralizing vs. decentralizing, and personal change vs. system change. In addition, Fullan (1999) mentioned that dynamic interdependency of state accountability and local autonomy, combination of individuals and societal agencies, internal connection within self and within one's organization, and external connections to others and environment to get the successful change.

Therefore, while thinking about educational change, there have many factors such as the factors that contribute to be changed, the factors that influence in change, and the tracks/steps that are necessarily to follow to get successful educational change. In essence, Fullan's educational change theory meaning that the participants in change process are important and it is needed to build the capacity of them through motivation. Many parties (Fullan mentioned tri-level in the sixth premise) need to work harmoniously through shared vision and ownership, and creating the participant to get individual ownership in moving change. Through motivating those who are involved in change, they become empowered until they get sense of responsibility in this changing context.

The main essence of Fullan's educational change theory is mentioning that social as a complex dimension. Educational change is mainly focusing on the capacity building as it Fullan mentioned that lack of capacity as an initial problem and need to continue it. The next session is going to discuss the social change theory and how the nursing is struggling together with social change movement. The researcher intends to express on how nursing developed along with the social changes of the world. In addition, the researcher will try to relate the social factors that influence in nursing's development which is the reflection of what is nursing today.

Social Change Movement and Nursing. E.Baly (1973) stated that the development of nursing is like weaving a cloth with social change as a wrap in the twentieth century. E.Baly (1995) stated that as a response to changing social needs, nursing has developed, and as the structure of society alters new demands for health care were raised. It means new habits and customs alter the disease pattern and create fresh problems due to changes in the size and composition of the population. All these changes are continuous and tend to increase the knowledge accumulation; however, all these are not only unending but also unpredictable.

In addition, E.Baly (1995) explained that the development of nursing seems so slow in some periods and the variations in the structure of society are almost hardly noticeable. However, on the other time, the circumstances combine to produce change so fast that the whole social basis of society alters in one generation. These rapid changes create new ideas concerning the rights and responsibilities and indeed the whole social purpose. There is considerable debate among social scientists concerning on what is crucial initiating factors that are convincing social change.

Marxists believed the main factor to be technology of production. The philosophical, religious and political ideas and values were secondary and derivative (the material conception of history). On the other hand, Max Weber denied the purely Marxian dialectic and has argued that ideas, especially religious ideas have had deep consequences for social change (Weber, 1930, cited by E.Baly, 1995).

In addition, E.Baly (1995) explained that the sociologists stressed on different aspects in what they believe to be the most significant force for fostering change. Some focus on the importance of changes in communications and the far-reaching effects. Yet again, demographic change is always related in a complicated way with social and economic change. Furthermore, scientific revolution, war and racial conflict, the use and abuse of power, the effect of the mass media in shaping public opinion and the power of pollsters and sociologists to bring about change. Even though the opinions differ on the fundamental opinion on societal change, there is no doubt that the new health needs were come out in the community because of the pattern of society changes. Whether the society tries to meet these new health needs and whether it meets them with any degree of success relies on a various factors such as religious attitudes and beliefs, pattern of culture, economic resource along with population change, the state of knowledge and the way of organizing and delivering health care.

Christianity was an important influence on attitude to contribute care of the sick such as the appointment of deacons and deaconesses to provide charity and to visit for the sick people in their homes. Islam, also a religion based on the duty of man to God and his neighbor, exhorted man to enquire. Islam produced a number of sects and mystical philosophies. For a few centuries after the death of the prophet, Mohammed (AD 632), Islam led the world in medical knowledge. However,

eventually war and economic decline disrupted the Islamic world and its medical practice and teaching also affected. Even though, before the light went out, much of the Arabic progressive thoughts and its undecoded translations, had passed to the growing universities of Europe, of which some— such as Salerno, Bologna and Paris via travelers (E.Baly, 1995).

McKeown (1976, cited by E.Baly, 1995) mentioned that cultural attitudes to care are often bound up with religious practice and sanction. Additionally, population changes and economic fluctuations were in the past always interrelated and interdependent. It cannot be denied that the incredible burst of medical knowledge in the twentieth century has both prolonged life and often improved its quality. As mentioned by E.Baly (1995), firstly chronic bacterial infection gave people sufferings, however, later they aware that much ill health arises from the way people live, and since the present determinants of health again lie outside scientific medicine, health workers must extend their studies to a number of related fields including psychology, sociology and the behavioral sciences. E.Baly conclusively explained that economic advance, scientific knowledge and compassionate attitudes do not of themselves ensure the demands for health care met. To improved health standards are depending on how wealth is distributed and medical care organized.

Therefore, the development of nursing, the advancement of nursing and the scope of nursing care were changing along with social change movement and social needs. There is considerable debate concerning on what is crucial initiating factors that are convincing social change among social scientists. The factors explained by social scientists include technology of production, the philosophical, religious and political ideas and values, scientific revolution, war and racial conflict, the use and abuse of power, the effect of the mass media in shaping public opinion and the power

of pollsters and sociologists. Additionally, social and economic change are also influencing on demographic change. Based on the final conclusion of E.Baly, the standards are depending on how the wealth is distributed. It means when the resources (man, money, materials) are distributed harmoniously, the change equilibrium will be balanced.

To sum up the three theories of change (Kurt Lewin, Micheal Full, Social change sociologists), the change started when the situation and people aware that the status quo is needed to move or to improve. While implementing change, there are many factors that convince or alter the changing context. When thinking about the factors that involved in change process, it is needed to look at how the change participants are acted, what kind of responses can occur during change process, how should handle to different kinds of responses that come from people and the change process itself. Therefore, the next session is focusing on what are the factors that are influencing change process to reflect the change process of Malaysian nursing education context.

The Barriers as Restraining Forces in the Changing Practice. According to National Institute for Health and Clinical Excellence (NICE) (2007), changing process can take long time especially in a clinical guideline can take up to three years to fully implement. It is needed to consider the scale of change that can be achieved realistically because even small changes can get a positive impact if the change engages an action which is repeated often. In any kind of change in any situation, there have certain factors that help to foster an environment to conducive and impede/prevent the change process. To develop a successful strategy for change, it is

needed to understand the types of barriers that are commonly faced in health care area.

As mentioned by NICE (2007), there are five types of barriers, namely, awareness and knowledge, motivation, acceptance and beliefs, skills, and practicability. Awareness and knowledge are the vital first step in enabling change to occur. The evidence shows that the health care professionals are often do not aware the latest evidence-based guidance and lack of familiarity with it. Motivation is an essential part of nearly everything to carry out successfully. There have external factors such as the providing incentives or penalties as a part of regulatory checks and internal factors such as self-motivation derive and desire to improve of each individual which influence the motivation and change behavior.

In addition, NICE (2007) explained that the personal beliefs and attitudes impact significantly. Perception on the benefits of any proposed change versus the costs, both practical and financial can be important. A person's belief in their own affords to adopt a new behavior also has an impact on whether a change can be implemented successfully or not. The individuals need to know what are needed to suppose to change and how best to competently carry out the change while implementing the change into action. The health care professionals may need training, the time to learn, support from peers or mentoring while engaging the new skills and practice. The individual's ability, interpersonal skills and coping strategies will also influence on how easy or difficult for those individuals to learn new skills. The barriers in practicability involve a lack of resources or personnel or difficulties in establishing in delivery of service and difficulty in maintaining change in long term (sustainability).

Furthermore, the financial and political environment can also impact on the desire, motivation and ability of the health care professionals to make changes. To overcome the barriers to change, there is no one method to conquer all different barriers; therefore, different approaches will be effective for different people and situations. Therefore, combining methods may have a bigger impact on change such as using educational materials, educational meetings, educational outreach visits, opinion leaders, clinical audit and feedback, and reminder system (NICE, 2007). Therefore, there are many factors that influenced in the change process in the health care arena which are mostly the same like the factors influencing mentioned by Lewin's change theory, Fullan's educational change theory and social change theories.

Through the concepts mentioned by NICE (2007) and the above mentioned three change theories, when look back to the implementation of NPM in nursing education and practice agenda, it was very new change movement which is innovation of nursing towards the professional nursing. Many studies were conducted to identify what factors are influencing in the implementation of nursing process. Salcedo's (2004) study mentioned education and training are important, Walton (1986) and De La Cuesta's (1983) study pointed out that deficiencies in nursing education were a barrier, Farmer (1986) specifically pointed out that lack of critical skills in nursing education in the past is one of the causes in facing difficulties, Martin and et al (1997), Serrano et al (1994), Miller et al (1987) and, Specht and Drey (1987) highlighted to provide knowledge about the nursing process and the skills to carry out it in their practice, Serrano et al (1994) concentrated on the importance of education programmes and taking into account upon the attitude of nurses, DHSS 1986 report mentioned on the importance of understanding and favor

of managers, staff nurses and other health professionals concerning the introduction of the nursing process.

Additionally, Aseratie, Murugan and Molla's (2014) study highlighted the influence of organizational factors, level of knowledge and skill which are highly influencing in implementation process, Foroozan and Tahereh (2011) study focused on the personal-managerial factor which includes awareness, attitude and skill of the person involved human resources, reinforcement and punishment, suitable tools and conditions, cooperation, and supervision at the managerial levels. Foroozan and Tahereh study highlighted that the impressions of nurses upon implementation of nursing process are varied and complex.

Therefore, it can be concluded that the education and practical changing context of nursing education and practice on the implementation of nursing process is influenced by many factors such as the level of knowledge which depend on the quantity and quality of implementation process of NPM application, the attitude towards NPM and its implementation process, and the complexity and practicality of nursing process itself. Furthermore, the practice factor is influenced by many factors such as the organizational factors, personal and managerial factors, the education status, the socio-demographic status, the willingness and the attitude towards change, and the professional factor which is the reflection of the social change (lack of critical skills in nursing education in the past, mentioned by Farmer, 1986; deficiencies in nursing education stated by De La Cuesta's, 1983).

In addition, any change process produces certain amount of stress, and the success depend on the ability to overcome the barriers mentioned above. In fact, all these factors are representing the factors that are influencing in educational and social change process. Therefore, this study intends to explore how did/do the

educational change and social change process (which in turn reflect and influence the behavioral change process) are involving in the implementation of NPM in Malaysian nursing education and service sectors and what are the factors that favors or hinders in the implementation of NPM in Malaysian nursing education.

The next session is going to discuss on the public policy process, the factors influencing in the policy formulation and implementation, and the importance of policy monitoring and evaluation. It is intended to explore the dynamic of the policy process which is going to reflect and support this study because this is focusing on the evaluation of nursing education and practice policy implementation (implementation of NPM application) in Malaysian Nursing Education context.

Public Policy Process

Introduction about Public Policy. University of Melbourne (2013) defined policy as it is a statement principle that relates and in line with legislative, regulatory or organizational requirement (cited by Freeman, 2013). Education policy is a high agenda across the world. The global pressure is focusing concern on the outcomes and implications for economic prosperity and social citizenship. There is often decrease level of understanding concerning how education policy is formed, what drives it and how it impacts on schools and colleges (Bell and Stevenson, 2006). According to Nur Anisah Abdullah and Shukran Abdul Rahman (2011), the National Mission and 9th-10th Malaysia Plans set out the country's vision to transform Malaysia into a high-income knowledge-based economy by 2020. These aspirations were mentioned in the National Higher Education Strategic Plan (NHESP) 2007-2020 intended at driving Higher Education Institutions (HEIs) towards to reform the human capital development. They also discussed that this challenge is exacerbated

by declining state budget for education. HEIs in Malaysia are expected to find their ways to bring excellence to meet those demands.

According to Malaysian National Higher Education Strategic plan (2007), the intention of higher education laid by Ministry of Higher Education is producing knowledgeable and competent graduates, who are innovative, possess high cognitive skills (analytical and critical, problem solving, and reasoning abilities), multi-lingual, able to communicate effectively and technology savvy, able to inculcate good views and contribute to the well-being of the society nation and the global community. The achievement of the plan depends on effective implementation and monitoring system. The effective leadership and first class working culture are needed to achieve the vision, mission, strategic objectives and direction of the institutions which reflect the excellence of HEIs.

While looking into Malaysian Nursing education and practice policies and agenda from higher education perspectives, the Nursing Task Force, under the guidance of Ministry of Higher Education (MOHE) has identified four basic nursing competencies for new graduates and for those entering nursing service which are critical thinking and problem solving, knowledge-based practice, clinical competence and accountability, and ethics. The Nursing Task Force Committee mentioned that to upgrade nursing education according to the Vision 2020 of MOHE, implementing Nursing Process Model is directly impact on critical thinking, problem solving and knowledge-based practice. From the higher education perspective, if the nursing process model is not applied in the practice, it can say that Key Performance Indicator (KPI) for nursing has not been met (MOHE, 2010).

To place a policy on the agenda, there have certain prerequisites such as recognizing the situation is problematic by individuals or groups, identifying the

problematic features of the situation, propose solutions, and engaging it in activities that influence the government and pressure it to intervene and identify the groups that can be played an active role (Ripley, 1985, in McCool, 1995, p. 159, cited by National Collaborating Center for Healthy Public Policy (NCCCHPP), 2013). Therefore, the nursing task force committee under the guidance of MOHE laid 11 agenda to shape the Malaysian nursing context towards professional nursing to produce creative and competent nurses. Among these 11 agenda, the agenda 4 is concerning the implementation of NPM. The committee sets the strategies to implement NPM in both education and service sectors.

Clark et al. (2012) stress that institutional policies promote legal and regulatory compliance; the rights, responsibilities and procedures for the faculty, staff and students; standard and an important facet of shared governance which all are important for the well-being of higher education institutions (cited by Freeman, 2013). Therefore, the educational policy concerning implementation of NPM in nursing education and practice sectors need collaboration between the faculty, staff and students. Furthermore, it is shared governance which means everyone in this implementation have to accept that the implementation is sharing the governance and everybody has the responsibility to implement it. Therefore, the Nursing Task Force Committee set strategies to implement NPM in both sectors (nursing education and service). The next session is intending to discuss the process of policy. It is intended to reflect the policy implementation framework of NPM in Malaysian nursing education context.

Policy Process. National Collaborating Center for Healthy Public Policy (NCCHPP, 2013) stated that there have many models developed by many authors composed of the number of stages range between five and seven. There are five stages in Howlett and Ramesh's model, namely, agenda setting, policy formulation, adoption (or decision making), implementation and evaluation (Schmithusen, 2003; NCHPP, 2013).

Schmithusen (2003) explained that the policy process concepts provide a useful approach in order to determine to organize the ways to develop and implement the policies and laws. It can identify the significant ways of intervention to solve particular problems through establishing new or improved legislation and policies (cited by NCHPP (2013), the figure 2 expresses the policy stages and respective outputs produced.

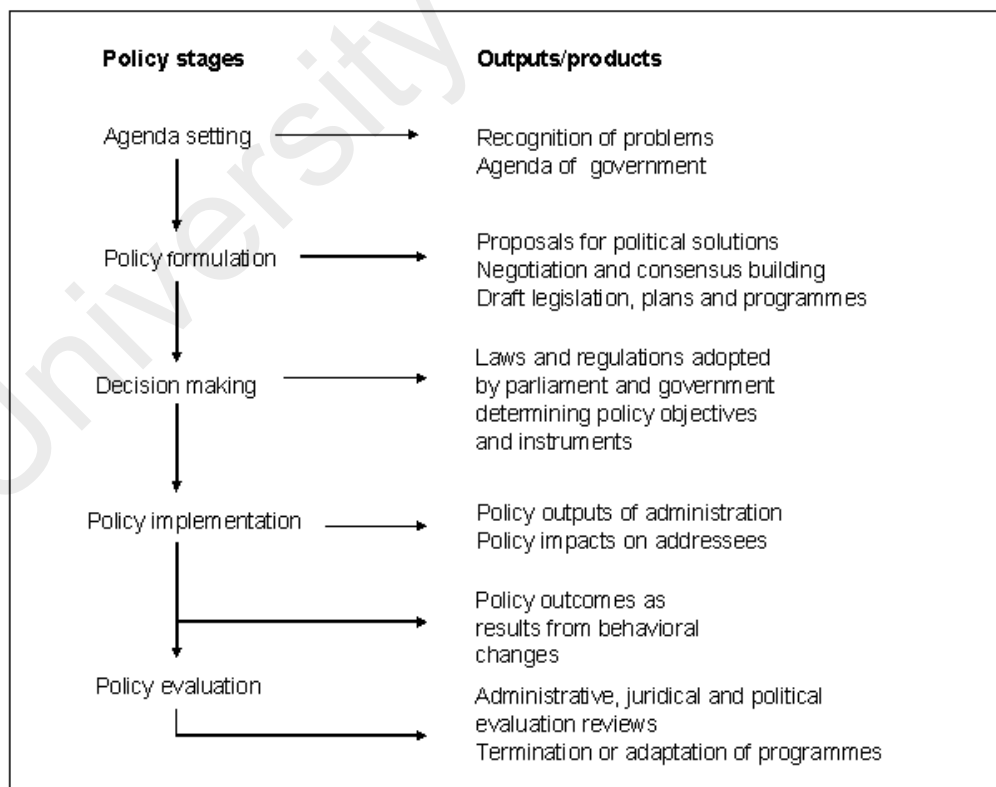


Figure 2.2. Stages of Policy Process with Outputs/Products

Howlett, Ramesh and Pearl (2009) explained that the policy process involve six with distinct phases which include agenda setting, policy formulation, decision making, implementation, evaluation and termination or renewal (cited by Graduate School of Public Policy, University of Saskatchewan, 2010). Falastein (2010) explained that agenda setting is the first step which is identifying problems for the attention of government. If the identified problem is a flawed, it leads to a flawed solution and its implications are far reaching. Schmithusen (2003) also mentioned that the stage of agenda setting addresses recognition of the problems to be before the solution can be found out and get attention of and onto the government agenda.

As soon as the government has identified that there has an issue to address, the next step is policy formulation. Howlett and Ramesh (1995, p.122) defined policy formulation as it is defining, considering, and accepting or rejecting options (cited by Hamilton, 2010). Howlett and Ramesh (1995, cited by Hamilton, 2010) pointed out the policy makers eliminate policy options until one or only a few are left from amongst to make the final selection. Schmithusen (2003) also mentioned that the acceptable proposals are developed in the stage of formulating policy which is based on compiled information, formal and informal discussions among interest groups and stakeholders, and negotiations which leads to draft legislation, plans and programmes.

Concerning policy adoption/decision-making, NCHPP (2013) mentioned that the decisions are made at the governmental level, resulting in a decision which favors one or more approaches to address a given problem. Schmithusen (2003) also stated that the decision-making stage involves choosing the formal solutions approved by parliaments, governments, and public administrations together with outputs. It is determining objectives and instruments in the form of laws, budgets or international

treaties adopted by parliament; parliamentary and governmental rulings and regulations; and administrative decisions, rules and procedures.

Regarding policy implementation, Howlett, Ramesh and Perl (2009) stated that it is translating policy decision into action which include the effort, knowledge, and resources that are spent by policy actors to do so (cited by Miller, 2010). NCHPP (2013) also explained that the policy network which is referred as the actors within the government and stakeholders have a major influence on how the policy will be implemented (NCHPP, 2013). Schmithusen (2003) also mentioned that the adopted laws, regulations and programmes are put into effect during the policy implementation stage. The actual policy outcome will be depends on the willingness or resistance of target groups.

NCHPP (2013) also mentioned that policy implementation parameters can directly affect the final results of the policy implemented. There are many factors combine to conclude the real effects of a policy and how well its objectives are succeed. Sabatier and Mazmanian (1995) cited in NCHPP (2013) explained the factors that affect on the policy implementation as the type and complexity of the addressed problem, the magnitude of the expected change and the targeted groups by the policy, the human and financial resources devoted to implementation, and the administrative structures and regulations.

The monitoring and evaluation stage is the fifth stage of policy process which is the assessment on the impacts implementing policies and laws (Schmithusen, 2003). Howlett & Ramesh (2003) cited in NCHPP (2013) also mentioned that it is carried out to validate whether its implementation and effects are aligned with the objectives. In addition, Schmithusen (2003) explained that depending on the nature of the given problem, a policy program can be terminated or new or additional

political initiatives and incremental steps for revised and new legislation to begin a new chain of policy process.

According to Howlett, Ramesh and Perl (2009), the evaluation of policy implementation is more useful when it is ongoing and interactive with the goal setting and the policy process. It shows the fluidity nature of the policy process. During the monitoring and evaluation stage, an assessment data is collected and took back to the policymakers to do policy adjustments and policy re-conceptualization can occur with minor changes, fundamental shifts, choices of status quo or abandonment of the policy (cited by Andres, 2010). In addition, another important step in policy process is policy termination or renewal which is concerning whether the policy is decided to terminate or to renew.

Conclusively, there have six stages in policy process developed by Howlett, Ramesh and Pearl (2009) which guides to set healthy public policy. In the agenda setting stage, the authors concentrated to find out the real focused problem which is acknowledged by individuals or groups. Then, identify the problematic aspects of the situation, proposed solutions and the engage activities and proposed it to implement. In Malaysian nursing context, they aware that it is need to upgrade the status of current functional hospital-based training method towards the professional nursing.

Therefore, with the guidance of MOHE, the Nursing Task force committee set the agenda to upgrade the status of Malaysian nursing education context through implementing the application of NPM. The committee set the strategies which concern the policy formulation stage of the policy process. They decided the intended targeted period (intended to apply NPM in nursing service sector by 2015, and the new employers of graduate nurses apply four basic competencies through applying NPM by 2016 in nursing education context). According to the policy

process, effective monitoring and evaluation are important in the implementation process to determine whether it has intended results or not. Depend on the results of evaluation, it is needed to decide that whether the policy is going to proceed or modify or terminate or renewal which is mentioned in the policy process monitoring and evaluation step.

The following session is going to explore about the factors that influence in the policy formulation and implementation process because implementation success is depend on how the policy was formulated, and evaluation is based on how the policy is implemented. This session is intended to reflect the education policy implementation process which is implementation of NPM application in Malaysian nursing education context.

The Factors Influencing Policy Implementation: Barriers as Restraining Forces in Implementing Policy. After policy formulation is policy implementation. Fitz, Halpin and Power (1994, cited by Ali, 2006) explained that while doing review of implementation research, the formulation and implementation cannot easily be differentiate in education policy. During policy implementation, it is needed to observe the pattern and nature to explain the failure or success of any given policy (Chukwuemeka, 2013). Many scholars cited in Chukwuemeka (2013) discussed concerning the importance of policy implementation. Nwankwo and Apeh (2008) stated that policy implementation is the most critical phase in the policy process and determine whether it is success or fail. Ikelegbe (2006) and Nweke (2006) mentioned that the effective implementation is a hallmark that makes successful policy. Dick (2003) also mentioned that implanting policy is the most critical dimension in the policy process.

Ikelegbe (2006) identified the essential questions bordering on the implementation of a given policy which are how is the policy is being implemented by the targeted institution, how is the response of target group towards the policy implementation, does the targeted institution have the resources to implement the policy effectively, does the targeted institution have the will and motivation to put the policy into action as intended, is the societal problem understood properly, to what extent does personal, group or institutional interest or prejudice influence the target implementing institution for not to implement the intended policy or not to implement it totally, and how does the relevant government structure monitor and supervise to the policy implementation (cited by Chukwuemeka, 2013).

O'Toole and Montjoy (1984, cited by USAID, 2009) stated the complexity of policy implementation process has challenged to the researchers to develop theories or models with a limited number of explanatory variables which forecast how and under what conditions policies are implemented. Alesch and Petak (2001), Matland, 1995 and Sabatier (1991) mentioned that there is seriously lack of empirical data which can highlight a sufficient understanding of how to defeat the delays, barriers and disincentives connected with implementing policies (cited by USAID, 2009). Therefore, to gain an understanding of the underlying the factors that influence the implementation process, the USAID raised three questions which are “why is it not being implemented even though the policy has been written, approved and included up to date guidelines?”, “what are the barriers in implementation? and “ which approaches and interventions can propose to improve implementation? (USAID, 2009).

Ali (2006) mentioned the conventional and neuro-cognitive accounts that are influencing in policy implementation. As conventional accounts, Ali mentioned as unclear or ambitious policy goals, political commitment, governance structure, centralization, resources, and foreign aids. With referring to Ali's citations, lack of consistent data hinders the ability of policy makers in developing clear policy goals with precise implementation plans and evaluation mechanisms; Wildavsky (1975) suggests lack of reliable present knowledge contributes poor policy outcomes; Sabatier and Mazmanian (1983) stated successful implementation critically depends on the consistent support of top political and bureaucratic leadership (Cummings, Gunawardena, & Williams, 1992) which is the evidence of Sri Lankan reform, and Mc Court (2003) noticed on the primary reason for failing the reform programmes which is the lack of political commitment.

Concerning the governance, Firestone and Corbett (1988) mentioned that distrust among different agencies and resist to change eventually create symbolic policy implementation. In addition, Pressman and Wildavsky (1973), and Sabatier and Mazmanian (1983) mentioned that lacking of collaboration among different government structures and do have mutual respect affect the overall organization which in turn influence policy implementation. Furthermore, mentioned by Ahsan (2003), Memon and Wheeler (2000) and SPDC (1997), because of centralization, education policy often fails to grasp the details of educational initiatives at grassroots level. Therefore, it appears unfamiliar to the educational managers who are the implementers of the policy. Additionally, not only the distance of policy makers from practice but also a lack of harmony among different elements of same policy such as curriculum development, assessment, teacher's education and educational management also affect in policy implementation (Aga Khan University Institute for

Educational Development and Department for International Development, 2003). The contributing key factors to the proper implementation of any policy are the combination of technical and financial resources together with quality human resources when the policy is creating new structures (Sabatier & Mazmanian, 1983).

As a neuro-cognitive account, Ali (2006) referred many studies such as Spillane et al (2002), Surel (2000) and Huffman, Thomas and Lawrenz (2003). Spillane et al (2002) explained that interpreting and understanding about policy stipulations are a cognitive process. Therefore, the implementation agents have to understand and asking them to do that what it is that directive firstly before acting on it. Surel (2000) also stressed on sense-making of policy which includes a simple interpretation of the policy message; comprehension with active interpretation that draws the individual's rich knowledge based understanding, beliefs and attitude. In addition, Surel mentioned that sense-making create not only building the mental maps but also deciding the practices and behaviors. Huffman, Thomas and Lawrenz (2003) supported that the sense-making cognitive account is also influencing together with conventional accounts while implementating policies.

Conclusively, Ali (2006) explained that it is need to be carefully considered the conventional and neuro-cognitive constraints and their integration in policy development to get better policy outcomes. Therefore, Ali mentioned that discussing about these both accounts shows that successful policy implementation is not only depend on conventional accounts, but also involving neuro-cognitive accounts of the actors.

It can be concluded that the policy implementation is the reflection of policy formulation process which is whether it was formulated properly or not. Furthermore, the conventional factors and the neuro-cognitive account of the actors

who are involving in policy implementation process are needed to consider as the factors that are influencing in its implementation process. These three main factors are influencing in implementation of policy provisions. It can be seen that implementation of NPM in some studies showed how the policy was formulated, how did they implemented and what are the factors that favor and hinder in implementation process. While the policy process is achieved, the change process is succeeded and the Malaysian nurses are successfully applying NPM as a global concept and will become a creative and competent problem solver in today's nursing context which in turn reflect on the achievement of the Vision 2020 laid by MOHE.

Additionally, the factors that influence change is also the mostly same like the factors influencing policy implementation process because implementing something is also expressing the phenomenon of change. Thus all these concepts are intending to apply and reflect on the policy formulation pathways and evaluation on implementation of NPM in Malaysian Nursing education and service contexts. The next session is concerning on how much policy monitoring and evaluation is important to support on why this study is conducted.

Importance of Evaluating Policy Implementation. Policy evaluation is last step which is needed to answer whether the correct problem was identified or the problem was identified correctly; any important aspects were overlooked; any important data left in the analysis which this data influence the analysis; the recommendation were implemented properly; the policy has desired effect or not; any needs to modify, re-design or change, and whether it is needed to do differently in the next time. When policies fail to achieve the intended effect, it is usually due to theory failure, or program failure (csulb.edu, accessed on 30-Mar-15).

UNICEF (2003) stated that monitoring and evaluation are integrated and distinct parts of programme preparation and implementation. Monitoring and evaluation are carried out to make decision concerning whether to improve, reorient or discontinue; decision concerning whether to wider organizational strategies or management structures; and decisions by national and international policy makers and funding agencies. Sera and Beaudry (2007) also mentioned that evaluation is the organized and objective assessment for on-going or completed project, program or policy and its design, implementation and results to make decision concerning the relevance and accomplishment of objectives, development efficiency, effectiveness, impact, and sustainability.

UNICEF (2003) also suggested that an evaluation report should involve findings and evidence, conclusions, recommendations, lessons learned, relevance, efficiency, effectiveness, impact and sustainability. Sera and Beaudry (2007) also mentioned some relevant strategic questions while doing monitoring and evaluation which include relevance which is whether the goals and objectives are match with problems or any other thing need to be address; efficiency means whether the project provided cost-effective and timely manner; effectiveness means the extent of achievements based on the objectives through identifying the supportive and hindering factors during implementation; impact is the result of the project is having whether positive or negative effects; and sustainability means maintaining the benefits after completing the intervention.

Furthermore, fao.org also mentioned that monitoring and evaluation is an important parts of project design and implementation which should be built since beginning and used during all the implementation phases. It is needed to monitor and evaluate the project design and implementation process to assess whether the planned

activities are being implemented through monitoring the activity, process, progress and impact.

Therefore, the policy process is an important component and involves a variety of process such as analyzing the current situation, generating and assessing policy options, preparation and evaluating policy implementation carefully, and eventually it can lead to the redefinition of a new policy. A significant amount of planning and real policy formulation can happen even during real implementation phase. Therefore, subsequent monitoring and evaluating the implementation is crucial part to succeed the intended mission, vision, agenda and strategies.

Chapter Summary

As a global perspective, the evolution and development of nursing as a profession is intricately linked to historical influences throughout the ages (Egenes, 2014). Nursing developed within the traditional pattern of caring for and curing to others. Therefore, nursing can be viewed as a fundamental human activity (WHO, 1996). Tracing the training of nursing history in each country is various and expressing the history of its various branches is difficult. Generally, the historical context of nursing is rooted in the religious and military inheritance such as concern for order, rules and regulations, and focusing on infection control (understanding microbiology and transmission of diseases). This trend greatly influenced on what nurses do in during the first half of twentieth century. Similarly, the development and culture of hospitals were alike militaristic, authoritarian, bureaucratic institutions. Therefore, it has been analyzed as disempowering and deprofessionalizing (Barrett, Sheffield and Richardson, 1996, Wilson Barnett and Batehup, 1988, cited by WHO, 1996).

Many countries are trying to become a professional nursing during late 19th and 20th century. The Nursing Process (NP) started to introduce by Lydia Hall in 1955 in America because nurses in North America started to argue about its own uniqueness, the fundamental roles and functions of nursing as mentioned above. Currently, NP composed of six steps and nurses are practicing it in their professional practice contexts. Through practicing NP, nurses are providing holistic care with holistic point of view, practicing decision-making, critical thinking which in turn reflect nurses' uniqueness, autonomy which leads nursing towards a profession.

Started from Florence Nightingale era in UK, apprenticeship was the model in professional nursing education and many other countries including Malaysia. Delivery of knowledge and performing practice was in the hospitals nearby. Nursing students were learned mainly from more experienced clinical colleagues. What they learned and performing practice were sometime lack of scientific foundation, and unsafe. Moreover, they had not much opportunity to develop reflective and critical skills, and gain clinical experiences in other care settings. Therefore, application of nursing process started from 1977 syllabus to turn nursing into profession to practice autonomy, critical thinking and decision-making.

In 1988, WHO acted as a catalyst in the first European Conference on nursing which was carried out in Vienna. European nurses increased awareness on the need for reorientation of practice and education. The participants of this conference recommended that innovative nursing services should be developed, especially focusing on health rather than disease (WHO, 1996). Additionally, WHO published the nursing process and its steps to practice in European countries. Nursing in Europe upgraded into higher education through Bologna declaration to harmonize

the nursing and midwifery education system and programmes within European Union (EU) countries in 1999 (WHO, 2009).

The same like Europe, UK, US and Australia, Malaysian Nursing began from about the year 1800 with the formation of East India Company. Firstly, the catholic nuns delivered nursing care and later on, replaced by English nurses from England. The same like training of nurses from Europe and UK, nursing practice in Malaya was carried out by nurses who received “on job training” with lectures given by European sisters, matrons and doctors at the hospital level (Ministry of Higher Education Malaysia, 2010, Nursing Colleges Malaysia, 2014-2015).

The training became more formalized in 1952 by using a curriculum based on General Nursing Council (GNC) of the United Kingdom. They adopted the block system curriculum comprising 20% theory and 80% practice for the duration of three years and four months. The main intention of training at this point in time was that to get reciprocity with hospitals in England and Wales to enable Malaysian nurses to precede their studies in England and Wales. Many nurses were sent to Great Britain, Australia and New Zealand to attend nurse tutor course during 1952 (Ministry of Higher Education Malaysia, 2010). The certificate curriculum was upgraded with more theoretical input which is up to 50% and it became a diploma in nursing curriculum by late 1992. The tertiary education was started in University of Malaya in 1993.

In general, diploma nurses are task-oriented, obedient and passive due to the consequences of low entry requirement, teach-center approach of teaching style and didactic approach in education. The Nursing Task Force, Ministry to Higher Education has identified the internationally recognized basic competencies (critical thinking and problem solving, knowledge-based practice, clinical competence and

accountability and ethics) and implementing it through encouraging applying Nursing Process Model for new graduates and for those entering nursing service. However, the study conducted by Nursing Task Force (2009-2010) mentioned that there was no evidence of using Nursing Process Model. Therefore, the Ministry of Higher Education set a plan to reorganize the conduct of professional nursing programmes in both undergraduate and postgraduate studies to upgrade nursing from functional task-oriented to professional nursing through implementing ten agenda of Vision 2020 laid by Ministry of Higher Education Malaysia.

While looking back to the historical milestone of nursing, it was started with religious realm except in the United States. Nursing in United States was started by women who were involved in caring the wounded soldiers during civil war without proper training. The formal nursing training was started by Florence Nightingale and the training style was based on apprentice model which is hospital-based hands-on training. The role and responsibilities of nurses were carrying out under medical orders as nursing was surviving along with medicine. The focus of nursing training in this time was vocational; hence, teaching theory is less and more on practice at hospital. It can say that nursing was evolved along with the wars and its development is along together with the socioeconomic, political, technology and educational changes. Furthermore, the development of nursing as a professional was also striving between the driving and restraining forces among nurses themselves because of the nature of change process and dynamic nature of nursing itself.

Starting from the middle of 19 century onwards, nurses were focusing on what are their primary roles and try to get autonomy while practicing nursing as a professional way. Along with the technology improvement, change in the trend of socioeconomic and educational advancement, the nursing tried to put its status to

higher education and professional context. However, the nature of using hospital-based training nurses and the new agenda of nursing are somewhat did not match because of the constraints such as nursing shortage, over workload by non nursing activities, the attitude of nurses themselves and the barriers such as the time, resources available, and the budget allocated. Nursing and nurses nowadays still struggling among the dynamic nature such as the changes of knowledge advancement, technological improvement, the versatile nature of dealing with human as a social context. Even though the nature of health professional is dynamic, it is needed to look back and evaluate the lessons learned, and to upgrade knowledge and practices through life-long learning process and taking continuous professional education and training to improve the profession.

While looking back to the nursing training development, almost all countries are applying NP as a conceptual framework/tool in their daily nursing practice to provide quality and evidence-based nursing care. By doing so, nursing all over the world are building global nursing culture through moving from the functional hospital-based training context towards professional nursing context by applying NP as a global concept. The intention on evolution of NP is letting the nurses to carry out nursing action with the systematic and evidence-based manner. Within practicing NP context, nurses applied their expert clinical skills in all steps of NP, namely, assessment, nursing diagnosis, planning, implementation and evaluation. By doing this action, autonomy, technical skills, intellectual skills, interpersonal skills, critical thinking skills and decision-making skills are playing in each action of nurses and showing the professionalism of nurses. Starting from 1970s, NP was used worldwide. The ANA, ICN and WHO are accepted it as a global concept and legally stated as an ANA standard of practice and moving to create global nursing culture

and context. Furthermore, most of the countries are trying to upgrade professional nursing through applying NP in both teaching and practice areas.

While searching on the theoretical features of NPM, Salcedo (2004) mentioned with referring to the literature that NP is considered as a problem solving method in providing nursing care. Its usage is recommended within a philosophy and model of nursing which gives meaning, content and direction to the process. Therefore, the nursing process is intrinsically united to the understanding of nursing as an autonomous profession and to the clarification of the nursing domain and theoretical and methodological aspects has already been considered. However, in the practical features, many studies highlighted that there has both positive and negative criticisms on application of NP in both teaching and service sectors. However, it was happened due to the nature of change movement and it can be seen not only in application of NP but also in any changing contexts.

Therefore, while implementing NPM in practical context, it was influenced by many factors such as the level of knowledge and the attitude towards the implementation process and the nursing process itself. Furthermore, the practice factor is influenced by many factors such as the organizational factors, personal and managerial factors, the education status, the socio-demographic status, the willingness and the attitude towards change, and the professional factor itself. Most of the studies suggested conducting education program, training, seminars, workshops and symposiums regularly on that. Furthermore, one study highlighted that electronic record can help on successful implementation of nursing process. In fact, orientation to the program introduced and practical training on the new program are the very important step to proceed in any movements.

While synthesizing the factors that needed to focus on implementation of nursing process are educating and training of nurses (continuing professional education for those who are not familiar with the nursing process), using relevant and meaningful nursing documentation, nurses attitude towards the accountability of their autonomy (independent role), understanding the organization culture (the culture of the practical area) and the appropriateness of the ward conditions and nursing work organization.

To summarize concerning NPM, it is globally accepted framework in 21st century nursing education and practice contexts, it is the tool to elaborate the professionalism and autonomy of nursing as a profession and the standard of nursing practice in ANA and ICN. It is also the guidelines in creating global nursing culture. It is helping nurses to practice in uniform way. Most of the countries in world are practicing and trying to practice through setting the legal policy and struggling to apply it in their daily nursing practice. The teaching institutes are also trying to match between applications of NP in their teaching learning contexts. Furthermore, nurses, nursing researchers and nursing authorities are trying to grasp expert in using NP by using many ways such as conducting seminars, workshop, education and training program and trying to reduce the barriers/constraints.

Every change process depicts certain degree of disequilibrium among those who are involving in the change context. Nursing profession itself is always struggling in dynamic health context. Therefore, normally, nursing is struggling in the changing circumstances in their daily life. Thus, to find out balancing factors and to get balance (success) during change process in changing context can contribute many more complex issues especially in today's dynamic world. Firstly, the

researcher is going to discuss on Lewin's theory of change in nursing to relate how the change process is happening in nursing contexts.

Lewin's theory of change composed of three stages which are initiating change (unfreezing), moving change and refreezing the intended change. During the change movement stage, managing change movement are important steps on identifying the opposing forces (driving and restraining forces). The change management involves managing people who are involving in the change process and it is important to overweigh driving forces on restraining forces through encouraging, motivating by providing praise and rewards, educating and providing incentives as well. Empowering people to embrace the new ways of learning, practicing and developing the new values, attitudes and behaviors, and communicating effectively between team members create successful movement of change. While the intended change had established as a culture, refreeze it and manage it to get a sustainable movement. Sustainability is also an important issue to maintain the new change practices in the change process to get long-term stability.

Meanwhile, Malaysian Nursing education and practice sectors set the policy agendas and strategies which is unfreezing stage in Lewin's theory of change according to the Vision 2020 of MOHE. This study is mainly focusing on evaluating the implementation of NPM (The Nursing's Vision 2020, agenda 4) which is in the moving stage of Lewin's change theory. Before and during the moving stage, it is important to look for the driving forces (the forces/factors that are favoring in the implementation of NPM) and restraining forces (the forces/factors that are hindering the implementation of NPM) to weigh whether the intended change is moving well or not.

While thinking about educational change, there have many factors such as the factors that contribute to be changed, the factors that influence in change, and the tracks/steps that are necessarily to follow to get successful educational change. In essence, Fullan's educational change theory meaning that the participants in change process are important and it is needed to build the capacity of them through motivation. Many parties (Fullan mentioned tri-level in the sixth premise) need to work harmoniously through shared vision and ownership, and creating the participant to get individual ownership in moving change. It means that inspiring this change is also their own. Through motivating those who are involved in change, they become empowered until they get sense of responsibility in this changing context. Therefore, the main essence of Fullan educational change theory is that social as a complex dimension in educational change. It means educational change is mainly focusing on the capacity building as it Fullan mentioned that lack of capacity as an initial problem and need to fix it.

Concerning the social change movement of nursing, there is considerable debate concerning on what is crucial initiating factors that are convincing social change among social scientists. The factors explained by social scientists include technology of production, the philosophical, religious and political ideas and values, scientific revolution, war and racial conflict, the use and abuse of power, the effect of the mass media in shaping public opinion and the power of pollsters and sociologists. Additionally, social and economic change are also influencing on demographic change. According to the final conclusion of E.Baly, the standards are depending on how the wealth is distributed and how the medical care organized. It means when the resources (man, money, materials) are distributed harmoniously, the equilibrium will be balanced in any changing circumstances.

Therefore, in accordance with the three theories of change (Kurt Lewin, Micheal Full, Social change sociologists), the change started when the situation and people aware that the status quo is needed to move or to improve. While implementing change, there are many factors that convince or alter the changing context. When thinking about the factors that involved in change process, it is needed to look at how the participant are acted, what kind of response can occur during change process, how should handle to different kinds of responses that comes from people and the change process itself.

Thus, the education and practical changing context of nursing education and practice on the implementation of nursing process is influenced by many factors such as the level of knowledge which depend on the quantity and quality of NPM implementation process, the attitude towards the implementation process, and the complexity and practicality of nursing process itself. Furthermore, the practice factor is influenced by many factors such as the organizational factors, personal and managerial factors, the education status, the socio-demographic status, the willingness and the attitude towards change, and the professional factor which is the reflection of the social change (lack of critical skills in nursing education in the past, mentioned by Farmer, 1986).

In addition, any change process produces certain amount of stress, and the success depend on the ability to overcome the barriers mentioned above. In fact, all these factors are representing the factors that are influencing in educational and social change process. Therefore, this study intends to explore how did the educational and social change process (which in turn reflect and influence on the behavioral change process) are involving in the implementation of NPM in Malaysian nursing education context, furthermore, this study identifies what are the

factors that favors or hinders in the implementation of NPM in Malaysian nursing education and service context.

Concerning the policy process, there have six stages in policy process developed by Howlett, Ramesh and Pearl (2009) which guide to set healthy public policy. In the agenda setting stage, the authors concentrated to find out the real focused problem which is acknowledged by individuals or groups and identify the problematic features of the situation, proposed solutions and the perform the activities that influence the government and prose it to implement. In Malaysian nursing context, they aware that it is needed to upgrade the status of current functional hospital-based training towards the professional nursing.

Therefore, with the guidance of MOHE, the Nursing Task force committee set the agenda to upgrade the status of Malaysian nursing education and practice through implementing the application NPM. Thus, the committee set the strategies in both sectors which are concerning the policy formulation stage of the policy process and they set the intended targeted period (intended to apply NPM in both education and service sectors by 2015 and new employers of new graduates are expected to possess a minimum four basic skills by 2016). According to the policy process, effective monitoring and evaluation are important in the implementation process to determine whether it has positive or negative results. Depend on the results of evaluation, it is needed to decide that whether the policy is need to proceed or modify or terminate which is mentioned in the policy process.

While performing policy monitoring and evaluation, it is needed to find out the factors that are influencing the policy formulation and implementation. The policy itself which is the reflection of policy formulation process whether it was formulated properly or not, the conventional factors, and the neuro-cognitive account

of the actors who are involving in policy implementation process are needed to consider as the factors that are influencing in its implementation process. These three main factors are influencing in implementation of policy provision. It can be seen that implementation of NPM in some studies showed how the policy was formulated, how did they implemented and what are the factors that favors and hinders in implementation process.

Therefore, while the policy process is achieved, the change process is succeeded and the Malaysian nurses are successfully applying NPM as a global concept and will become a creative and competent problem solver in today's nursing context which in turn reflect on the achievement of the Vision 2020 laid by MOHE. Additionally, the factors that influence change is also the mostly same like the factors influencing policy implementation process because implementing new policy is also expressing the phenomenon of change. In educational planning, the policy process is an important component and involves a variety of process such as analyzing the current situation, generating and assessing policy options, preparing and monitoring of policy implementation carefully, and eventually it can lead to redefine a new policy cycle. A significant amount of planning and real policy formulation can happen even during the real implementation phase.

Therefore, subsequent monitoring and evaluating the implementation is crucial part to succeed the intended mission, vision, agenda and strategies. Therefore, effective monitoring system is critical concern throughout implementation process of NPM and evaluating its effectiveness is a crucial issue to identify and explore whether the model is functioning well or not. By conducting this study, the results may contribute some important issues like the practicing policy (implementation of NPM) is whether satisfactory or unsatisfactory, if satisfactorily implemented, what

factors are favoring to get successful implementation and if the implementing result is unsatisfactory, it can find out the factors that hinder in implementation process. Therefore, the main aim of this investigation is to review and evaluate upon the implementation of Nursing's Agenda four which is application and teaching of NPM in Malaysian nursing education context and its affecting factors. The results of this study also can be referred as a baseline data for future related studies.

University of Malaya

CHAPTER 3

RESEARCH METHODOLOGY

Introduction

This chapter is expressing the research methodology that the researcher applies for this study. When flash back to the main purpose of this study, it is an evaluation on the implementation of NPM application in nursing education setting. According to the study purpose, nursing head of department/dean, lecturers, tutors, clinical instructors and nursing students are included because they are the main implementers in implementing NPM. In this research methodology session, there have nine sessions; introduction, research design, research method, choice of population and sampling, research instrument, instrument reliability and validity analysis, data collection, data analysis procedure, conclusion.

The research design session is explaining about how is this study design related with the epistemology and ontology basics of research design mentioned by the literature. After that, the researcher discusses the research method that applies in this study. In this research method session, the researcher divides four sub-sessions which are literature pertaining to the selected method which is the epistemology and ontology basics of research method mentioned by the literature; reasons for applying mixed method which is matching on the reasons of why the researcher apply mixed methods with the support of the facts that explain in the research literature, main characteristics and types of mixed methods research which is intended to explain the nature of mixed methods and the different types of mixed methods which is followed by explaining the type that the researcher chose for this study, and the strengths and weaknesses of mixed methods which reflect the important issues of research process such as reliability, validity, generalizability, and transferability.

Choice of population and sampling session is explaining about the study population and sampling method with the relevant evidence from the literature. In the research instrument session, the researcher explaining the structure of two questionnaires used for academic staffs and student nurses. The reliability and validity of instrument session is presenting the reliability and validity results of the instrument. In data collection session, the researcher presented how the data were collected and discussed the data collection procedure including the epistemology and ontology of the data collection. The researcher discusses about data analysis procedure with the literature evidence as a data analysis procedure of mixed method in data analysis procedure session and concluded the chapter 3. As mentioned above, the following session is discussing about the research design.

Research Design

The research design involve in determining how the chosen method will be applied to answer the research question. It is the study blue print detailing what will be done and how this will be accomplished. The key aspects of research design composed of methodology, participant collection and assignment, data collection procedures and instruments (Lee, ehow.com, accessed on 19 April 2015). Creswell (2011) explained that the designs of research are the procedure that guide in collecting, analyzing, interpreting, and reporting data in research studies. Rigorous research designs are important as they guide the methods decisions that the researchers suppose to apply their studies and set the logic by which they do interpretation at the end of studies.

The main purpose of this study is to evaluate the implementation of NPM and its affecting factors in Malaysian nursing education context. This is evaluating nursing education and practice policy implementation and the factors affecting. The implementation of the nursing education and practice policy and agenda was set by the Nursing Task Force Committee under the guidance of MOHE. The researcher used survey design through applying mixed methods in this study. Andrew and Halcomb (2009) mentioned concerning mixed method research as it is a systematic approach to address research questions which include collect, analyze and synthesize both data in a single research study. According to Creswell and Plano Clark (2007) cited in Creswell (2011), mixed method based on philosophical assumptions as well as methods of inquiry. The main principle of mixed methods is combining both methods to get a better understanding of research problems rather than either one approach.

Therefore, to get the overall picture and factors that involved in the NPM implementation, this study apply survey research design through applying mixed methods to reflect the findings of quantitative and qualitative method each other. The quantitative and qualitative inquiry of this study provide the evidence on how much extent nursing process was implemented and the philosophical assumptions of nursing education policy implementation process based on the suggestions and opinions of the respondents.

While evaluating the policy implementation, it is needed to know how did the policy implement and what are the strategies, who are involving, how did they plan and monitor on the results of implementation through assessing to those who are involving and implementing in the policy. Therefore, according to the aim of this study, it is process and ongoing evaluation (assess implementation and give rapid

informal feedback to improve programs) and needed to elicit on how much they have knowledge on NPM, their attitude towards NPM, how much they are practicing according to the steps of nursing process in their daily practices, what are the factors that support in practicing NPM in teaching of both theory and clinical practice. Furthermore, to get rich information, the researcher use open-ended questions concerning how did they implemented such as what kind of teaching references they are using to teach NPM, how did the heads of depeartement, lecturers, tutors and clinical instructors teach, assess and evaluate in application of NPM, their opinions and comments upon implementation of NPM application.

Therefore, the researcher constructed the structured questionnaires (an adapted instrument) to evaluate the knowledge, attitude, practice, and supporting factors of student nurses who involved in the implementation of NPM in the quantitative investigation. For the head of departments, lecturers, tutors and clinical instructors, the researcher only focusing on the attitude and supporting factors while they are applying NPM in their teaching practices. For qualitative inquiry, the researcher set the open-ended questions combining with structured questionnaires for the heads of department, lecturers, tutors, clinical instructors and student nurses. The following figure 3 mentioned embedded design that applied in the study.

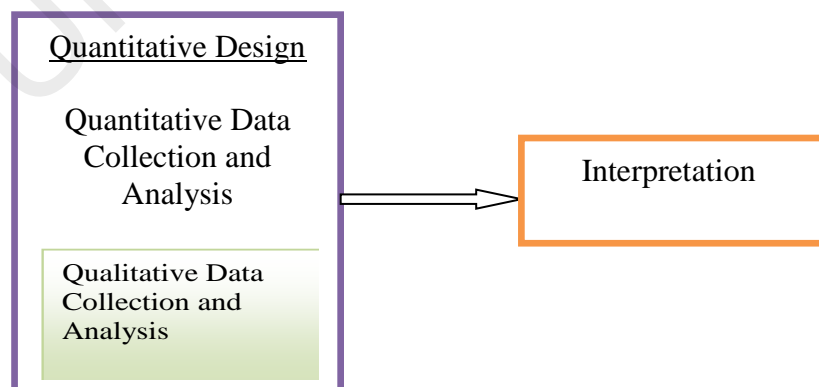


Figure 3.1. Embedded Design (Creswell, 2012)

The next session is discussing about the literature concerning mixed methods survey research design. Firstly, theoretical aspects which are including characteristics, different approaches, and current debates relating to the place of mixed methods research in the research domain are discussed. As a second, methodological characteristics are presented, such as the use of multiple triangulations; and, the use of mixed methods survey research for the status on implementation of NPM as a third.

Research Method

Research methods are the established ways of approaching research questions such as qualitative vs. quantitative. The choice of method is limited by the area of research that the researchers' wish to explore (Lee, ehow.com, accessed on 19 April 2015). Tashakkori and Teddlie (2003) mentioned in the social and behavioral sciences, emerging mixed methods as a third methodological movement began during the 1980's. Andrew and Halcomb (2009) mentioned that mixed methods research has developed to become a rational and conceptually relevant method to explain phenomena that are complex and complicated while bridging the gap between the quantitative and qualitative paradigms.

Literature Pertaining to Mixed Method. In the modern world, the problems of conducting research faced by researchers often needed qualitative and quantitative methods not only for exploring and describing but also for assessing and evaluating. Therefore, mixed methods research has formed which combines both methods within a single study to observe theoretical and methodological congruence. Even though mixed methods research in nursing and health sciences were very

popular, there is a scarcity of debate on the unique issues encountered by mixed methods researchers, principally focus on pragmatic issues (Andrew and Halcomb, 2009).

Creswell (2009) stated that a set of procedures are included in mixed methods research. The handbook of Mixed Methods in the Social and Behavior Sciences (Tashakkori and Teddlie, 2003) was published in 2003. Now, several journals stress mixed methods research. Numerous mixed methods research studies were published in social and human sciences in different fields. Graff (2013) also cited to Teddlie and Tashakkori (2009) that mixed method has emerged as a third research community during the past two decades among the social and behavioral sciences.

Teddlie and Tashakkori (2009) cited by Graff (2013) also mentioned that quantitative researchers focus logically on numeric data and analyses, qualitative researchers naturally focus on narrative data and analyses, and mixed methods researchers spotlight on numeric, narrative and analyses. In addition, quantitative researchers most often work from positivist paradigm and used deductive reasoning and seeking out causes. Research consistent with postpositivism is influenced by the value of the researcher and their chosen theory or conceptual framework. The internal and external validity are important concerns in quantitative method. On the other hand, the qualitative researchers work mostly from the constructivist or interpretivist paradigm and used inductive reasoning. Realities are limited to the time and perspective of study. Therefore, generalizability and transferability are limited from one context to another.

The different philosophical background of two methods (positivist/postpositivist and constructive/interpretivist) contributed to tension or “paradigm wars”. During 1960s and 1970s, the social science has grown and the

scholars began to debate on the quantitative methods. The support for mixed methods increase as it contributes both methods to tackle complex research problems. It became more marked and increased number of mixed methods studies in 1990s. Howe (1988, cited by Graff, 2013) stated that while working out the pragmatist paradigm, the mixed methods researchers accept the idea that both methods are definitely well-suited.

Tashakkori and Teddlie (1998) stated that the mixed methods researchers used both deductive and inductive reasoning and hypothesis may be proposed. In addition, mixed methods researchers work with participants from the views of objective and subjective depend on their aspects of study (cited by Graff, 2013). By applying this pragmatism about mixed method, this study is identifying the pragmatic issues of NPM implementation from the subjective and objective point of views by using two sets of questionnaires composed with semi-closed-ended, closed-ended and open-ended questions.

Greene, Caracelli and Graham (1989) identified the intentions of using mixed methods research which are triangulation, complementarity, development, initiation, and expansion. Creswell (2011) stated that triangulation involves using the quantitative and qualitative method in an effort to reach the convergence of findings. According to Greene, Caracelli and Graham (1989), complementarity means examining the overlapping and different aspects of phenomenon to get a more meaningful understanding. Development refers using one method after the other so that the first one guide the other in terms of decision made about sampling, measurement and implementation. Initiation occurs in mixed methods when paradoxes are discovered; consistencies and discrepancies in qualitative and quantitative findings are compared and analyzed for new perspectives and insights

that can yield new questions. Expansion can see because qualitative and quantitative components are included in the study to increase its scope and breadth (cited by Graff, 2013).

Conclusively, a mixed method is a combined application on the strengths of quantitative and qualitative methods by applying inductive and deductive reasoning together. Through reflecting the results of quantitative and qualitative inquiries, the findings of the study can reflect how much validity of the study was. The quantitative method focuses logically on numeric data and analyses, qualitative researchers naturally focus on narrative data and analyses, and mixed methods researchers spotlight on numeric, narrative and analyses. It can give the more reliable picture of what the researcher studied. Furthermore, the study findings can figure out the overall essence on the implementation process of NPM application in Malaysian nursing education.

Rationale for Applying Mixed Method. Generally, there are six principal purposes which proposed the literature for using mixed methods which are confirmation, complementarity, initiation, development, expansion (Greene and Caracelli, 1989), enhancement of significant findings (Onwuegbuzie and Leech, 2004) (cited by Andrew and Halcomb, 2009). Denzin (1989, cited by Andrew and Halcomb, 2009) mentioned that mixed methods study conducted to confirm to increase validity of the findings. In addition, Greene, Caracelli (1989) and Morgan (1998), cited by Andrew and Halcomb (2009) explained that complementary means identifying the complementary data to elaborate, enhance or clarify the findings from the primary method. According to Greene et al. (1989) and Leech (2004) cited by Andrew and Halcomb (2009) expressed that both qualitative and quantitative data

may be needed to explore a research problem when there may have little known about the problem which is initiation seeks to find out inconsistencies, contradiction or a new perspective to a research problem more than looking for the consistencies in findings.

Furthermore, according to Andrew and Halcomb (2009), mixed methods studies can be applied while developing a research instrument through identifying the key concepts from qualitative study. It will then support for creating quantitative instrument items. Moreover, Greene et al. (1989, cited by Andrew and Halcomb, 2009) mentioned that in the mixed methods, the qualitative and quantitative methods are focusing on different aspects of the research problem that make broaden the scope of study. Besides, Onwuegbuzie and Leech (2004) explained that mixed methods study undertakes to enhance significant statistical, practical, clinical or economic findings and understand the study results. Furthermore, a mixed methods study may be conducted to identify and explore non-significant or extreme cases in the statistic (cited by Andrew and Halcomb, 2009).

Therefore, in this study, according to the study purpose, the researcher apply mixed methods to complement the data gathered to elaborate, enhance and clarify the findings from the primary method, enhancing the quantitative results with the findings of qualitative method and both the quantitative and qualitative findings will complement and triangulate each other. The next session is going to discuss on the main characteristics and types of mixed methods research and explain how the researcher apply these characteristics in the study context.

Main Characteristics and Types of Mixed Methods Research.

According to Creswell (2012), there have six characteristics which are needed to consider when incorporating them into the plan for study; provide rationale for the design, include collecting quantitative and qualitative data, consider priority and sequence, match the data analysis to a design and diagram and procedures. The mixed methods researcher needs to justify or rationalize while using qualitative and quantitative data together. In this survey study, the researcher applies mixed methods to support the quantitative data and to match and triangulate the opinions and suggestions of students, the heads of department, lecturers, tutors and clinical instructors who are involving and implementing NPM application process from the qualitative inquiry.

In addition, mixed methods researcher needs to decide how to prioritize for collecting quantitative and qualitative data. According to Creswell (2012), there have three options for the researcher to prioritize which are the weights of both data are equal, quantitative data greater than qualitative data and qualitative data is greater than quantitative data. The word “priority” means the researcher’s focus on which has more weigh between two types of data in the research and report writing. In this study, weight of two methods is 80% quantitative and 20% qualitative which means the researcher more emphasize on the results of quantitative than qualitative data; however, each results are reflecting one another.

Creswell (2012) explained that the researcher collects quantitative and qualitative data at the same time by using the structured questionnaires mixed with open-ended questions in it. There have many options for the sequencing of data collection such as collecting quantitative data followed by qualitative data collection,

collecting qualitative data followed by quantitative, and collecting quantitative and qualitative together at the same time.

Another important characteristic of mixed methods is how to match the data analysis to a design. Bazeley (2010, cited by Creswell, 2012) stated that one of the most difficult challenges for the mixed methods researchers are analyzing collected quantitative and qualitative data. It is beyond to link or intersect data and numbers. According to Creswell (2012), there have four data analysis and interpretation procedures for mixed methods research based on the type of mixed methods design; convergent which is collecting quantitative and qualitative data together, explanatory which is quantitative followed by qualitative, exploratory which is qualitative followed by quantitative and embedded design is whether quantitative embedded in qualitative or qualitative embedded in quantitative.

In this study, the researcher applies the embedded design for data analysis/interpretation procedure because the researcher wants the quantitative and qualitative findings reflect each other and support each other. However, quantitative and qualitative data analyzed separately, interpret separately, and triangulate both findings through reflecting and validating both findings to present the status on application of NPM implementation agenda.

The embedded design is gathering the quantitative and qualitative data concurrently or serially, however, one form of data support to the other form of data (Creswell, 2012). In this study, the researcher constructed the open- and closed-ended questions in a single question set and collects the qualitative and quantitative data together. The two different data (quantitative and qualitative) are analyzed serially. The quantitative data addresses how much extent of knowledge, their attitude towards application of NPM, how much they are practicing NPM in their

practical learning context, and the impression towards the factors that support to carry out the implementation of NPM application.

On the other hand, the qualitative data explains how do the participants perform in implementation process of NPM application and what are their opinions, suggestion and comments on this implementation process. The qualitative data is intended to collect to support and validate the quantitative data. The strength is combining the advantages of quantitative and qualitative data. Quantitative data measure the outcome of intervention and qualitative data will demonstrate how individuals are performing, implementing, and experiencing the process. Mixed methods researchers often illustrate their design representing the procedures (Creswell, 2012). The following figure (3.3) illustrates the process of conducting mixed methods in this study.

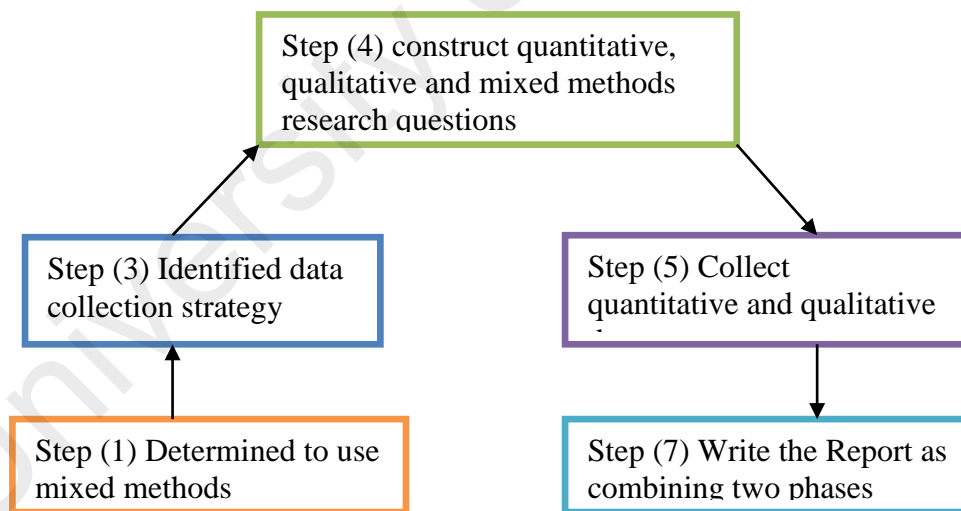


Figure 3.2. The Steps of the Research Process

According to the above mentioned figure (3.3), the researcher determines to apply mixed methods in this survey study to explain the extent of NPM implementation process which is going to support through qualitative findings. The

researcher rationalizes why using mixed methods for this study as a step (2), and identifies a data collection strategy as a step (3). The researcher constructs an adapted research instruments as a step (4). As a step (5), the researcher collects data and mentioned data analysis procedure in step (6) of the above mentioned research process. After completion of data analysis, the researcher writes up a research report as a step (7).

The Strength and Weakness of Mixed Methods Research (MMR). Lisle (2011) mentioned that there is an increased interest in the field of mixed methods research which is combining systematically the diverse ways of quantitative and qualitative methodologies. Creswell and Garrett (2008) stated that education has always been a central field for mixed methods research, however, according to Niglas (2004), the implementation of mixed methods research designs in education also has its problem which were mentioned in the study (cited by Lisle, 2011).

Furthermore, Niglas (2004) mentioned in the review of educational research that many studies were not offered a clear rationale for mixing, and the original meaning of mixed methods was not fully capture because most of the educational studies emphasize complementarity and expansion purpose even triangulation is the main goal of using mixed methods research. Therefore, Niglas argued that qualitative driven or qualitative dominant mixed methods studies are best because it can capture some complex educational and social issues (Creswell, Shope, Plano Clark and Green, 2006, cited by Lisle, 2011). In this study, the researcher applies mixed methods to complement and triangulation purposes; 80% quantitative and 20% in qualitative to capture the real figure on implementation of NPM application in Malaysian Nursing Education context.

Furthermore, Bamberger, Rao and Woolcock (2010) presented a paper concerning an overview of the several ways whether mixing qualitative and quantitative methods could add value to monitoring and evaluating development projects. Their study concluded that while constructing counterfactuals and conducting reasonable evaluations in the severely constraint time and budget, can include the use of mixed methods.

Johnson and Onwuegbuzie (2004) stated that the mixed methods approach is an extension rather than a replacement for the two approaches as the quantitative and qualitative will continue to be useful and essential (cited by Williams, 2007). They also mentioned that the goal of mixed methods researchers is to draw the strengths and minimize the weaknesses of the two research approaches. Carr (1994), Johnson and Onwuegbuzie (2004), Mingers (2001), Sale, Lohfeld, and Brazil (2002) and, Tashakkori and Teddlie (2003) cited in Williams (2007) also mentioned that the quantitative and the qualitative research approaches are contributing not only compatible but also complimentary underpins calls for additional mixed methods research studies.

Conclusively, the mixed methods approach had come out as a third research community to apply the strengths of both quantitative and qualitative approaches and to reduce the weakness of both approaches as much as possible. Therefore, in this study, the researcher applies mixed method because by using mixed methods, the strengths of both complement the weakness each other and triangulate both findings. The next session is discussing about the choice of population and sampling for this study.

Choice of Population and Sampling

Creswell (2012) stated that the process of survey research begins with identification of the population which include define the population, determine the number of people in it, and decide the require sample frame for a sample. The researcher needs to list the members to identify adequate sample size. Saris and Gallohofer (2014) also mentioned that it is needed to decide the study population whether to report about the whole country population or about a specific targeted subgroup. Sampling is a procedure to choose a limited number of units from a population in order to represent this population.

According to MOHE (2010) there are 98 public and private institutions which offer diploma and degree in nursing programmes. Among 98 institutions, 17 institutions in Ministry of Health, 10 public universities, 70 private colleges/universities and 1 in the Ministry of Defense. As a target population for this study, all level of nurses in Malaysia included as the Department of Higher Education's policy stated all levels of nurses suppose to apply NPM which is mentioned in Nursing's Vision 2020. Therefore, student nurses who are persuing any kinds of program (range from diploma to PhD) and any position of nursing teaching staffs from all these 98 public and private institutions become the study population of this study.

For the sample population, the researcher obtained from the public and private universities which are willing to include in this public policy agenda evaluation. The researcher refers Krejcie and Morgan (1970) while estimating the enough sample size to have representative sample for the study population. Altogether 486 student nurses and 50 academic staffs from four public universities and one private university are willing to participate in this study. The next session is

discussing the research instrument. The researcher applies a convenient sampling as all level of nurses has the opportunity to participate and all nurses are entitled to participate. To represent the entire study population, the researcher includes three public univesties and one private university from west Malaysia, and one public university from east Malaysia. The following table shows the plan of determining study population and the representative sample stated by Krejcie and Morgan (1970).

Minimum Number of Participants Needed for Adequate Representation of the Population

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	260	155	2,000	322
15	14	270	159	2,200	327
20	19	280	162	2,400	331
25	24	290	165	2,600	335
30	28	300	169	2,800	338
35	32	320	175	3,000	341
40	36	340	181	3,500	346
45	40	360	186	4,000	351
50	44	380	191	4,500	354
55	48	400	196	5,000	357
60	52	420	201	6,000	361
65	56	440	205	7,000	364
70	59	460	210	8,000	367
75	63	480	214	9,000	368
80	66	500	217	10,000	370
85	70	550	226	15,000	375
90	73	600	234	20,000	377
95	76	650	242	30,000	379
100	80	700	248	40,000	380
110	86	750	254	50,000	381
120	92	800	260	75,000	382
130	97	850	265	100,000	384
140	103	900	269	250,000	384
150	108	950	274	500,000	384
160	113	1,000	278	1,000,000	384
170	118	1,100	285	10,000,000	384
180	123	1,200	291	500,000,000	384
190	127	1,300	297		
200	132	1,400	302		
210	136	1,500	306		
220	140	1,600	310		
230	144	1,700	313		
240	148	1,800	317		
250	152	1,900	320		

N stands for size of the population; n stands for size of the recommended sample. The sample sizes are based on a 95% confidence level.

SOURCE: Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 608.

Research Instrument

Creswell (2012) mentioned that constructing good survey instruments is a challenge and the constructing process is complex. It is needed to reflect on whether a survey instrument is accessible to measure the variables. According to Creswell (2012), surveys consist of closed-ended questions mainly. However, if the researcher wants to explore a little deeper and many possibilities, it is needed to create a question. Open-ended questions are best in this case. The participants can express their own responses to questions. Another one more option is the use of semi-closed-ended questions. It gives all advantages of open- and closed-ended questions. To construct semi-closed-ended questions is to ask closed-ended question following with additional responses in an open-ended questions.

In this study, the researcher used two sets of questionnaires which composed of closed- and open-ended questions. The one is for the students and the other is for the academic staffs. Both questionnaires composed of the cover letter, the consent form and the related closed- and open-ended questions. There have 14 pages in the students' questionnaires (Appendix-A) and 9 pages in the academic staffs' questionnaires (Appendix-B).

Questionnaire of Student Nurses. The questionnaire for the student nurses composed of demographic characteristics, closed-ended questions to assess the knowledge of NPM, the attitude towards NPM, the practice of NPM, and the supporting factors that influence the application of NPM. Furthermore, three open-ended questions are embedded in the students' questionnaire. The five demographic characteristics are consisted, namely, gender, age, mode of study (diploma or degree or post graduate course in nursing or any other speciality courses in nursing), the year of experience for the top-up degree students who are doing any courses in nursing, and the current studying semester.

There are twenty-one closed-ended questions (multiple response items) to assess their level of knowledge, twenty closed-ended questions with five points likert scale to assess their attitude toward NPM, application and implementation. The knowledge questions of NPM are adapted from NCLEX type questions which are based on the steps of NPM and important concepts that the students have to know (the original links and questions are shown in Appendix – C). Concerning practical questions of NPM, the researcher constructed the closed-ended questions with five points likert scale (adapted from the University of Mississippi Medical Center 2015 Checklist Form Appendix - D) which are also based on the steps of NPM.

Concerning the supporting factors, there have nine closed-ended questions with five points likert scale adapted from Hagos, et al, 2014 (Appendix – E). As an open ended question, the researcher constructed three questions to get their overall opinions and suggestions in application of NPM. These three open-ended questions are the same with academic staffs' last three open-ended questions and detail explanation is in academic staff's questionnaire.

Questionnaire of Academic Staff. Concerning the questionnaire for the academic staff, five demographic characteristics composed of gender, age, educational status, year of experience and their current. Knowledge questions related to NPM are not added for the lecturers and clinical instructors. There are twenty closed-ended questions with five points likert scale concerning the attitude towards application of NPM which is the same as student nurses' attitude questions.

After the attitudinal questions, the researcher added three open-ended questions to know their knowledge and current practice on application of NPM in terms of the teaching references they referred for teaching theory and practice, their assessment methods for the students in application of NPM, and ways of matching theory and practice of NPM. Inclusion of these three open ended questions is to complement and triangulate the objective and subjective findings of student nurses.

These three questions are; 1) what kind of teaching references are you using for NPM application in both theory and clinical practice? 2) how do you carry out formative and summative assessment/evaluation concerning NPM in theory and practical skills? and 3) how do you match/translate NPM theory and practical in the students' clinical posting? All these questions are based on the basic guidelines while applying NPM mentioned in chapter 2 (Different models and theories applied in implementing NPM application: Teaching learning references in application of nursing process).

There are nine closed-ended questions with five Likert scale as supporting factors. For the open-ended question, the researcher constructed three questions (the same for student nurses) to get their overall opinions and suggestions in application of NPM in their practices to know more about the status of NPM implementation

which is whether the implementation process is successfully implemented or need to improve in which area of contexts.

These three questions are; 1) what are your overall opinions and comments on the strength and weakness of Nursing Process Model application in both learning theory and practicing in the clinical setting? 2) do you think that application of Nursing Process in teaching and clinical practice sessions are needed to improve? If “yes”, what are your suggestions to improve its application in both theory and practice? And 3) do you think that application of Nursing Process in teaching and clinical sessions is successful? If “yes”, what are your opinions that what factors support you to get succeed? If “no”, what are your opinions that what factors hinder you to apply nursing process?

The first open ended questions is identifying the academic staffs and student nurses’ opinion on the strengths and weaknesses on teaching and practicing. This question is based on the theoretical and practical features mentioned in chapter 2 (theoretical features of Nursing Process: Strengths and Weaknesses of theory construct and practical features of Nursing Process: Strengths and Weakness in practice. This question intends to explore their attitude and willingness upon NPM and its application.

The second and third open ended questions are based on the factors that promote (driving forces) and hinder (restraining forces) to reflect, triangulate and complement the supporting factors as an external motivation and attitude as an internal motivation. Inclusion of these questions are based on the literature support in chapter 2 (factors supporting vs. hindering in the implementation of NPM; constraints as restraining forces and suggestion for overcoming; internal motivation (attitude) and external motivation (supporting factors) as driving vs. restraining

forces in implementation context; the barriers as restraining forces in the practice change context; and barriers as restraining forces in implementing policy. The next session is discussing the instrument reliability and validity.

Instrument Reliability and Validity Analysis

This session include summaries to demonstrate reliability and validity of the data collected from instrument. Before discussing the reliability and validity of the research instrument, the researcher carried out data screening and replaced 5.7% of the missing values (28 student nurses out of 486) by replacing missing value through SPSS. After checking the normalilty in terms of skewness and kurtosis, residuals, and colinearity to conduct multiple regressions analysis, the researcher deleted 18 respondents (student nurses) depend on the results of outlier and residual check. Therefore, total of 468 student nurses out of 486 are included in the reliability and validity test, and in conducting the inferential statistics such as linear regression, multiple linear regressions, Mann-Whitney test and one way ANOVA. The following tables present the results of normality test for student nurses and academic staffs' data.

Table 3.1

Check for Normality: Skewness and Kurtosis (student nurses, n=468)

Statistics							
		Gender	Mode of study	Knowledge	Attitude	Practice	Supporting
N	Valid	468	468	468	468	468	468
	Missing	0	0	0	0	0	0
Skewness		-1.995	.353	-.531	.656	.537	-.002
Std. Error of Skewness		.113	.113	.113	.113	.113	.113
Kurtosis		1.990	.423	.578	.529	.377	.385
Std. Error of Kurtosis		.225	.225	.225	.225	.225	.225

According to Field (2009), cited in Ghasemi and Zahediasl (2012), the values greater or lesser than 1.9 are sufficient to establish normality of the data in small samples (less than 50); however, in large sample which means 200 or more, this criterion should be changed to ± 2.58 . As mentioned by the above table, all the variables which are gender, mode of study, knowledge, attitude, practice and supporting factors are normally distributed respectively; the student nurses' gender with skewness of -1.995 (SE = .113) and kurtosis of 1.990 (SE = .225); student nurses' mode of study with skewness of .353 (SE = .113) and kurtosis of .423 (SE = .225); student nurses' knowledge with skewness of -.531 (SE = .113) and kurtosis of .578 (SE = .225); the attitude of student nurses with skewness of .656 (SE = .113) and kurtosis of .529 (SE = .225); student nurses' impression towards their practice with skewness of .537 (SE = .113) and kurtosis of .377 (SE = .225); and the impression of student nurses towards supporting factor with skewness of -.002 (SE = .113) and kurtosis of .385 (SE = .225).

Table 3.2

Check for Normality: Skewness and Kurtosis (academic staff, n=50)

		Gender	Current Position	Attitude	Supporting
N	Valid	50	50	50	50
	Missing	0	0	0	0
Skewness		-3.193	-.088	-.130	-.646
Std. Error of Skewness		.337	.337	.337	.337
Kurtosis		8.534	-1.056	-.096	.629
Std. Error of Kurtosis		.662	.662	.662	.662

The gender of academic staffs is not normally distributed, with skewness of -3.193 (SE = .337) and kurtosis of 8.534 (SE = .662). The normally distributed data are; academic staffs' current position which is normally distributed with skewness of -.088 (SE = .337) and kurtosis of -1.056 (SE = .662); the attitude of academic staffs is normally distributed with skewness of -.130 (SE = .337) and kurtosis of -.096 (SE

= .662); and the impression of academic staffs towards supporting factor is normally distributed with skewness of -.646 (SE = .337) and kurtosis of .629 (SE = .662). The following session is presenting the results of reliability and validity tests.

Internal Consistency, Item Correlation in Pilot and Actual study. Simon (2011) stated that well-designed and well-conducted pilot study can provide information to the researcher concerning the research process and possible outcomes. Polit, Beck and Hunglar (2001) defined pilot study as it is a trial attempt or a small scale version for conducting major study (cited by Simon, 2011). Baker (1994), cited by Simon (2011) found that the acceptable number of participants to conduct pilot study is 10-20% of the actual study sample size. By conducting pilot study, some of the factors that can be resolved prior to the main study are checked in terms of whether the instructions are comprehensible, investigators and technicians are sufficiently skilled in the procedure. In addition, it can check the wording of a survey, the reliability and validity of the results and, the statistical and analytical processes to determine whether they are efficient (Simon, 2011). Therefore, in essence, the aim of conducting pilot test is to check out the procedure of research process to make adjustments before the actual data are collected. Furthermore, through conducting pilot test, it can determine the planned analysis procedures are reliable. The problems encountered from pilot test can be fixed by changing the weak points that occurred during data collection and after analyzing the pilot test results.

The researcher conducted pilot study in University Malaysia, Sabah (UMS) in June, 2015 and the actual study was conducted from September to December 2015 in East and West Malaysia. The researcher chose UMS as a pilot study because it was newly established public university in 1994 in East Malaysia. In addition, the NPM is

currently implemented in their diploma in nursing program. In pilot study, total of 32 second year diploma in nursing students, 7 lectures and 11 clinical instructors participated. Total of 50 academic staff and 486 student nurses from four public and one private universities from East and West Malaysia participated in the actual study. As mentioned in the research instrument session, the attitude questions, the supporting factors are the same in both questionnaires (questionnaires for students and questionnaires for HOD/lecturer/clinical instructor) except the last item of supporting factor. According to the finding of the pilot test results, the researcher did the necessary adjustments according to the results of pilot study. The researcher changed “Yes” or “No” response to 5 points Likert scale for “Practice of NPM” as an adjustment and amendment for student nurses’ questionnaire.

According to Drost (2011), the typical methods to estimate test reliability in behavioral research are test-retest reliability, alternative forms, split-halves, inter-rater reliability, and internal consistency. Among these methods, internal consistency concerns the reliability of the test components which measures consistency within instrument and questions concerning how well a set of items measures particular behavior or characteristic within the test. The most popular method of testing for internal consistency in the behavioral sciences is coefficient alpha which was popularized by Cronbach (1951).

A satisfactory level of reliability is depending on how a measure is being used. Drost (2011) mentioned that the standard is taken from Nunnally (1978), reliabilities of .70 or higher would be sufficient in the early stages of research on predictor tests or hypothesized measures of a construct. Concerning measurement error, Nunnally (1978) mentioned that increase the reliability beyond .80 is often wasting the time and funds as the correlations at that level are attenuated very little.

In this study context, total of 468 students remain among 486 respondents after deleting the 18 extreme values (outliers). The items which have rather low item-total correlations (less than .3), and the alpha would go up if they were deleted. However, it is not much. Therefore, the researcher retained them. The overall reliability of the research instrument achieved an alpha coefficient of .849 in pilot study and .833 in the actual study which is shown in the following table.

Table 3.3

Overall Instrument Reliability in Pilot and Actual Study

Instrument	Cronbach's alpha		Number of items	Number of respondents	
	Before (Pilot study)	After (Actual Study)		Pilot study	Actual study
Student Nurses' questionnaire	.849	.833	106	32	468
Academic staff questionnaire	-	.76	29	-	50

The reliability of the instrument was then tested to determine whether each subscale effectively grouped together or not. Alpha coefficients ranged from .7 to .9, which signifies that there is good to acceptable internal consistency within the 106 items in the instrument shown in the following table.

Table 3.4

Overall Sub-scale Reliability in Pilot and Actual Study

Sub-scale	Cronbach's alpha	
	Pilot study	Actual study
Knowledge of NPM	.91	.82
Attitude towards NPM, its application and implementation	.79	.82
Practice/Application of NPM	.98	.92
Impression towards supporting factors	.76	.74

The following session is presenting the detail findings of reliability, internal consistency, and item correlation of each item.

Reliability, internal consistency and item correlation: Student Nurses' Questionnaire

The following three tables demonstrate pilot study results of the instrument.

There are 62 items while evaluating knowledge about NPM. The alpha coefficient .91 signifies that there is good internal consistency within the 62 items in the instrument.

Case Processing Summary

		N	%
Cases	Valid	32	100.0
	Excluded ^a	0	.0
	Total	32	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.912	.917	62

Item-Total Statistics

	Scale Mean if Deleted	Scale Variance if Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Deleted
utilizationofNPA	99.59	220.830	.204	.	.912
utilizationofNPB	98.47	214.386	.538	.	.910
utilizationofNPC	98.47	215.870	.515	.	.910
steps of NPresponseA	98.47	215.870	.686	.	.910
steps of NPresponseB	98.41	219.604	.200	.	.912
steps of NPresponseC	99.50	215.806	.578	.	.910
assessmentphaseA	99.44	209.931	.825	.	.908
assessmentphaseB	99.44	217.157	.313	.	.912
assessmentphaseC	99.41	215.217	.427	.	.911
subjectivedataresponseA	98.53	220.064	.067	.	.914
subjectivedataresponseB	99.19	214.093	.355	.	.911
subjectivedataresponseC	98.63	212.694	.490	.	.910
objectivedataresponseA	98.81	214.931	.453	.	.910
objectivedataresponseB	98.78	214.757	.482	.	.910
objectivedataresponseC	99.22	216.822	.224	.	.913
analysis of subobjdataA	99.47	222.322	-.047	.	.914
analysis of subobjdataB	98.56	212.706	.448	.	.910
analysis of subobjdataC	98.41	215.281	.423	.	.911
ngdxprocessresponseA	99.41	214.894	.449	.	.911
ngdxprocessresponseB	98.75	209.032	.467	.	.910
ngdxprocessresponseC	99.16	216.652	.212	.	.913
ngdxcompletewhenA	99.44	220.383	.110	.	.913
ngdxcompletewheB	98.59	211.862	.513	.	.910
ngdxcompletewhenC	98.63	209.597	.504	.	.910

developingplanofcareA	99.50	220.581	.117	.	.913
developingplanofcareB	98.75	212.194	.544	.	.910
developingplanofcarerC	98.50	213.032	.588	.	.910
establishedgoalA	98.59	210.959	.562	.	.909
establishedgoalB	98.50	223.871	-.163	.	.914
establishedgoalC	98.84	215.555	.214	.	.913
wellwrittengoalA	99.34	217.265	.306	.	.912
wellwrittengoalB	98.53	211.870	.512	.	.910
wellwrittengoalC	98.78	214.499	.396	.	.911
outcomeincludeA	99.19	219.641	.095	.	.914
outcomeincludeB	98.53	216.902	.206	.	.913
outcomeincludeC	98.41	215.410	.332	.	.911
NPplanningstepA	98.63	212.694	.713	.	.909
NPplanningstepB	98.56	222.125	-.034	.	.913
NPplanningstepC	99.41	215.604	.401	.	.911
importantoutcomeA	99.50	221.742	.006	.	.913
importantoutcomeB	99.25	206.710	.740	.	.907
importantoutcomeC	99.16	216.781	.192	.	.913
specificinterventionA	98.47	213.612	.464	.	.910
specificinterventionB	99.22	213.789	.348	.	.911
specificinterventionC	98.53	214.644	.398	.	.911
notnginterventionresA	98.97	208.999	.565	.	.909
notnginterventionresB	98.66	209.846	.582	.	.909
notnginterventionresC	99.03	213.709	.396	.	.911
collaborateinterventionA	98.59	213.926	.490	.	.910
collaborateinterventionB	98.75	213.871	.445	.	.910
collaborateinterventionC	99.38	212.694	.514	.	.910
evaluationphaeresA	99.19	209.964	.524	.	.909
evaluationphaeresB	99.25	219.871	.097	.	.913
questioningevaluationA	99.00	220.323	.041	.	.915
questioningevaluationB	99.09	209.184	.521	.	.909
questioningevaluationC	99.19	215.448	.288	.	.912
howtoproceedplanresA	98.84	218.652	.153	.	.913
howtoproceedplanresB	99.44	214.899	.555	.	.910
howtoproceedplanresC	98.97	210.612	.490	.	.910
afterevaluationresA	99.13	218.500	.138	.	.913
afterevaluationresB	99.38	214.629	.401	.	.911
afterevaluationresC	98.53	213.225	.481	.	.910

Actual study

The following three tables demonstrate the actual study results of the instrument. There are the same 62 items while evaluating knowledge about NPM. The alpha coefficient .82 signifies that acceptable internal consistency still maintain within the 62 items in the instrument.

Case Processing Summary

		N	%
Cases	Valid	468	100.0
	Excluded ^a	0	.0
	Total	468	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.816	.813	62

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
utilizationofNPA	94.22	101.880	.103	.	.815
utilizationofNPB	93.36	100.030	.161	.	.815
utilizationofNPC	93.23	100.071	.262	.	.813
stepsofNPresponseA	93.39	100.711	.174	.	.814
stepsofNPresponseB	93.38	100.228	.207	.	.814
stepsofNPresponseC	94.23	102.311	.014	.	.816
assessmentphaseA	94.17	100.536	.231	.	.814
assessmentphaseB	94.12	99.939	.260	.	.813
assessmentphaseC	94.05	99.870	.212	.	.814
subjectivedataresponseA	93.58	97.125	.334	.	.810
subjectivedataresponseB	94.09	100.242	.197	.	.814
subjectivedataresponseC	93.68	98.659	.271	.	.812
objectivedataresponseA	93.70	98.102	.350	.	.810
objectivedataresponseB	93.78	97.439	.406	.	.809
objectivedataresponseC	94.13	101.847	.049	.	.816
analysisofsubnobjdataA	94.17	100.336	.258	.	.813
analysisofsubobjdataB	93.47	97.060	.328	.	.811
analysisofsubobjdataC	93.39	96.913	.378	.	.809
ngdxprocessresponseA	94.00	99.175	.232	.	.813
ngdxprocessresponseB	93.55	100.257	.084	.	.819
ngdxprocessresponseC	93.85	99.178	.185	.	.815
ngdxcompletewhenA	94.07	102.211	-.007	.	.818
ngdxcompletewheB	93.47	96.742	.356	.	.810
ngdxcompletewhenC	93.34	96.041	.434	.	.808
developingplanofcareA	94.21	102.240	.026	.	.816
developingplanofcareB	93.49	97.753	.337	.	.811
developingplanofcarerC	93.32	99.205	.264	.	.813
establishedgoalA	93.44	100.127	.167	.	.815
establishedgoalB	93.31	98.690	.311	.	.811
establishedgoalC	93.74	99.349	.167	.	.815
wellwrittengoalA	93.87	100.660	.098	.	.817
wellwrittengoalB	93.36	99.296	.262	.	.813
wellwrittengoalC	93.52	98.919	.234	.	.813
outcomeincludeA	94.09	101.250	.099	.	.816
outcomeincludeB	93.34	97.620	.381	.	.810

outcomeincludeC	93.38	95.789	.457	.	.807
NPplanningstepA	93.39	99.134	.346	.	.811
NPplanningstepB	93.37	100.282	.263	.	.813
NPplanningstepC	94.15	100.611	.215	.	.814
importantoutcomeA	94.12	101.072	.120	.	.815
importantoutcomeB	93.89	101.668	.023	.	.819
importantoutcomeC	93.86	100.890	.069	.	.818
specificinterventionA	93.30	98.950	.342	.	.811
specificinterventionB	94.08	100.019	.208	.	.814
specificinterventionC	93.28	98.452	.284	.	.812
notnginterventionresA	93.62	102.716	-.058	.	.819
notnginterventionresB	93.60	99.531	.201	.	.814
notnginterventionresC	93.46	100.520	.122	.	.816
collaborateinterventionA	93.26	100.332	.269	.	.813
collaborateinterventionB	93.39	97.501	.379	.	.810
collaborateinterventionC	94.07	98.757	.327	.	.811
evaluationphaeresA	94.14	100.899	.162	.	.815
evaluationphaeresB	93.92	100.289	.135	.	.816
questioningevaluationA	93.92	95.813	.442	.	.807
questioningevaluationB	93.75	97.715	.290	.	.812
questioningevaluationC	93.71	99.180	.170	.	.815
howtoproceedplanresA	93.34	97.675	.340	.	.810
howtoproceedplanresB	94.15	100.660	.198	.	.814
howtoproceedplanresC	93.62	95.100	.423	.	.807
afterevaluationresA	93.61	96.581	.321	.	.811
afterevaluationresB	94.21	101.420	.180	.	.815
afterevaluationresC	93.23	99.064	.274	.	.812

Attitude towards NPM, application and implementation process

Pilot study

The following three tables demonstrate pilot study results of the instrument.

There are 20 items while evaluating attitude towards NPM, its application and implementation process. The alpha coefficient .79 signifies that there is acceptable internal consistency within the 20 items in the instrument.

Case Processing Summary

		N	%
Cases	Valid	32	100.0
	Excluded ^a	0	.0
	Total	32	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.789	.797	20

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
likeaimofNp	62.81	63.964	.329	.641	.783
convinceNPM	62.72	65.047	.249	.767	.787
NPonlyforbscnabove	64.44	59.544	.350	.749	.782
NPgiveequalitynursingcare	63.44	58.577	.371	.622	.781
simplyfyptneeds	63.19	61.899	.349	.838	.781
easytoidentifypneeds	63.13	63.016	.253	.810	.786
Npworkwell	63.16	62.459	.319	.633	.783
Npcanuseanysetting	63.00	62.903	.348	.704	.782
imreadytoapplyNPM	63.22	62.564	.325	.600	.782
feduptohearNp	65.25	58.645	.572	.895	.767
willingtoapplyNp	63.06	65.802	.090	.834	.793
elaboratedkardexsystem	63.88	63.919	.183	.552	.791
unsatisfactorykardexsystem	64.38	60.435	.587	.680	.770
noenoughtimetetoapply	64.53	59.225	.325	.731	.785
wasteoftime	65.56	58.190	.486	.808	.771
toomuchpaperwork	64.41	57.733	.449	.675	.774
introducingNPcancauseproblem	64.75	59.613	.364	.653	.780
ptwillnotlike	64.75	62.452	.331	.749	.782
ngstaffhavenowillingtoapply	64.69	61.512	.369	.746	.780
staffwillneveracceptNP	65.19	60.093	.521	.830	.772

Actual study

The following three tables demonstrate the actual study results of the instrument. There are the same 20 items while evaluating attitude towards NPM, its application and implementation process. The alpha coefficient .82 signifies that there is acceptable internal consistency within the 20 items in the instrument.

Case Processing Summary

	N	%
Cases Valid	468	100.0
Excluded ^a	0	.0
Total	468	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.816	.823	20

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
LikeAimofNP	70.68	55.313	.374	.355	.810
ConvincetoNP	70.68	54.274	.452	.430	.807
NPelaboratedKardexSystem	71.64	59.058	-.096	.129	.829
NPonlyforBScnAbove	71.66	55.126	.144	.215	.826
NPworksWellinPractice	70.88	54.762	.283	.203	.813
NPcanUseAnySettings	71.01	54.809	.292	.205	.813
NotenoughTimetoApplyNP	71.86	50.411	.437	.273	.806
NPwasteOFTime	70.94	50.961	.605	.439	.797
ReadyTOApplyNP	71.01	54.003	.470	.328	.806
UnsatisfactoryKardexSystem	71.93	56.361	.192	.091	.817
simplifyAwarenessOFptNeeds	70.96	55.144	.366	.264	.810
PriorityOFCareEasilyIdentified	70.77	53.865	.459	.374	.806
FedupHearingOnNP	71.28	49.614	.596	.404	.795
TooMuchPaperWork	72.05	51.026	.415	.309	.807
NPenablesQualityNgCare	70.88	53.650	.361	.233	.810
WillingTOApplyNP	70.98	52.938	.505	.417	.803
IntroducingNPcanCauseProblem	71.26	51.485	.526	.378	.801
PtWillnotLikeTObeCaredwithNP	71.43	51.237	.515	.370	.801
StaffHaveNotWillingTOapplyNP	71.84	50.973	.447	.441	.805
StaffWillNeverAcceptNP	71.43	51.505	.494	.513	.802

Practice of NPM

The following three tables demonstrate pilot study results of the instrument. There are 30 items in the pilot study; 15 items are about the theory learned about the steps of NPM and 15 items are about their practice of NPM steps. Therefore, 15 items which is concerning practice of NPM are extracted from 30 items to harmonize the reliability of the actual study. However, there is only “yes” or “no” response in pilot study. The alpha coefficient .98 signifies that there is excellent internal consistency within the 15 items in the instrument.

Case Processing Summary

		N	%
Cases	Valid	32	100.0
	Excluded ^a	0	.0
	Total	32	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.978	.976	15

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
takinghistoryclinical	39.25	129.806	.386	.	.982
therapeuticcommunicationclinical	39.16	128.975	.629	.	.980
physicalassessmentclinical	39.16	128.265	.427	.	.982
provideinformationforDCclinical	39.09	120.926	.801	.	.977
formulatengdxclinical	39.31	117.125	.952	.	.975
settinggoalsnoutcomeclinical	39.16	115.104	.938	.	.975
planningcareclinical	39.28	116.467	.959	.	.975
observeparticipateclinical	39.28	116.467	.959	.	.975
providengcareclinical	39.38	117.210	.895	.	.976
chartsngcarenobservationclinical	39.25	116.000	.957	.	.975
reflectNCPclinical	39.34	117.265	.976	.	.975
communicatehealthteamclinical	39.19	115.383	.944	.	.975
participateinevaluationclinical	39.34	117.265	.976	.	.975
planningoffuturecareclinical	39.34	117.265	.976	.	.975
evaluationfeedbackclinical	39.34	117.265	.976	.	.975

Actual study

The following three tables demonstrate the actual study results of the instrument. There are 15 items while evaluating the student nurses' impression towards their practice of NPM. The alpha coefficient .92 signifies that there is good internal consistency still remain within the 15 items in the instrument when the researcher changed "yes" or "no" response to 5 points Likert scale items.

Case Processing Summary

		N	%
Cases	Valid	468	100.0
	Excluded ^a	0	.0
	Total	468	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.915	.917	15

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
participateindatacollection	56.41	34.394	.609	.465	.909
ParticipateTherapeuticCommunication	56.36	34.681	.588	.468	.910
PerformPhysicalAssessment	56.33	34.527	.597	.453	.910
ProvideInformationToStaffCIFOOrDC	56.60	34.143	.496	.314	.914
FormulateNgDx	56.36	33.987	.629	.477	.909
SetGoalsnOutcomes	56.29	34.232	.687	.611	.907
ContributeNCP	56.30	34.349	.677	.578	.908
ObserveParticipateinAssessment	56.23	34.037	.684	.564	.907
ProvideProficientNgCare	56.46	33.090	.685	.532	.907
ChartingDown	56.32	33.790	.600	.464	.910
ReflectNCPwhenCharting	56.43	34.037	.607	.465	.909
CommunicateHealthCareTeam	56.49	33.468	.648	.529	.908
ParticipateEvaluation	56.44	33.949	.639	.541	.908
ParticipateFuturePlanningCare	56.56	33.804	.573	.569	.911
EvaluatingFeedback	56.50	33.871	.597	.532	.910

Impression towards supporting factors

Pilot study

The following three tables demonstrate pilot study results of the instrument.

There are 9 items while evaluating the student nurses' impression towards the factors that support on application of NPM. The alpha coefficient .76 signifies that there is acceptable internal consistency within the 9 items in the instrument.

Case Processing Summary

		N	%
Cases	Valid	32	100.0
	Excluded ^a	0	.0
	Total	32	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.760	.761	9

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
hospadministrationsupport	11.28	10.531	.611	.571	.707
adequateresources	11.38	12.952	.228	.409	.771
sufficientallocatedtime	11.25	11.032	.588	.594	.713
optimalnursepatientratio	11.25	11.806	.463	.558	.735
appreciatingfeedback	11.56	13.093	.247	.485	.766
monitoringevaluation	11.59	12.120	.525	.861	.728
haveseenapplicationofNP	11.41	13.023	.271	.306	.762
Supportivelearningenviron	11.38	11.597	.502	.569	.728
canapplynp	11.66	12.104	.565	.880	.724

Actual study

The following three tables demonstrate the actual study results of the instrument. There are the same 9 items while evaluating the student nurses' impression towards the factors that support on application of NPM. The alpha coefficient .74 signifies that there is acceptable internal consistency within the 9 items in the instrument.

Case Processing Summary

		N	%
Cases	Valid	468	100.0
	Excluded ^a	0	.0
	Total	468	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.743	.754	9

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
hospadministrationsupport	28.87	15.614	.371	.284	.728
adequateresources	29.25	13.833	.523	.347	.702
sufficientallocatedtime	29.46	13.175	.537	.430	.698
optimalnursepatientratio	29.54	13.125	.509	.421	.704
appreciatingfeedback	29.07	14.784	.491	.311	.711
monitoringnevaluation	29.07	14.971	.460	.304	.716
haveseenapplicationofNP	29.59	15.153	.199	.060	.767
Supportivelearningenviron	29.03	14.311	.486	.314	.709
canapplynp	28.79	15.901	.299	.165	.737

Overall instrument reliability

Pilot study

The following three tables demonstrate pilot study results of the instrument.

There are 106 items while evaluating the overall reliability and item correlation of the instrument. The alpha coefficient .849 signifies that there is good internal consistency within the 106 items in the instrument.

Case Processing Summary

	N	%
Cases Valid	32	100.0
Excluded ^a	0	.0
Total	32	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.849	.876	106

Item-Total Statistics

	Scale Mean Scale if Item Deleted	Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
utilizationofNPA	221.84	352.330	.076	.	.849
utilizationofNPB	220.72	348.338	.248	.	.847
utilizationofNPC	220.72	346.338	.439	.	.846
stepsofNPresponseA	220.72	344.983	.709	.	.845
stepsofNPresponseB	220.66	348.878	.280	.	.847
stepsofNPresponseC	221.75	346.387	.483	.	.846
assessmentphaseA	221.69	338.609	.774	.	.843
assessmentphaseB	221.69	346.351	.343	.	.846
assessmentphaseC	221.66	344.943	.400	.	.846
subjectivedataresponseA	220.78	350.886	.058	.	.849
subjectivedataresponseB	221.44	347.738	.176	.	.848
subjectivedataresponseC	220.88	339.919	.551	.	.844
objectivedataresponseA	221.06	345.028	.402	.	.846
objectivedataresponseB	221.03	344.934	.422	.	.846
objectivedataresponseC	221.47	344.967	.285	.	.846
analysisofsubnobjdataA	221.72	356.338	-.246	.	.851
analysisofsubobjdataB	220.81	345.383	.282	.	.847
analysisofsubobjdataC	220.66	345.201	.387	.	.846
ngdxprocessresponseA	221.66	342.878	.510	.	.845
ngdxprocessresponseB	221.00	346.774	.159	.	.848
ngdxprocessresponseC	221.41	349.346	.104	.	.849
ngdxcompletewhenA	221.69	353.577	-.056	.	.850
ngdxcompletewheB	220.84	340.910	.483	.	.844
ngdxcompletewhenC	220.88	339.274	.439	.	.844
developingplanofcareA	221.75	350.774	.149	.	.848
developingplanofcareB	221.00	340.839	.534	.	.844
developingplanofcarerC	220.75	342.452	.545	.	.845
establishedgoalA	220.84	341.684	.450	.	.845
establishedgoalB	220.75	357.097	-.269	.	.851
establishedgoalC	221.09	349.572	.075	.	.849
wellwrittengoalA	221.59	348.184	.242	.	.847
wellwrittengoalB	220.78	346.047	.266	.	.847
wellwrittengoalC	221.03	345.838	.294	.	.846
outcomeincludeA	221.44	358.383	-.238	.	.852
outcomeincludeB	220.78	347.854	.162	.	.848
outcomeincludeC	220.66	350.104	.101	.	.849
NPplanningstepA	220.88	343.081	.595	.	.845
NPplanningstepB	220.81	352.286	.054	.	.849
NPplanningstepC	221.66	346.039	.343	.	.846
importantoutcomeA	221.75	353.226	-.036	.	.849
importantoutcomeB	221.50	341.161	.439	.	.845
importantoutcomeC	221.41	342.830	.318	.	.846
specificinterventionA	220.72	349.564	.135	.	.848
specificinterventionB	221.47	348.709	.129	.	.848
specificinterventionC	220.78	344.305	.372	.	.846
notnginterventionresA	221.22	347.725	.162	.	.848
notnginterventionresB	220.91	344.926	.292	.	.846
notnginterventionresC	221.28	348.596	.152	.	.848
collaborateinterventionA	220.84	350.459	.105	.	.848
collaborateinterventionB	221.00	343.871	.394	.	.845
collaborateinterventionC	221.63	353.145	-.028	.	.850

evaluationphaeresA	221.44	343.996	.298	.	.846
evaluationphaseresB	221.50	351.806	.032	.	.849
questioningevaluationA	221.25	351.484	.025	.	.850
questioningevaluationB	221.34	343.975	.277	.	.846
questioningevaluationC	221.44	346.641	.217	.	.847
howtoproceedplanresA	221.09	349.378	.130	.	.848
howtoproceedplanresB	221.69	346.802	.375	.	.846
howtoproceedplanresC	221.22	337.080	.548	.	.843
afterevaluationresA	221.38	343.790	.323	.	.846
afterevaluationresB	221.63	348.500	.182	.	.848
afterevaluationresC	220.78	343.209	.422	.	.845
likeaimofNp	218.28	352.918	-.018	.	.850
convinceNPM	218.19	349.254	.183	.	.848
NPonlyforbscnabove	219.91	348.539	.067	.	.851
NPgivequalitynursingcare	218.91	354.539	-.069	.	.854
simplyfyptneeds	218.66	341.072	.354	.	.845
easytoidentifypneeds	218.59	347.668	.137	.	.848
Npworkwell	218.63	352.113	.003	.	.850
Npcanuseanysetting	218.47	349.934	.093	.	.849
imreadytoapplyNPM	218.69	345.899	.215	.	.847
feduptohearNp	220.72	347.564	.135	.	.849
willingtoapplyNp	218.53	352.386	.001	.	.850
elaboratedkardexsystem	219.34	344.878	.221	.	.847
unsatisfactorykardexsystem	219.84	353.749	-.052	.	.850
noenoughtimetotoapply	220.00	353.032	-.038	.	.853
wasteoftime	221.03	352.031	-.008	.	.852
toomuchpaperwork	219.88	341.274	.232	.	.847
introducingNPcancauseproblem	220.22	353.209	-.038	.	.852
ptwillnotlike	220.22	350.241	.067	.	.849
ngstaffhavenowillingtoapply	220.16	348.265	.119	.	.849
staffwillneveracceptNP	220.66	345.136	.236	.	.847
takinghistoryclinical	220.00	352.323	.000	.	.850
therapeuticcommunicationclinical	219.91	349.894	.136	.	.848
physicalassessmentclinical	219.91	354.604	-.078	.	.851
provideinformationforDCclinical	219.84	348.588	.110	.	.849
formulatengdxclinical	220.06	339.931	.358	.	.845
settinggoalsnoutcomesclinical	219.91	342.410	.247	.	.847
planningcareclinical	220.03	340.483	.331	.	.845
observeparticipateclinical	220.03	340.483	.331	.	.845
providengcareclinical	220.13	341.145	.303	.	.846
chartsngcareobservationclinical	220.00	340.323	.326	.	.846
reflectNCPclinical	220.09	340.604	.350	.	.845
communicatehealthteamclinical	219.94	342.319	.256	.	.847
participateinevaluationclinical	220.09	340.604	.350	.	.845
planningoffuturecareclinical	220.09	340.604	.350	.	.845
evaluationfeedbackclinical	220.09	340.604	.350	.	.845
hospadministrationsupport	221.25	337.613	.449	.	.844
adequateresources	221.34	351.781	.018	.	.850
sufficientallocatedtime	221.22	345.725	.219	.	.847
optimalnursepatientratio	221.22	342.564	.348	.	.846
appreciatingfeedback	221.53	350.967	.056	.	.849
monitoringnevaluation	221.56	341.673	.470	.	.845
haveseenapplicationofNP	221.38	349.403	.121	.	.848
Supportivelearningenviron	221.34	344.684	.269	.	.847
canapplynp	221.63	345.661	.311	.	.846

Actual study

The following three tables demonstrate the actual study results of the instrument.

There are also 106 items (except the scale on the practice of NPM change to 5 points Likert scale) while evaluating the overall reliability and item correlation of the instrument. The alpha coefficient .832 signifies that acceptable internal consistency still remain within the 106 items in the instrument.

Case Processing Summary

	N	%
Cases Valid	468	100.0
Excluded ^a	0	.0
Total	468	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.833	.831	106

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
utilizationofNPA	262.50	257.291	.081	.	.833
utilizationofNPB	261.64	255.547	.101	.	.833
utilizationofNPC	261.50	255.985	.134	.	.832
stepsofNPresponseA	261.66	256.582	.084	.	.833
stepsofNPresponseB	261.66	256.859	.055	.	.833
stepsofNPresponseC	262.51	258.147	-.057	.	.833
assessmentphaseA	262.44	256.691	.091	.	.833
assessmentphaseB	262.40	255.985	.125	.	.833
assessmentphaseC	262.32	255.595	.121	.	.833
subjectivedataresponseA	261.86	251.191	.272	.	.830
subjectivedataresponseB	262.36	254.683	.194	.	.832
subjectivedataresponseC	261.96	252.901	.235	.	.831
objectivedataresponseA	261.98	252.303	.291	.	.830
objectivedataresponseB	262.05	252.103	.300	.	.830
objectivedataresponseC	262.41	257.374	.031	.	.833
analysisofsubnobjdataA	262.45	256.562	.102	.	.833
analysisofsubobjdataB	261.75	252.065	.226	.	.831
analysisofsubobjdataC	261.66	253.599	.180	.	.832
ngdxprocessresponseA	262.28	255.155	.122	.	.833
ngdxprocessresponseB	261.83	256.800	.015	.	.835
ngdxprocessresponseC	262.13	257.213	.007	.	.835
ngdxcompletewhenA	262.35	258.668	-.065	.	.835
ngdxcompletewheB	261.75	252.885	.194	.	.832
ngdxcompletewhenC	261.61	251.250	.283	.	.830

developingplanofcareA	262.49	257.645	.037	.	.833
developingplanofcareB	261.77	252.876	.230	.	.831
developingplanofcarerC	261.60	253.981	.208	.	.832
establishedgoalA	261.71	255.377	.119	.	.833
establishedgoalB	261.59	255.868	.099	.	.833
establishedgoalC	262.02	258.454	-.046	.	.836
wellwrittengoalA	262.15	257.582	-.005	.	.835
wellwrittengoalB	261.64	254.700	.171	.	.832
wellwrittengoalC	261.79	255.210	.109	.	.833
outcomeincludeA	262.37	257.928	-.016	.	.834
outcomeincludeB	261.62	254.087	.186	.	.832
outcomeincludeC	261.66	251.977	.251	.	.831
NPplanningstepA	261.67	253.458	.302	.	.831
NPplanningstepB	261.64	255.047	.229	.	.832
NPplanningstepC	262.43	256.595	.097	.	.833
importantoutcomeA	262.40	256.627	.073	.	.833
importantoutcomeB	262.17	257.995	-.024	.	.835
importantoutcomeC	262.14	257.890	-.022	.	.835
specificinterventionA	261.58	254.436	.216	.	.832
specificinterventionB	262.36	257.110	.033	.	.834
specificinterventionC	261.56	254.920	.129	.	.833
notnginterventionresA	261.90	258.012	-.023	.	.834
notnginterventionresB	261.88	256.153	.070	.	.833
notnginterventionresC	261.74	257.138	.020	.	.834
collaborateinterventionA	261.53	257.108	.059	.	.833
collaborateinterventionB	261.67	254.452	.161	.	.832
collaborateinterventionC	262.35	254.254	.206	.	.832
evaluationphaeresA	262.42	256.432	.101	.	.833
evaluationphaeresB	262.20	257.310	.010	.	.834
questioningevaluationA	262.19	251.638	.259	.	.831
questioningevaluationB	262.03	254.368	.131	.	.833
questioningevaluationC	261.99	254.766	.104	.	.833
howtoproceedplanresA	261.62	253.027	.220	.	.831
howtoproceedplanresB	262.43	256.579	.093	.	.833
howtoproceedplanresC	261.90	252.783	.175	.	.832
afterevaluationresA	261.89	254.372	.110	.	.833
afterevaluationresB	262.49	257.113	.092	.	.833
afterevaluationresC	261.51	253.726	.220	.	.831
LikeAimofNP	259.19	253.387	.253	.	.831
ConvincetoNP	259.19	252.166	.289	.	.830
NPelaboratedKardexSystem	260.15	257.840	-.019	.	.835
NPonlyforBScnAbove	260.18	261.234	-.130	.	.840
NPworksWellinPractice	259.40	248.581	.365	.	.829
NPcanUseAnySettings	259.53	251.311	.260	.	.831
NotenoughTimetoApplyNP	260.38	247.198	.272	.	.830
NPwasteOFTime	259.45	249.936	.289	.	.830
ReadyTOApplyNP	259.52	250.026	.395	.	.829
UnsatisfactoryKardexSystem	260.45	256.351	.059	.	.834
NPsimplifyAwarenessOFptNeeds	259.48	254.501	.172	.	.832
PriorityOFCareEasilyIdentified	259.28	252.621	.243	.	.831
FedupHearingOnNP	259.79	246.452	.352	.	.829
TooMuchPaperWork	260.56	245.402	.338	.	.829
NPenablesQualityNgCare	259.39	253.102	.164	.	.832
WillingTOApplyNP	259.49	249.127	.379	.	.829
IntroducingNPcanCauseProblem	259.77	249.674	.284	.	.830
PtWillnotLikeTObeCaredwithNP	259.94	249.456	.275	.	.830
NgStaffHaveNotWillingTOapplyNP	260.35	246.778	.315	.	.829
StaffWillNeverAcceptNP	259.94	249.845	.262	.	.831
participateindatacollection	259.50	252.261	.291	.	.830
ParticipateTherapeuticCommunication	259.45	251.751	.332	.	.830

PerformPhysicalAssessment	259.42	251.507	.338	.	.830
ProvideInformationToStaffCForDC	259.68	251.432	.261	.	.831
FormulateNgDx	259.45	251.446	.315	.	.830
SetGoalsnOutcomes	259.38	251.336	.370	.	.830
ContributeNCP	259.39	251.296	.377	.	.830
ObserveParticipateinAssessment	259.32	251.197	.360	.	.830
ProvideProficientNgCare	259.55	249.787	.362	.	.829
ChartingDown	259.41	250.999	.310	.	.830
ReflectNCPwhenCharting	259.52	250.202	.372	.	.829
CommunicateHealthCareTeam	259.58	249.015	.408	.	.829
ParticipateEvaluation	259.53	249.296	.431	.	.828
ParticipateFuturePlanningCare	259.64	248.992	.391	.	.829
EvaluatingFeedback	259.59	251.394	.295	.	.830
hospadadministrationsupport	259.55	252.055	.276	.	.831
adequateresources	259.93	248.931	.310	.	.830
sufficientallocatedtime	260.15	245.399	.386	.	.828
optimalnursepatientratio	260.23	244.912	.381	.	.828
appreciatingfeedback	259.76	251.206	.287	.	.830
monitoringnevaluation	259.76	250.889	.307	.	.830
haveseenapplicationofNP	260.28	255.285	.047	.	.836
Supportivelearningenviron	259.72	248.983	.333	.	.829
canapplynp	259.48	249.814	.381	.	.829

The following session is presenting the reliability, internal consistency and item correlation results of academic staff questionnaire.

Reliability, internal consistency and item correlation: Academic Staff Questionnaire

Total of 20 items concerning the attitude towards NPM, its application and implementation process are the same as the 20 items used to assess in the student nurses' attitude towards NPM, its application and implementation process. Concerning the impression towards supporting factors, the first 8 items are the same as the student nurses; however, the last item is different.

There were 18 academic staff in pilot and 50 academic staff involved in the actual study. The pilot study had done, however, the data could not carry out the reliability. Therefore, the following tables are demonstrating the results of Cronbach's Alpha and item correlation of actual study.

Attitude towards NPM, application and implementation process

The following three tables demonstrate the actual study results of the instrument.

There are the same 20 items as student nurses while evaluating attitude towards NPM, its application and implementation process. The alpha coefficient .81 signifies that there is acceptable internal consistency within the 20 items in the instrument.

Case Processing Summary

		N	%
Cases	Valid	50	100.0
	Excluded ^a	0	.0
	Total	50	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.810	.836	20

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
likeaimofNp	71.25	71.561	.382	.733	.804
convinceNPM	71.35	68.907	.554	.812	.797
NPonlyforbscnabove	71.85	76.271	-.127	.516	.830
NPgivequalitynursingcare	71.85	65.386	.512	.570	.794
simplyfyptneeds	71.79	70.707	.222	.654	.810
easytoidentifypneeds	71.85	66.160	.487	.612	.796
Npworkwell	72.77	68.239	.251	.637	.813
Npcanuseanysetting	71.65	64.445	.607	.791	.788
imreadytoapplyNPM	71.49	67.469	.590	.882	.793
feduptohearNp	72.61	70.099	.152	.539	.820
willingtoapplyNp	71.51	71.613	.330	.641	.805
elaboratedkardexsystem	71.43	69.458	.562	.816	.798
unsatisfactorykardexsystem	71.83	61.502	.725	.766	.779
noenoughtimetotoapply	73.13	69.118	.276	.571	.809
wasteoftime	71.69	70.773	.205	.312	.812
toomuchpaperwork	71.45	66.905	.599	.792	.792
introducingNPcancauseproblem	71.87	65.556	.582	.775	.791
ptwillnotlike	71.63	70.426	.384	.478	.803
ngstaffhavenowillingtoapply	72.77	66.050	.454	.614	.798
staffwillneveracceptNP	72.35	67.623	.361	.662	.803

Impression towards supporting factors

The following three tables demonstrate the actual study results of the instrument. There are the same 9 items while evaluating the academic staffs' impression towards the factors that support on application of NPM. The alpha coefficient .76 signifies that there is acceptable internal consistency within 9 items in the instrument.

Case Processing Summary

		N	%
Cases	Valid	50	100.0
	Excluded ^a	0	.0
	Total	50	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.761	.777	9

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
hospadministrationsupport	27.94	20.494	.581	.553	.721
adequateresources	28.39	19.001	.700	.576	.699
sufficientallocatedtime	28.61	19.458	.544	.430	.721
optimalnursepatientratio	28.92	19.506	.482	.377	.732
appreciatingfeedback	28.53	20.574	.475	.430	.734
monitoringnevaluation	28.55	20.974	.423	.436	.741
haveeseenapplicationofNP	28.80	22.771	.142	.181	.787
Supportivelearningenviron	28.17	20.222	.600	.568	.718
hadpropertraining	28.10	22.276	.184	.309	.782

Overall instrument reliability

The following three tables demonstrate the actual study results of the instrument. There are also 29 items (except the last item for supporting factor is differed from student nurses' questionnaire) while evaluating the overall reliability

and item correlation of the instrument. The alpha coefficient .76 signifies that there is acceptable internal consistency within 29 items in the instrument.

Case Processing Summary

		N	%
Cases	Valid	50	100.0
	Excluded ^a	0	.0
	Total	50	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.761	.795	29

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
likeaimofNp	103.25	92.574	.344	.	.755
convinceNPM	103.35	89.733	.507	.	.747
NPonlyforbscnabove	103.85	95.192	.000	.	.770
NPgivequalitynursingcare	103.85	88.806	.320	.	.752
simplyfyptneeds	103.80	90.886	.247	.	.756
easytoidentifypneeds	103.85	87.947	.385	.	.748
Npworkwell	104.77	91.107	.144	.	.765
Npcanuseanysetting	103.65	83.988	.617	.	.735
imreadytoapplyNPM	103.49	87.788	.574	.	.742
feduptohearNp	104.61	92.018	.099	.	.769
willingtoapplyNp	103.51	91.096	.443	.	.751
elaboratedkardexsystem	103.43	89.878	.557	.	.747
unsatisfactorykardexsystem	103.83	83.860	.557	.	.737
noenoughtimetetoapply	105.13	92.655	.117	.	.764
wasteoftime	103.69	92.724	.133	.	.763
toomuchpaperwork	103.45	88.938	.455	.	.747
introducingNPcancauseproblem	103.87	89.017	.362	.	.750
ptwillnotlike	103.63	90.572	.415	.	.750
ngstaffhavenowillingtoapply	104.77	86.005	.455	.	.744
staffwillneveracceptNP	104.35	89.481	.276	.	.755
hospadminstrationsupport	103.63	88.512	.469	.	.746
adequateresources	104.08	88.590	.398	.	.748
sufficientallocatedtime	104.31	92.263	.148	.	.762
optimalnursepatientratio	104.61	90.060	.238	.	.757
appreciatingfeedback	104.23	97.608	-.128	.	.775
monitoringnevaluation	104.25	96.511	-.067	.	.772
haveseenapplicationofNP	104.49	94.705	.017	.	.770
Supportivelearningenviron	103.86	91.538	.252	.	.756
hadpropertraining	103.79	87.311	.383	.	.748

Conclusively, the items which have rather low item-total correlations in both questionnaires, inter item correlations (less than .3), and the alpha would go up if they were deleted; however, it is not much within overall instrument reliability and internal consistency. Therefore, the researcher retained them.

Validity of the Instrument. Validity is concerned with how much the research components are meaningful which means whether the researchers are measuring their intended or not. There are four types of validity that researchers are supposed to consider: statistical conclusion validity, internal validity, construct validity, and external validity (Drost, 2011). While considering about construct validity, conducting factor analysis is one of the methods to prove the validity of the instrument.

There are two types of factor analysis which are Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). According to Tavakol, Dennick and Tavakol (2011), the EFA approach is a data-driven approach in which a model or theory is created. The CFA is a theory or model driven approach while a theory or model is tested. The EFA explain the relation of observed variables to their latent constructs. CFA is carried out when researchers have prior knowledge of latent variables and seek to confirm factors that found in using EFA. The numbers of factors generated from a set of items in a study by using EFA is termed the factor structure of the study.

There are four variables (factors) while evaluating the implementation of NPM application in this study which are evaluating knowledge about NPM, practice of NPM, attitude towards NPM, its application and implementation process, and their impression towards the supporting factors that supporting on application of NPM.

The researcher constructed knowledge related items which are adapted from NCLEX (National Council Licensure Examination) exam sample questions based on the framework of NPM and the responses are only correct, incorrect and do not know.

The other three variables; practice of NPM, attitude towards NPM and impression towards supporting factors are using five points Likert scale. For the item construction for practice of NPM, the researcher adapted the items from the University of Mississippi Medical Center student nurses' practice checklist 2015. The items for attitude and supporting factor, the researcher adapted from Hagos et.al (2014) study. Therefore, CFA is conducting to evaluate the construct validity of the research instrument in this study. The following table (3.5) is presenting the validity findings of three variables.

Table 3.5

Confirmatory Factor Analysis (CFA)

Measure	Chi-square	df	Probability	GFI	RMSEA	RMR
Attitude (20 items)	955.344	171	.000	.804	.099	.063
Practice (15 items)	741.9	90	.000	.804	.125	.028
Supporting (9 items)	239.840	27	.000	.892	.130	.050

The researcher conducts CFA to validate the data, support or reject the relevance for the population examined by AMOS 23. Based on the above mentioned table, the distributional assumptions are met and the specified models; attitude, practice and supporting factors are correct. The data from the models is significant at the .05 level and the details of each model are presented as follow.

CFA for Attitude towards NPM, its application and implementation process

The model is recursive. The sample size is 468. Total of 20 observed variables which are the attitude of student nurses towards NPM, its application and implementation process.

Notes for Model (Default model)

Computation of degrees of freedom (Default model)

Number of distinct sample moments: 210
 Number of distinct parameters to be estimated: 39
 Degrees of freedom (210 - 39): 171

Result (Default model)

Minimum was achieved

Chi-square = 955.344

Degrees of freedom = 171

Probability level = .000

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
attitude1	<---	Atti	.224	.025	8.966	***	
attitude2	<---	Atti	.302	.027	11.154	***	
attitude3	<---	Atti	-.052	.034	-1.505	.132	
attitude4	<---	Atti	.221	.052	4.222	***	
attitude5	<---	Atti	.248	.037	6.736	***	
attitude6	<---	Atti	.238	.036	6.685	***	
attitude7	<---	Atti	.523	.052	10.072	***	
attitude8	<---	Atti	.533	.035	15.254	***	
attitude9	<---	Atti	.317	.028	11.442	***	
attitude10	<---	Atti	.125	.030	4.112	***	
attitude11	<---	Atti	.229	.027	8.538	***	
attitude12	<---	Atti	.335	.029	11.524	***	
attitude13	<---	Atti	.617	.042	14.695	***	
attitude14	<---	Atti	.498	.050	9.916	***	
attitude15	<---	Atti	.330	.038	8.667	***	
attitude16	<---	Atti	.398	.031	12.644	***	
attitude17	<---	Atti	.489	.038	12.916	***	
attitude18	<---	Atti	.478	.040	11.821	***	
attitude19	<---	Atti	.471	.048	9.829	***	
attitude20	<---	Atti	.413	.052	7.993	***	

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
attitude1	<---	Atti	.426
attitude2	<---	Atti	.516
attitude3	<---	Atti	-.075
attitude4	<---	Atti	.208
attitude5	<---	Atti	.327
attitude6	<---	Atti	.324
attitude7	<---	Atti	.472
attitude8	<---	Atti	.667
attitude9	<---	Atti	.528
attitude10	<---	Atti	.203
attitude11	<---	Atti	.407
attitude12	<---	Atti	.531
attitude13	<---	Atti	.648
attitude14	<---	Atti	.466
attitude15	<---	Atti	.413
attitude16	<---	Atti	.574
attitude17	<---	Atti	.584
attitude18	<---	Atti	.542
attitude19	<---	Atti	.462
attitude20	<---	Atti	.382

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
Atti	1.000				
atti20	1.000				
atti1	.227	.015	14.721	***	
atti2	.252	.018	14.361	***	
atti3	.469	.031	15.266	***	
atti4	1.077	.071	15.166	***	
atti5	.514	.034	14.979	***	
atti6	.482	.032	14.984	***	
atti7	.954	.066	14.554	***	
atti8	.356	.027	13.251	***	
atti9	.261	.018	14.304	***	
atti10	.363	.024	15.172	***	
atti11	.264	.018	14.778	***	
atti12	.286	.020	14.288	***	
atti13	.526	.039	13.448	***	
atti14	.896	.061	14.580	***	
atti15	.529	.036	14.761	***	
atti16	.322	.023	14.037	***	
atti17	.462	.033	13.970	***	
atti18	.548	.039	14.225	***	
atti19	.815	.056	14.594	***	

CFA for practice of NPM

The model is recursive. The sample size is 468. Total of 15 observed variables which are the student nurses' impression towards application of NPM in their practice.

Notes for Model (Default model)

Computation of degrees of freedom (Default model)

Number of distinct sample moments: 120
 Number of distinct parameters to be estimated: 30
 Degrees of freedom (120 - 30): 90

Result (Default model)

Minimum was achieved

Chi-square = 741.906

Degrees of freedom = 90

Probability level = .000

Regression Weights: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
p1_1 <--- stdpractice	.364	.025	14.827	***	
p2_1 <--- stdpractice	.342	.024	14.377	***	
p3_1 <--- stdpractice	.361	.024	14.942	***	
p4_1 <--- stdpractice	.366	.032	11.385	***	
p5_1 <--- stdpractice	.412	.026	16.140	***	
p6_1 <--- stdpractice	.392	.022	17.970	***	
p7_1 <--- stdpractice	.387	.022	17.947	***	
p8_1 <--- stdpractice	.413	.023	18.121	***	
p9_1 <--- stdpractice	.482	.028	17.503	***	
p10_1 <--- stdpractice	.430	.028	15.377	***	
p11_1 <--- stdpractice	.389	.027	14.631	***	
p12_1 <--- stdpractice	.432	.028	15.543	***	
p13_1 <--- stdpractice	.388	.026	15.060	***	
p14_1 <--- stdpractice	.389	.030	12.968	***	
p15_1 <--- stdpractice	.393	.028	13.953	***	

Standardized Regression Weights: (Group number 1 - Default model)

	Estimate
p1_1 <--- stdpractice	.634
p2_1 <--- stdpractice	.619
p3_1 <--- stdpractice	.638
p4_1 <--- stdpractice	.510
p5_1 <--- stdpractice	.677
p6_1 <--- stdpractice	.733
p7_1 <--- stdpractice	.733
p8_1 <--- stdpractice	.738
p9_1 <--- stdpractice	.719
p10_1 <--- stdpractice	.653
p11_1 <--- stdpractice	.628
p12_1 <--- stdpractice	.658
p13_1 <--- stdpractice	.642
p14_1 <--- stdpractice	.569
p15_1 <--- stdpractice	.604

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
stdpractice	1.000				
pra1	.196	.014	14.398	***	
pra2	.189	.013	14.466	***	
pra3	.190	.013	14.380	***	
pra4	.381	.026	14.821	***	
pra5	.200	.014	14.168	***	
pra6	.132	.010	13.753	***	
pra7	.129	.009	13.759	***	
pra8	.143	.010	13.713	***	
pra9	.216	.016	13.872	***	
pra10	.249	.017	14.308	***	
pra11	.233	.016	14.428	***	
pra12	.244	.017	14.279	***	
pra13	.215	.015	14.361	***	
pra14	.315	.021	14.653	***	
pra15	.269	.018	14.527	***	

CFA for supporting factor on application of NPM

The model is recursive. The sample size is 468. Total of 9 observed variables which are the student nurses' impression towards the factors that support on application of NPM in their practice.

Notes for Model (Default model)

Computation of degrees of freedom (Default model)

Number of distinct sample moments: 45
 Number of distinct parameters to be estimated: 18
 Degrees of freedom (45 - 18): 27

Result (Default model)

Minimum was achieved

Chi-square = 239.840

Degrees of freedom = 27

Probability level = .000

Regression Weights: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
e1 <--- sup	.270	.031	8.723	***	
e2 <--- sup	.503	.040	12.549	***	
e3 <--- sup	.619	.045	13.858	***	
e4 <--- sup	.617	.047	13.050	***	
e5 <--- sup	.385	.033	11.759	***	
e6 <--- sup	.369	.032	11.352	***	
e7 <--- sup	.241	.053	4.517	***	
e8 <--- sup	.437	.038	11.540	***	
e9 <--- sup	.228	.032	7.094	***	

Standardized Regression Weights: (Group number 1 - Default model)

	Estimate
e1 <--- support	.433
e2 <--- support	.596
e3 <--- support	.647
e4 <--- support	.616
e5 <--- support	.564
e6 <--- support	.547
e7 <--- support	.233
e8 <--- support	.555
e9 <--- support	.358

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
support	1.000				
supp1	.315	.022	14.308	***	
supp2	.459	.035	12.950	***	
supp3	.533	.044	12.225	***	
supp4	.624	.049	12.693	***	
supp5	.318	.024	13.309	***	
supp6	.318	.024	13.476	***	
supp7	1.012	.067	15.041	***	
supp8	.430	.032	13.400	***	
supp9	.354	.024	14.663	***	

Reliability and Validity in Qualitative Inquiry. According to Krippendorff (2004) cited in Mayring (2014), calculating coefficients like Cohen's Kappa or Krippendorff's Alpha existed a crucial role for Quantitative Content Analysis which should higher than 0,8 with a minimum acceptance of 0,67. However, an ideal agreement between different analysts can hardly reach in qualitative research because interpretative elements always bear a subjective element even if extreme rule guided like in Qualitative Content Analysis. Therefore, it must be a little bit more humble. However, it does not mean to leave out inter-coder comparisons, because it gives text analysis in pure subjectivity. There are three levels with different degree of rigor in inter-coder agreement tests mentioned by Mayring (2014).

As mentioned by Mayring (2014), the strongest test would be to giving only the research question(s) and the texts to a second person. The second way would be giving the texts to be analyzed together with all content-analytical rules to a second coder which is the best way for most of Qualitative Content Analysis projects. However, when the material is very open, there is no theory to have clear definitions, and the research question is widely explorative, a "lighter" test is recommended. The second coder has close in the whole material, definitions, and codings of the first

coder which means the second coder as supervisor and checks if he or she can confirm the analyses of the first coder. In this study, the intercoder reliability was carried out by the supervisor who has the insight in this evaluation study context.

According to Onwuegbuzie and Johnson (2006) one set of criteria for validity mentioned by Lincoln & Guba (1985) includes credibility which is the alternate for quantitative concept of internal validity, transferability which is the alternate for quantitative concept of external validity, dependability which is the alternate for quantitative concept of reliability, and confirmability which is the alternate for quantitative concept of objectivity. In every mixed research study, researchers must deal with the problems of representativeness, legitimation, and integration; however, discussions about validity issues that describe these problems are still in relative infancy.

According to Koch and Harrington (1998) cited in Elo et.al (2014), there had been much argument concerning the most suitable terms such as rigor, validity, reliability, trustworthiness while assessing the validity in the qualitative research. According to Emden and Sandelowski (1999), Koch and Harrington (1998), and Ryan-Nicholls and Will (2009), the criteria for reliability and validity are used in both quantitative and qualitative inquiries (cited by Elo et.al, 2014). According to Elo et.al (2014), trustworthiness is the most common used criteria to evaluate qualitative content analysis is developed by Lincoln and Guba (1985) which means the inquiry's findings are worth to pay attention. Elo et.al (2014) mentioned that trustworthiness is principally important when inductive content analysis was applied because categories are created from the raw data which is not based on any theory. The following checklist is compiled by Elo et al. (2014) have compiled for researchers attempting to improve the trustworthiness of a content analysis study in each phase.

The researcher referred and followed the following mention checklist to improve the trustworthiness of the findings.

Phase of the content analysis	Questions to check
Preparation phase	<p>Data collection method</p> <p>How do I collect the most suitable data for my content analysis?</p> <p>Is this method the best available to answer the target research question?</p> <p>Should I use either descriptive or semi-structured questions?</p> <p>Self-awareness: what are my skills as a researcher?</p> <p>How do I pre-test my data collection method?</p> <p>Sampling strategy</p> <p>What is the best sampling method for my study?</p> <p>Who are the best informants for my study?</p> <p>What criteria should be used to select the participants?</p> <p>Is my sample appropriate?</p> <p>Is my data well saturated?</p> <p>Selecting the unit of analysis</p> <p>What is the unit of analysis?</p> <p>Is the unit of analysis too narrow or too broad?</p>
Organization phase	<p>Categorization and abstraction</p> <p>How should the concepts or categories be created?</p> <p>Is there still too many concepts?</p> <p>Is there any overlap between categories?</p> <p>Interpretation</p> <p>What is the degree of interpretation in the analysis?</p> <p>How do I ensure that the data accurately represent the information that the participants provided?</p> <p>Representativeness</p> <p>How to I check the trustworthiness of the analysis process?</p> <p>How do I check the representativeness of the data as a whole?</p>
Reporting phase	<p>Reporting results</p> <p>Are the results reported systematically and logically?</p> <p>How are connections between the data and results reported?</p> <p>Is the content and structure of concepts presented in a clear and understandable way?</p> <p>Can the reader evaluate the transferability of the results (are the data, sampling method, and participants described in a detailed manner)?</p> <p>Are quotations used systematically?</p> <p>How well do the categories cover the data?</p> <p>Are there similarities within and differences between categories?</p> <p>Is scientific language used to convey the results?</p> <p>Reporting analysis process</p> <p>Is there a full description of the analysis process?</p> <p>Is the trustworthiness of the content analysis discussed based on some criteria?</p>

Preparation phase: Data collection method that support trustworthiness

According to Mayring (2014), one of the important strategies to get trustworthiness is choosing the best data collection that can answer the research question. Cited in Mayring (2014), Elo & Kyngäs (2008), Neuendorf (2002), and Sandelowski (1995b) mentioned that most of the studies which used content analysis, the collected data are unstructured collected by different methods of data collection such as interviews, observations, diaries, other written documents, or combining different methods. However, the collected data might be open and semi-structured depending on the aim of the study. According to Dey (1993) and Neuendorf (2002) cited in Mayring (2014), the data are as unstructured as possible if inductive content analysis is used. The key point from the perspective of trustworthiness mentioned by Mayring (2014) is, to find out the relationship between what is expected and the data collection method and need to confirm whether the researcher should use descriptive or semi-structured questions.

According to get the essence of this study which is evaluating the current status on implementation NPM application, the researcher applies survey research design. Creswell (2012) explained that survey research design is a popular design in education which is conducting study through administering a survey to a sample or to the entire population of people to explain the attitudes, opinions, behaviors, or characteristics of the population. The researcher composed close-ended questions for quantitative and open-ended questions for qualitative inquiry. According to SurveyMonkey (1999-2016), open-ended questions provide the respondents' own words and get more information than multiple choices or other close-ended format. It gives the freedom to respond for the respondents to express their opinions and experiences. Therefore, the researcher carried out data collection through

administering open-ended questions in the survey research instrument. Pre-testing (pilot study) had done for the open-ended questions and modified in terms of sentence structure based on their answer excerpts and feedback from some respondents.

Preparation phase: Sampling Strategy that support trustworthiness

According to Kyngäs, Elo, Pölkki, Kääriäinen, & Kanste (2011), the sampling method is rarely mentioned in qualitative content analysis studies (cited by Elo et.al., 2014). Higginbottom (2004) cited in Elo et.al. (2014) mentioned that based on the methodology used and topic, the strategy of sampling is generally selected. However, it should not by the need of generalizability for qualitative research findings. Some types of qualitative sampling mentioned by Creswell (2013), Polit and Beck (2012) and Higginbottom (2004) include convenience, purposive, theoretical, selective, within-case and snowball sampling (cited by Elo et.al, 2014).

According to Kyngäs et.al. (2011) cited in Elo et.al. (2014), purposive sampling is the most commonly used method in content analysis studies. However, Creswell (2013) mentioned that the researcher needs to decide which type of purposeful sampling would be the best to apply and a brief description concerning the sampling method should be provided. Based on research design and methodology, data collection tool and method of collecting data, the researcher applied convenient sampling which means all participants have a chance to answer the open-ended questions, and the researcher's intention is to get their different suggestion, opinions and comments based on their willingness to answer. The one more reason to include all levels of nurses from nursing education context is that the researcher wants the findings to represent the mission of the Nursing's Vision 2020 which is all levels of nurses have to apply NPM in their daily practices which make

the researcher to include all level of academic staffs and student nurses from different programs.

Dependability refers to the constancy of data under different conditions and over time. Moretti et al. (2011) cited in Elo et.al. (2014) mentioned that the principles and criteria used for selecting participants are needed to explain and explore the characteristics of participants. By doing so, the results are likely to transfer the other contexts can be able to assessed. The main question stated by Lincoln & Guba (1985) and Polit & Beck (2012) is that whether the findings of the study can be repeated when it was replicated with the same participants in the similar context or not. (cited by Elo et.al., 2014)?”

According to Lincoln and Guba’s (1985) cited in Elo et.al. (2014), the researchers must make sure that the participants in research are needed to be identified and described precisely to assure the credibility. It may be needed to use different sampling methods to get credible data. In this cross sectional survey study, the researcher applied convenient sampling. As mentioned in targeted study population, the student nurses from different study program and the academic staffs from different positions are included. The researcher perceived that every student nurses and every academic staff’s opinions, suggestions, comments, and their willingness to answer are an important figure in this evaluation study context. Their responses reflect and represent the targeted study population because different nursing programs and all levels of academic positions are included in this study’s sample population. Furthermore, their opinions, suggestions and comments can represent, reflect and refer the same situation because it is introducing the new education and practice policy context which is related with the phenomenon of change process.

Preparation phase: Selection of a Suitable Unit of Analysis that support trustworthiness

According to Robson (1993) cited in Elo et.al. (2014), the preparation phase also involves the selection of a suitable unit of analysis such as be a letter, word, sentence portion of pages, or words to ensure the credibility of content analysis. Graneheim & Lundman (2004), also cited in Elo et.al. (2014) mentioned that the unit of analysis will not easy to manage when the units are too broad and possibly will have different meaning and, the result can be fragmented when the units are too narrow. Therefore, the most appropriate unit of analysis should be sufficiently large and small enough to get an appropriate meaning unit. The researcher assess whether the data collection is fulfill or not by reflecting the research questions set for qualitative inquiry with the aims/objectives of the study. Then, the researcher selects the suitable unit analysis based on the collected data to ensure the credibility of the findings through categorizing a meaningful unit based on the open-ended survey questions which is rooted on the aim of study and research questions.

Trustworthiness of organization phase

Elo et. al. (2014) mentioned that a clarification of how the concepts or categories are formed be supposed to present to make the evidence on the trustworthiness. The researcher presented how the answers of open-ended questions are transcribed and analyzed, and how the categories, and sub-categories were evolved through following the steps of inductive content analysis process in the data analysis procedure session.

According to Polit & Beck (2013), the meaning of conformability is whether the data represent correctly the information provided by the participants and, data interpretations are not the imaginary of the researcher (cited by Elo et. al., 2014). Catanzaro (1988) and Robson (1993) cited in Elo et. al. (2014) mentioned that conformability is principally important when the researcher chooses to evaluate the latent content such as noticing silence, sighs, laughter, posture etc. and in adding to evident content. Elo & Kyngäs (2008) mentioned that it may result in over interpretation. Concerning inter coder reliability for conformability, Burla et. al. (2008) and Schreier (2012) cited in Elo et. al. (2014), they recommended that the analysis be performed by more than one person to be more intelligible and granted to sound interpretation of data. In deductive data analysis, Vaismoradi et. al. (2013) stated that when more than one coder is involving high intercoder reliability (ICR) is needed (cited by Elo et. al., 2014).

However, concerning inductive content analysis, Elo et. al. (2014) mentioned that there is no published recommendation on how the trustworthiness should be confirmed if it is conducted by more than one researcher. Their suggestion is that one researcher is needed to take responsibility for the analysis and the others need to follow-up carefully to the whole analysis and categorization process. According to one study (Kyngäs et al., 2011) mentioned by Elo et. al. (2014), has suggested that data are most often analyzed by one researcher, particularly if inductive content analysis has been used. Thomas & Magilvy (2011) stated that the credibility of the analysis in such a case can be able to be confirmed by checking the representativeness of the findings as a whole. In this study, the researcher carried out the data analysis of open-ended questions was done following through the steps of inductive content analysis mentioned by Mayring (2014). However, as mentioned

above, lighter intercoder reliability was done and confirmed by the supervisor. The following session is presenting the data collection procedure.

Data Collection

Literature Pertaining to Data Collection. Creswell (2012) mentioned that survey researchers normally gather data by using the two basic forms such as interviews and questionnaires even though many different forms of surveys existed. A questionnaire is a form used in survey design supposed to complete by the participants and return to the researcher. An interview survey is a form which composed of interview guide. Saris and Gallohofer (2014) explain that how to collect data is an important choice related to costs, question formulation, and quality of data. In many years ago, the only choices available were between personal interviews, telephone interviews, and mailing surveys. The interviewer and interviewee have to present in personal face-to-face interview, the interviewer and the contact is by phone in telephone interview and the interviewer is not presence at all in mailing survey.

Saris and Gallohofer (2014) stated that personal interview is the most expensive, telephone interview is less expensive, and the cheapest is mail interview. This holds true even with the use of the computer. However, a significant amount of literature explained concerning the quality of data collected by using these distinct modes of data collection. Furthermore, they explained that it is needed to clear that the different modes require a corresponding formulation of the questions. In addition, differences in formulation can be expected differences in responses. In this study, the quantitative and qualitative questions are combined together and conduct air mail and emailing survey for East Malaysia and face to face survey for Peninsular Malaysia to

collect both data. Previously, the researcher chose emailing survey to collect data. However, to have good response rate and to get face validity, the researcher changed to mail survey for East Malaysia and personal survey in Peninsular Malaysia.

The mail survey has some weaknesses such as poor return rate, do not have a chance to explain questions if needed, and do not have a chance to follow up even it is the cheapest method in collecting data. Saris and Gallohofer (2014) stated that while designing a survey, choosing the mode of collecting data is critically important which influence not only the resulting data quality but also for the formulation of the questions. In this study, the researcher applies mail survey for one of public universities in East Malaysia. However, to overcome the weaknesses, the researcher asked one assistant to help in collecting data in there.

Data Collection Procedure. The legal permission obtained from the Faculty of Medicine, Faculty/Department of Nursing, and Research and Innovation Committee of respective universities. As an ethical consideration, the researcher composed the cover letter together with informed consent in the questionnaire which is explaining the purpose of study details which is explaining details about anonymity and confidentiality of the information provided and informed to the participants that the participation is voluntary, and requested to sign the consent form.

The methods of data collection in survey have its own strengths and weakness based on the cost, time and the affect. Even though there has some limitations in mail survey, in this study, the researcher applies it for one public university from east Malaysia. However, the researcher follows the above mentioned ways to get the reliable and valid data from the respondents. The following figure

illustrates the survey administration procedure that the researcher uses in data collection phase. The following figure is illustrating the data collection plan to carry out the data collection steps and its duration. Three steps; step 1 (first time survey), step 2 (second time survey), step 3 (sending appreciative gifts) are set and the duration of data collection is one month for each university.

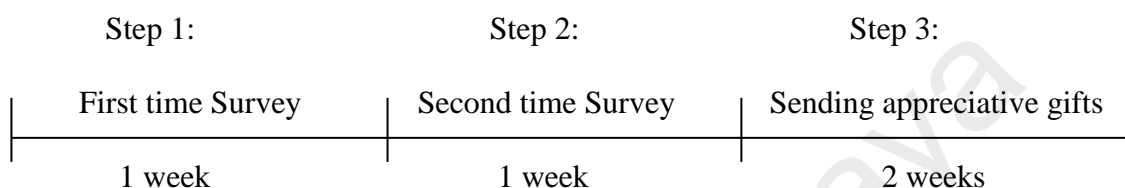


Figure 3.3. Data Collection Plan

According to the above mentioned plan, the researcher starts data collection on September until December, 2015. The researcher sent the questionnaires to University D; directly go and collect data in the other three universities; University A, University B, University C and University E. Based on the date and time of the permission and ethical approval of these universities, the researcher completed the data collection in these universities within 4 months period.

Data Analysis Procedures

The researcher applied parallel mixed analysis while analyzing the quantitative and qualitative data. According to Teddlie & Tashakkori (2009), parallel mixed analysis is likely the most common mixed analysis technique which includes two separate processes; quantitative analysis of quantitative data and a qualitative analysis of qualitative data. The rationale for conducting mixed analysis which is mentioned by Combs and Onwuegbuzie (2010), Greene, Caracelli and Graham

(1989) involve triangulation, complementarity, development, initiation, and expansion. In this study, the rationale in conducting mixed analysis is to triangulate and complement two methods (quantitative and qualitative) each other to validate the findings and results.

According to Morse (2003), when conducting a mixed analysis is priority or emphasis give to the analytical strand which is another dimension to consider. In a specific way, the qualitative and quantitative strands can have equal priority with respect to addressing the research question(s), or one analytical strand can have a higher priority than the other strand (cited by Combs and Onwuegbuzie, 2010). In this study, the researcher constructed questions (80% closed-ended and 20% open-ended question) which mean quantitative data has more weight; however, the findings of each validate one another.

Quantitative Data Analysis Procedure. In analyzing quantitative data, the researcher used SPSS version 22.0. After coding and entering data, the data screening carries out in terms of checking completeness, missing values, and replacing missing value. There have 8 research questions for the quantitative inquiry.

For the research question 1, 2, 3, and 4, the researcher applied the descriptive statistic to display the extent of success on implementation of NPM which include the demographic characteristics, knowledge, attitude, practice, impression towards supporting factors of student nurses and academic staffs.

For the research question 5, the researcher conducted Mann-Whitney U test to investigate the significance of academic staffs' gender with their attitude and impression towards supporting factors. In addition, the researcher conducts one way

ANOVA to identify any significance of their current positions towards their attitude and impression towards supporting factors.

For the research question 6, the researcher conducted multiple regression analysis to investigate the relationship of demographic characteristics (gender and mode of study), mode of study, knowledge, attitude to and impression upon supporting factors (independent variables) towards practice (dependent variable). For the research question 7 and 8, the researcher investigated the attitude and supporting factors as mediators in relationship between knowledge to practice by using Sobel test mediation analysis.

Qualitative Data Analysis Procedure. The research question 9 is concerning HODs/lecture/tutor/clinical instructor's knowledge and teaching practices of NPM. There are three open-ended questions to answer this research question 9 which was mentioned in research instrument session. The research question 10 is to explore the academic staff and student nurses' opinions and suggestions about NPM and the factors that promote or hinder on effective implementation of NPM in learning theory and performing practice. There three open-ended questions to answer this research question 10 which was mentioned in research instrument session. All these six open-ended questions were analyzed by qualitative content analysis.

Krippendorff (2013) cited in Drisko and Maschi (2016) defines content analysis as it is a research technique to make replicable and valid inferences from the text to the contexts of their use. According to Berelson (1952), cited in Drisko and Maschi (2016) mentioned that researchers can use content analysis to find out and document the attitudes, views, and interests of individuals, small or large and diverse

cultural groups. The researchers may use it in evaluation work to evaluate communication content against previous documented objectives.

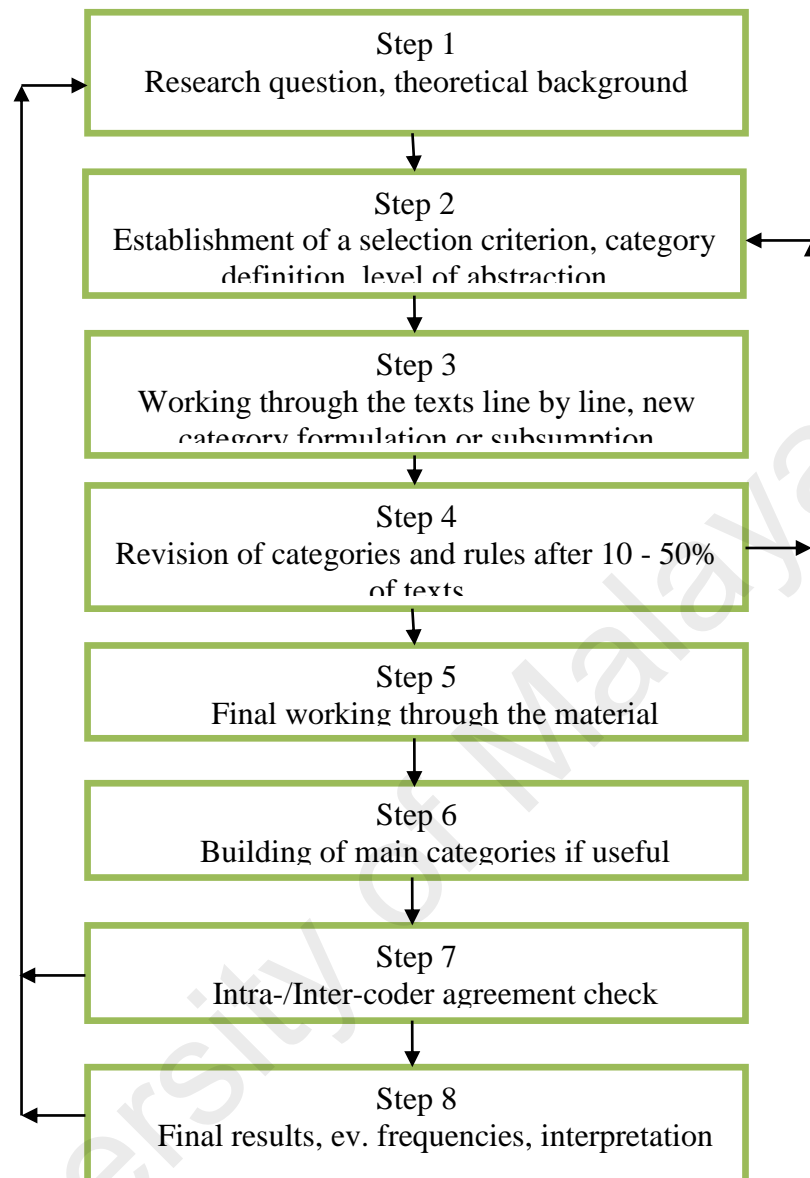
According to Lewins and Silver (2007), qualitative data analysis increasingly makes use of software nowadays, however, stated by Schreier (2012: ch. 12) cited in Schreier (2014), the majority of the programs currently on the market do not flawlessly fit the requirements of qualitative content analysis. According to Schreier (2014), many programs have been developed to conduct content analysis, however, this refers to quantitative content analysis and it is not suitable for the qualitative version of the method. The supportive software for qualitative content analysis in particular is still under development and, bringing computer- aided qualitative data analysis and qualitative content analysis together by developing flexible software that supports all steps of the method is the next step ahead.

According to Learninghigher (2008), sorting, categorizing, coding and analyzing data can all be done manually particularly if it is not dealing with large amount of data. Manual management of data includes post notes, highlighter pen, and paper division into categories and subcategories. Creswell (2012) also stated that hand analysis of qualitative data means that analyzing text data by using color coding to mark parts of the text or cutting and pasting the text sentence into cards. A hand analysis can be used when a small database is analyzed (for example, less than five hundred pages of field-notes or transcripts, files and locate text passages can easily keep track), discomfort for using computers or have not familiar with a qualitative computer software program, want to be close with the data, want to have a hands-on feel for it without invasion of a machine effect and have time to obligate for hand analysis.

According to Joffe and Yardley (2004), content analysis is showing the results in a numerical description on the features of a given text, or series of images. Thematic analysis is alike content analysis; however, it gives more attention to the qualitative aspects of the material analyzed. According to Smith (2000), cited by Joffe and Yardley (2004), the content or thematic analysis is conducted not only the transcripts of interviews but also the open-ended. Computer packages assist the researcher to retrieve relevant text segment, to assess the frequency and co-occurrence to codes. However, it cannot fulfill the central task of qualitative analysis which is interpreting the textual or visual data.

According to the research question 9 and 10, the researcher transcribed all the answers of academic staff and student nurses by computer straight forward and coding done manually from the transcribed data. The researcher analyzes manually because all the transcribed data set is a small data base and it has not more than 500 pages. Furthermore, the researcher learned how to use software; however, does not expert in using it which can affect the intended time frame for data analysis. In addition, the researcher wants to avoid the intrusion of machine affect and want to handle it manually make more comfortable. Therefore, the researcher decided to handle qualitative data by hand analysis.

Bernard and Ryan (2010) and Krippendorff (2013) also cited in Drisko and Maschi (2016) stated that content analysis is a systematic procedure used to code and analyze qualitative data such as qualitative survey data and a combination of deductive and inductive approaches can be used. In this study the researcher applies inductive approach through the following mention steps of inductive qualitative content analysis approach by Mayring (2014).



According to Elo and Kyngas (2008), either an inductive or deductive can be used in qualitative content analysis which involves three main phases: preparation, organization, and reporting results. Collecting the relevant data, making sense and select the unit of analysis in preparation phase. Open coding, creating categories formation, and abstraction are performed in the organization phase of inductive approach. According to Polit and Beck (2012) cited in Elo, Kaariainen, Kanste, Polkki, Utriainen, and Kyngas (2014), developing categorization matrix, whereby all

the data are evaluated for content, coded correspondence to or exemplify the categories identified in the organization phase of deductive content analysis.

According to Schreier (2012) cited in Elo et.al (2014), the categorization matrix can view as valid when the categories are represented the concepts adequately, and accurately captures what was intended. Concerning categorization matrix development, the researcher revised and re-checked to the original written answers of academic staff and student nurses from their responses. The researcher transcribed their answers straight forward from their responses, then, read thoroughly and categorized the same essence of their answer excerpts. After that, the researcher groups their answer excerpts under the same categories and sub-categories with the main words and the essence expressed from their answers.

According to Schreier (2014), the coding frame itself can be the main result with qualitative content analysis. In addition, according to Miles and Huberman (1994) cited in Schreier (2014), the presentation of findings from content analysis involves presenting the frame and illustrating it through quotes which can be done through continuous text or through text matrices, that is tables that contains text instead of or in addition to numbers. In this study, the coding frame (main categories) base on the main essence of the open-ended questions and the sub-categories base on their text (answer excerpts/matrices) and describing their texts/quotes directly from their answer excerpts.

Conclusion

An embedded survey research design with mixed method applied to evaluate the status on implementation of NPM application in Malaysian nursing education. With the essence of embedded design, the structured questionnaire composed of

more on quantitative than qualitative. The study population was student nurses from all programs and all levels academic staffs in Malaysia. The researcher applied a convenient sampling as all level of nurses was entitled to participate according to the Department of Higher Education's policy. The researcher refers Krejcie and Morgan (1970) while estimating the enough sample size to have representative sample for the study population. A convenient sample of 486 student nurses from different study program range from PhD to diploma level and 50 academic staffs with different positions range from Head of Department to clinical instructor.

Concerning the reliability and validity, the researcher conducted pilot study in one public university from East Malaysia which was excluded in the actual study. The researcher conducted reliability analysis and Chronbach Alpha value shows good reliability index (alpha coefficient .8). In addition, the researcher conducted Confirmatory Factor Analysis (CFA) by AMOS version 23.0 and the result revealed significant. For the qualitative inquiry, the researcher obtained trustworthiness through following the steps mentioned by Elo, Kaariainen, Kanste, Polkki, Utriainen and Kyngas (2014).

The legal permission obtained from the Faculty of Medicine, Faculty/Department of Nursing, and Research and Innovation Committee of respective universities. As an ethical consideration, the researcher composed the cover letter together with informed consent in the questionnaire. The data were collected according to the data collection plan in each university within 4 months.

The researcher applied parallel mixed analysis with two separate processes; quantitative analysis of quantitative data and a qualitative analysis of qualitative data. Among the rationales of mixed method, the researcher intends to triangulate and complement the quantitative vs. qualitative findings. For the quantitative inquiry, the

researcher applied descriptive statistic to present the respondents' demographic characteristics and the extent of success in the implementation of NPM application in terms of whether their positive and negative (strongly agree to strongly disagree) attitude towards NPM, its application and implementation process and their impression towards supporting factors.

Inferential statistic conducted such as Mann Whitney U test and one way ANOVA to investigate any significant influence among the academic staffs' gender and different position as independent variables towards their attitude upon NPM and impression towards supporting factors as dependent variables. In addition, the researcher conducted multiple regression analysis to investigate the influence of student nurses' gender, mode of study, knowledge, attitude and impression towards supporting factors as independent variables and their practice as dependent variables. Sobel test mediation analysis was conducted to identify whether the attitude and impression towards supporting factors as mediators in a relationship between knowledge and practice.

Qualitative data were analyzed by qualitative content analysis referred to Mayring (2014). Based on the steps mentioned by Mayring (2014), the researcher carries out hand analysis and trustworthiness was obtained through following the steps mentioned by Elo et al (2014). The excerpts of student nurses and academic staffs come out with main categories and sub-categories based on the essence of open ended questions. According the rationale of mixed method, both quantitative and qualitative findings triangulate and complement at the last session.

CHAPTER 4

DATA ANALYSIS AND FINDINGS

Introduction

The purpose of this study is evaluating the status on implementation of NPM application in Malaysian nursing education. Based on the research objectives, research questions, and research methodology, the researcher conducted mixed method survey. The analysis and findings are presented as two phases. The phase one is presenting about quantitative data analysis and findings, the phase two as qualitative data analysis and findings, and phase 3 as triangulating both findings.

Phase One: Quantitative Data Analysis and Findings

The researcher analyzes quantitative data by using SPSS version 22.0. In this session, the researcher presents the analysis and findings of the academic staff and student nurses. As mentioned in research instrument session, the academic staff questionnaire composed of five categories; demographic characteristics, 20 closed-ended questions to evaluate their attitude towards NPM and its implementation, 9 closed-ended questions with 5 points Likert scale to find out the supporting factors that influence implementation of NPM application, 3 open ended questions to find out their knowledge and practices concerning NPM application in their teaching practices, and the other 3 open ended questions intend to interpret their opinions, comments and suggestions towards NPM and implementation of its application. For the first and last 3 open ended questions, the researcher applies qualitative data analysis which is presented in qualitative data analysis session which is in phase two.

The student nurses questionnaire composed of six categories; the *first category* is demographic characteristics, the *second category* is assessing knowledge of NPM which composed of 21 closed-ended questions (multiple response items composed with distractors in some questions) to evaluate the knowledge of student nurses about the steps of NPM, the *third category* is assessing the student nurses' impression towards their practices on NPM which composed of 15 closed-ended questions based on the steps of NPM, the *fourth category* is assessing the student nurses' attitude towards application and implementation of NPM which composed of 20 closed-ended questions, the *fifth category* is assessing the student nurses impression towards the factors that support the application of NPM which composed of 9 closed-ended questions, and the *sixth category* is investigating their opinion, comments and suggestion towards implementation of NPM application which composed of 3 open ended questions. The researcher applied qualitative data analysis for the last 3 open ended questions which is presented in qualitative data analysis session as a phase two.

At first, the researcher presents demographic distribution of academic staff and student nurses base on the structure of questionnaire. Then, the researcher presents the findings for the first research question "How much extent of NPM implemented according to the steps of nursing process, the attitude toward NPM and impression towards supporting factors in Malaysian nursing education context?" such as knowledge of student nurses concerning NPM, the student nurses' impression towards their practices based on NPM steps, the academic staff and student nurses' attitude towards NPM, its application and implementation process, and the impression of academic staff and student nurses towards the factors that support on application of NPM.

After that, the researcher presents the findings for researcher question 2 which is “Do the academic staffs’ demographic characteristics predict the attitude and impression towards supporting factors; and do the student nurses’ demographic characteristics, knowledge, attitude, and impression toward supporting factors predict their practice of NPM in Malaysian nursing education context?” To answer this research question, the researcher applies the academic staff and student nurses’ demographic characteristics as predictors. More specifically, the academic staffs’ gender and current positions as predictors, and student nurses’ gender and different study mode as predictors upon their attitude towards NPM, its application and implementation, and their impression towards supporting factors for implementation process.

Then, the researcher presents the last quantitative findings for research question 3 which is “Are there any significant influences and mediation effect among variables: knowledge to practice; knowledge to attitude; knowledge, and attitude to practice; knowledge to supporting factors; knowledge, and supporting factors to practice?” To answer the research question 3, the researcher investigates the direct effect between knowledge to practice. Then, the researcher investigates indirect effect through assuming attitude and supporting factors as mediators between knowledge to practice and applies Sobel test mediation analysis to find out any significant.

There are five institutions actively involved in this study; two public universities from West Malaysia which are University A, University B, and University C; University E which is a private university; and one public university from East Malaysia which is University D. It means both public and private universities from East and West Malaysia are involving in this study context. There

are 6 academic staff from University A, 16 from University B, 20 from University C, 2 from University D and 6 from University E are willingly to participate. Total of 71 students from University A , 164 from University B, 173 from University C , 66 from University D and 12 from University E are willingly to participate. The following tables demonstrate the descriptive findings of 50 academic staff and 486 student nurses from five different teaching institutions in East and West Malaysia.

Demographic Composition and Findings

Demographic Distribution of Academic Staff. The following table (4.1), (4.2), (4.3), (4.4), and (4.5) show the findings of demographic data composed of five characteristics; gender, age, educational background, year of experience, and current position.

Table 4.1

Gender distribution of Academic Staff (n=50)

		University					Total
		Uni A	Uni B	Uni C	Uni D	Uni E	
Gender	Male	0 (0%)	0 (0%)	4 (8%)	0 (0%)	0 (0%)	4 (8%)
	Female	6 (12%)	16 (32%)	16 (32%)	2 (4%)	6 (12%)	46 (92%)
	Total	6 (12%)	16 (32%)	20 (40%)	2 (4%)	6 (12%)	50 (100%)

As mentioned in table (4.1), total of 50 academic staff are willing to participate. Among them, 12% female from University A, 32% female from University B, 8% male and 32% female from University C, 4% female from University D and 12% female academic staff from University E. Therefore, total 8% are male and 92% are female. The following Table (4.2) demonstrates the age distribution of academic staff.

Table 4.2

Age distribution of Academic Staff (n=50)

		University					Total
		Uni A	Uni B	Uni C	Uni D	Uni E	
Age	30-39	1 (2%)	1 (2%)	13 (26%)	0 (0%)	0 (0%)	15 (30%)
	40-49	3 (6%)	12 (24%)	4 (8%)	0 (0%)	5 (10%)	24 (48%)
	≥50	2 (4%)	3 (6%)	3 (6%)	2 (4%)	1 (2%)	11 (22%)
Total		6 (12%)	16 (32%)	20 (40%)	2 (4%)	6 (12%)	50 (100%)

The researcher divided 4 age groups; 15 respondents in 30-39 age group. Among them, 2% from University A, 2% from University B, 26% from University C. Total of 48% academic staff in 40-49 age group; 6% from University A, 24% from University B, 8% from University C and 10% from University E. Total of 22% academic staff are above 50 years age group; 4% from University A, 6% from University B, 6% from University C, 2 from University D and 4% from University E. It indicates that different age groups are participated in this study. The following table (4.3) demonstrates the different educational background of the academic staff.

Table 4.3

Educational background of Academic Staff (n=50)

		University					Total
		Uni A	Uni B	Uni C	Uni D	Uni E	
Education background	Diploma	0 (0%)	0 (0%)	5 (10%)	0 (0%)	0 (0%)	5 (10%)
	BSN	1 (2%)	12 (24%)	4 (8%)	0 (0%)	0 (0%)	17 (34%)
	MSN	3 (6%)	4 (8%)	10 (20%)	1 (2%)	6 (12%)	24 (48%)
	PhD	2 (4%)	0 (0%)	1 (2%)	1 (2%)	0 (0%)	4 (8%)
	Total	6 (12%)	16 (32%)	20 (40%)	2 (4%)	6 (12%)	50 (100%)

According to the table (4.3), 2% BSN, 6% MSN and 4% PhD holders in University A; 24% BSN and 8% MSN holders in University B; 10% diploma, 8% BSN, 20% MSN and 2% PhD holders in University C; 2% MSN and 2% PhD holders in University D; and 12% MSN holders in University E. It shows that different educational background is participated in this study context. The following Table (4.4) demonstrates the academic staffs' years of experience.

Table 4.4

The Academic staffs' year of experience (n=50)

		University					Total
		Uni A	Uni B	Uni C	Uni D	Uni E	
Years of experience	> 5	1 (2%)	1 (2%)	2 (4%)	0 (0%)	0 (0%)	4 (8%)
	5-14	1 (2%)	2 (4%)	9 (18%)	0 (0%)	1 (2%)	13 (26%)
	15-24	2 (4%)	9 (18%)	6 (12%)	1 (2%)	4 (8%)	22 (44%)
	≥ 25	2 (4%)	4 (8%)	3 (6%)	1 (2%)	1 (2%)	11 (22%)
Total		6 (12%)	16 (32%)	20 (40%)	2 (4%)	6 (12%)	50 (100%)

The researcher divides years of experience in four different groups. Among these groups, total of 8% academic staffs have less than 5 years of experiences, 26% have 5 to 14 years, 44% have 15 to 24 years, and 22% have more than 25 years of experiences. It indicates that different level of experienced academic staff involved in this study. The following table (4.5) is presenting the different position of academic staff from five different institutions.

Table 4.5

Current Positions of Academic staffs (n=50)

		University					Total
		Uni A	Uni B	Uni C	Uni D	Uni E	
Current	HOD	1 (2%)	0 (0%)	5 (10%)	0 (0%)	1 (2%)	7 (14%)
Position	Lecturer	3 (6%)	1 (2%)	6 (12%)	2 (4%)	4 (8%)	16 (32%)
	Tutor	0 (0%)	15 (30%)	0 (0%)	0 (0%)	0 (0%)	15 (30%)
	CI	2 (4%)	0 (0%)	9 (18%)	0 (0%)	1 (2%)	12 (24%)
Total		6 (12%)	16 (32%)	20 (40%)	2 (4%)	6 (12%)	50 (100%)

According to table (4.5), the different positions of the academic staff such as Head of Department (HOD), lecturer, tutor and clinical instructor are included. There are 14% HOD, 32% lecturers, 30% tutor and 12% clinical instructors from five Universities. It means that all level of academic positions are participated in this study context. The following session is presenting the demographic distribution of student nurses.

Demographic Distribution of Student Nurses. The following Table (4.6), (4.7), (4.8), (4.9), and (4.10) show the findings of demographic data composed of five characteristics.

Table 4.6

Gender of Student nurses (n=486)

		Gender of Students		Total
		Male	Female	
Studying	University A	6 (1.2%)	65 (13.4%)	71 (14.6%)
University	University B	30 (6.2%)	134 (27.6%)	164 (33.7%)
	University C	31 (6.4%)	142 (29.2%)	173 (35.6%)
	University D	5 (1.0%)	61 (12.6%)	66 (13.6%)
	University E	2 (0.4%)	10 (2.0%)	12 (2.5%)
Total		74 (15.2%)	412 (84.8%)	486 (100%)

According to the above mentioned table (4.6), total of 486 students are willing to participate. Among them, 15.2% are male and 84.8% are female. There are 6 male and 65 female student nurses in University A, 6.2% male and 27.6% female student nurses from University B, 6.4% male and 29.2% female student nurses from University C, 1.0% male and 12.6% female student nurses from University D, and 0.4% male and 2.0% female student nurses from University E. The following Table (4.7) presents the age distribution of student nurses.

Table 4.7

Age of Student nurses (n=486)

		Age				Total
		>20	20-29	30-39	≥40	
Studying	University A	0 (0%)	59 (12.1%)	4(0.8%)	8 (1.6%)	71 (14.6%)
University	University B	69 (14.2%)	94 (19.3%)	1 (0.2%)	0 (0%)	164 (33.7%)
	University C	2 (0.4%)	167(34.4%)	4 (0.8%)	0 (0%)	173 (35.6%)
	University D	17 (3.5%)	45 (9.3%)	1 (0.2%)	3 (0.6%)	66 (13.6%)
	University E	1 (0.2%)	10 (2.0%)	0 (0%)	1 (0.2%)	12 (2.5%)
Total		89 (18.3%)	375 (77.2%)	10(2.0%)	12(2.5%)	486 (100%)

As presented in table (4.7), the researcher divided different four age groups. The meaning of dividing age group is to find out any significance among different age group upon NPM, its application and implementation process which reflect the status on implementation of NPM application. Total of 18.3% students are less than 20 years of age, 77.2% are the age between 20-29, 2.0% are between 30-39 years and 2.5% are more than 40 years of age. Therefore, most of students are the age between 20-29 years in each university. The following Table (4.8) presents the different study courses of student nurses from five different universities.

Table 4.8

Study courses of Student nurses (n=486)

		Study courses				Total
		Diploma	BSN	MSN	PhD	
Studying	University A	0 (0%)	53 (10.9%)	18 (3.7%)	0 (0%)	71(14.6%)
University	University B	164 (33.7%)	0 (0%)	0 (0%)	0 (0%)	164(33.7%)
	University C	0 (0%)	161 (33.1%)	9 (1.9%)	3 (0.6%)	173(35.6%)
	University D	2 (0.4%)	63 (13.0%)	1 (0.2%)	0 (0%)	66(13.6%)
	University E	0 (0%)	12 (2.5%)	0 (0%)	0 (0%)	12(2.5%)
Total		166 (34.2%)	289 (59.5%)	28 (5.8%)	3 (0.6%)	486(100%)

According to the above mentioned table (4.8), different levels of nursing programmes included such as Diploma in Nursing, Bachelor of Nursing Science, Master of Nursing Science and Doctor of Philosophy. The meaning of involving different nursing education programmes is to investigate any significance among different level of nursing education programmes upon NPM and its implementing agenda. There are 34.2% Diploma in nursing students, 59.5% Bachelor of Nursing Science students, 5.8% Master of Nursing students and 0.6% Doctor of Philosophy in Nursing students.

It indicates that different levels of nursing education programmes are included in this study context. Therefore, the results can reflect the status on implementation of NPM application in Malaysian nursing education context because the Department of Higher Education mentioned that all levels of nurses have to apply NPM which is mentioned in Nursing's Vision 2020. The following Table (4.9) presents the student nurses' years of experience from five different universities.

Table 4.9

Student nurses' years of experience (n=486)

		Years of experience				Total
		less than 4	5-14	15-24	≥25	
Studying	University A	56(11.5%)	7 (1.4%)	8 (1.6%)	0 (0%)	71 (14.6%)
University	University B	164 (33.7%)	0 (0%)	0 (0%)	0 (0%)	164 (33.7%)
	University C	171 (35.2%)	2 (0.4%)	0 (0%)	0 (0%)	173 (35.6%)
	University D	62 (12.8%)	2 (0.4%)	0 (0%)	2 (0.4%)	66 (13.6%)
	University E	12 (2.5%)	0 (0%)	0 (0%)	0 (0%)	12 (2.5%)
Total		465(95.7%)	11 (2.3%)	8 (1.6%)	2 (0.4%)	486 (100%)

As shown in table (4.9), the researcher divides years of experience in four different groups. Among these groups, total of 95.7% respondents have 0 or less than 4 years of in service clinical experience in each university because the student studying in the diploma in nursing and bachelor of nursing science (4+0) program have no background in service experiences as they directly join to the program after they passed SPM. Total of 2.3% students have 5 to 14 years, 1.6% students have 15 to 24 years, and 0.4% respondents have more than 25 years of experiences. It indicates that different level of experienced nursing students involved in this study. The following table (4.10) presents the student nurses' studying semester.

Table 4.10

Current semester of Student nurses (n=486)

		Current semester			Total
		1st-4th	5th -8th	9th - 12th	
Studying	University A	41 (8.4%)	26 (5.4%)	4 (0.8%)	71 (14.6%)
University	University B	70 (14.4%)	94 (19.3%)	0 (0%)	164 (33.7%)
	University C	93 (19.1%)	59 (12.1%)	21 (4.3%)	173 (35.6%)
	University D	63 (13.0%)	3 (0.6%)	0 (0%)	66 (13.6%)
	University E	5 (1.0%)	4 (0.8%)	3 (0.6%)	12 (2.5%)
Total		272 (56.0%)	186 (38.3%)	28 (5.8%)	486(100%)

As mentioned in table (4.10), different semesters of nursing students from five different universities were participated. Total of 56.0% students are studying in 1st -4th semester, 38.3% students are studying in 5th -8th semester, and 5.8% students are studying in 9th -12th semester. It means that the students from different semester are participated in this study context. The following session is presenting the student nurses' extent of knowledge concerning the concepts and steps of NPM.

Knowledge of Student Nurses about the Basic Concepts of NPM. As mentioned in research instrument session, total of 21 questions with 62 responses were adapted from NCLEX websites which is mentioning in the research instrument session in chapter (3). All these questions are constructed based on the main steps of NPM which are assessment, nursing diagnosis, goal/outcome identification, planning, intervention/implementation and evaluation with three responses; “correct”, “incorrect” and “do not know”.

Concerning the knowledge question structure, question no. 1 concerns the aim of NPM, no. 2 concerns the steps of NPM, question no. 3, 4, and 5 concern the assessment phase (step 1), question no. 6, 7, and 8 concerns problem identification and formulating nursing diagnosis (step 2), question no. 9, 10, 11 and 12 concerns goal/outcome identification (step 3), question no. 13, 14, and 15 concern the planning step (step 4), question 16 and 17 concern the intervention/implementation phase (step 5), question no. 18, 19, 20 and 21 concern evaluation phase (step 6). The meaning of including questions concerning the aim of NPM is the student nurses have to know what NPM is and do they know it or not. The reason of asking about the steps of NPM is to evaluate whether the students clearly understood about the steps of NPM correctly or do not.

The numbers of questions included are based on the importance of each step and details about each step discuss in chapter 2. There are three questions in assessment phase and composed of the must know concepts such as what kind of data and findings have to assess during assessment phase, and the students must know and differentiate between what are the subjective and objective data. It is followed by three questions related with step two of NPM which is problem identification and formulating nursing diagnosis. Meaning of including these questions is that whether the students know the concepts concerning how to identify the specific problems of the clients and how to write the nursing diagnosis in a correct way. There are four questions for the step three of NPM which is goal/outcome identification. The reason of including these four questions is that deciding and writing about goals and identifying outcomes for the clients is important step because it highlight nurses whether their intended goals/outcomes are realistic and need to evaluate whether it is met or unmet in evaluation step.

There are three questions in the planning step of NPM. The meaning of involving these questions is to evaluate whether the student nurses know what is planning step of NPM, what basic concepts are needed to include in the planning step and what interventions are needed to include. There are only two questions in intervention/implementation steps of NPM which is intended to evaluate whether the students know what kind of nursing actions are nursing intervention or what kind of actions are do not, and to evaluate whether the student nurses knows collaborative intervention or do not. Collaborative nursing intervention means multi health care professionals are included in providing efficient care to the clients because nurses only cannot provide nursing care in all kind of the clients' problems.

In the last step of nursing process which is evaluation step, four questions are included because the student nurses must know what is evaluation, what they suppose to evaluate, what they suppose to do depend on the results of evaluation and what they suppose to decide depend on the evaluation results. Moreover, based on the results of evaluation, it can lead to the first step or complete in providing care. Therefore, the researcher includes four questions in the last step of NPM.

The following tables demonstrate the student nurses' extent of knowledge which is one of the factors that reflect the extent of success on implementation of NPM application in Malaysian Nursing Education context.

Aims and Steps of NPM. The following Table (4.11) presents the student nurses' responses concerning the aim and steps of NPM.

Table 4.11

The Student nurses' Knowledge about the Aim and Steps of NPM (n=486)

Items		Correct	Incorrect	DNK	NR
Q1: Utilization of nursing process is:	a) to provide a systemic, organized and comprehensive approach to meet the needs of clients.	469 (96.5%)	3 (0.6%)	5 (1%)	9 (1.9%)
	b) encourage the family to make decisions regarding patient's care.	122 (25.1%)	275 (56.6%)	66 (13.6%)	23 (4.7%)
	c) increase involvement of allied healthcare professionals in decision-making.	37 (7.6%)	386 (79.4%)	44 (9.1%)	19 (3.9%)

Table 4.11

Continued

Items		Correct	Incorrect	DNK	NR
Q2: The steps of nursing process include:	a) problem identification, care giving, collaboration and goal-setting.	83 (17.1%)	362 (74.5%)	18 (3.7%)	23 (4.7%)
	b) planning intervention, re-evaluation, renewal and revision.	91 (18.7%)	344 (70.8%)	25 (5.1%)	26 (5.3%)
	c) assessment, diagnosis, outcome identification, planning, intervention and evaluation.	474 (97.5%)	6 (1.2%)	1 (0.2%)	5 (1%)

As mentioned by table (4.11), total of 486 students are participated. Concerning the aim of NPM, it is constructed one correct response with two distractors. Total of 469 students (96.5%) chose the correct response. It indicates they know the aim of NPM, however, when while it is mixed with the two distractors; only 122 students (25.1%) and 37 students (7.6%) of students know that these are not correct. It indicates that the student know the aim of NPM, however, the distractors made them confuse. Concerning the steps of NPM, 97.5% of respondents can choose the correct steps of NPM, however, when the two distractors added, only 17.1% and 18.7% know that these distractors are incorrect. It also indicates that most of the respondents know the steps of NPM; however, most of them get confuse when it is mixed with distractors.

Therefore, it can conclude that most of students know the aim and steps of NPM as 96.5% and 97.5% can choose correctly if the distractors are not considered. The following session is presenting the extent of student nurses' knowledge concerning the first step of NPM.

Step (1) Assessment. As mentioned above, there have three questions concerning assessment step of NPM. All three responses are correct in question no. 3, however, question no. 4 and 5 have two distractors in each to evaluate whether the student are clearly understand and differentiate between the subjective and objective data. The findings are as follow;

Table 4.12

The Student nurses' Knowledge about the Assessment step of NPM (n=486)

Items		Correct	Incorrect	DNK	NR
Q3: Assessment includes collection of;	a) physiological findings.	451 (92.8%)	8 (1.6%)	15 (3.1%)	2 (2.5%)
	b) psychological findings.	428 (88.1%)	22 (4.5%)	20 (4.1%)	16 (3.3%)
	c) social and cultural information.	401 (82.5%)	34 (7%)	32 (6.6%)	19 (3.9%)
Q4: Subjective data might include;	a) abnormal lab works.	229 (47.1%)	163 (33.5%)	73 (15%)	21 (4.3%)
	b) feelings of anxiety.	429 (88.3%)	31 (6.4%)	23 (4.7%)	3 (0.6%)
	c) elevated temperature.	238 (49.1%)	194 (39.9%)	34 (7.0%)	20 (4.1%)
Q5: Objective data might include;	a) chest pain.	232 (47.7%)	215 (44.2%)	21 (4.3%)	18 (3.7%)
	b) complaint of dizziness.	270 (55.6%)	175 (36%)	22 (4.5%)	19 (3.9%)
	c) an elevation of blood pressure.	432 (88.9%)	26 (5.3%)	12 (2.5%)	16 (3.3%)

As shown in Table (4.12), total of 92.8%, 88.1% and 82.5% of respondents can choose correctly which indicates that most of students know what kind of findings have to include while performing assessment. Concerning the subjective data (question no.4), 88.3% of respondents can choose the correct answer, however, when added two distractors, only 47.1% and 49.1% of respondents know that these items are incorrect. It indicates that nearly half of students only understand how to differentiate subjective and objective data. The same like question no.5, 88.9% of respondents can choose the correct answer to the question asking about objective data. However, the same like subjective data, 47.7% and 55.6% of students can only differentiate what are subjective and objective data. Therefore, it can conclude that most of the students know what kind of data must be included in assessment phase, however, nearly half and half of students confuse on how to differentiate between subjective and objective data. The following session is presenting the student nurses' extent of knowledge concerning step 2 of NPM.

Step (2) Problem Identification and formulating Nursing Diagnosis. In this step 2 of NPM, there have three questions. Question no. 6 and 8 are mixed with two distractors, however, all responses are correct in question no. 7 because the researcher want to evaluate whether the respondents know what should include and think critically while formulating nursing diagnosis and what are included in deciding the nursing diagnosis. The findings are presented in Table (4.13) as follow;

Table 4.13

The Student nurses' Knowledge about Problem Identification and Diagnosis Step of NPM (n=486)

Items		Correct	Incorrect	DNK	NR
Q6: Analysis of both objective and subjective data leads to:	a) determination of a problem or potential problem.	460 (94.7%)	8 (1.6%)	15 (3.1%)	3 (0.6%)
	b) the cause(s) of the family's behavior.	202 (41.6%)	175 (36%)	88 (18.1%)	21 (4.3%)
	c) conclusions regarding technical skill of caregivers.	149 (30.7%)	229 (47.1%)	79 (16.3%)	29 (6%)
Q7: The process for establishing a nursing diagnosis includes:	a) identifying commonalities of the objective and subjective data.	403 (82.9%)	24 (4.9%)	48 (9.9%)	11 (2.3%)
	b) clustering the data to categorize behaviors.	263 (54.1%)	83 (17.1%)	120 (24.7%)	20 (4.1%)
	c) identifying the existence of a problem base on clustered behaviors.	355 (73%)	47 (9.7%)	71 (14.6%)	13 (2.7%)
Q8: A nursing diagnosis is complete when:	a) the cause of the identified problem or related factors is determined.	415 (85.4%)	42 (8.6%)	21 (4.3%)	8 (1.6%)
	b) the nursing team finishes the planning meeting.	195 (40.1%)	187 (38.5%)	86 (17.7%)	18 (3.7%)
	c) the discharge plan is agreed upon.	137 (28.2%)	236 (48.6%)	93 (19.1%)	20 (4.1%)

According to Table (4.13), 94.7% of students understand that problem identification is based on analysis of subjective and objective data, however, while response to the distractors, nearly half and one third of students only knows that

these are not relevant action while identifying the client's problems. For formulating and establishing nursing diagnosis, most of students (82.9%) know that it is needed to identify commonalities from both subjective and objective data to formulate nursing diagnosis; only 54.1% of students know that it is needed to gather and categorize the data collected and 73% of students understand the problem must be identify based on the data collected. Concerning question no. 8, 85.4% of students know when formulating nursing diagnosis is completed, however, when two distractors added, only 40.1% and 28.2% clearly understand about it. Therefore, it can conclude that most of students understand the process of formulating nursing diagnosis; however, it is needed to make clear on how to identify problem and need to confirm when formulation of nursing diagnosis is complete. The next session is presenting about the extent of student nurses' knowledge concerning the step 3 of NPM.

Step (3) Goal/Outcome Identification. Four questions are included in this step 3 of NPM. All questions are mixed with two distractors in each to evaluate whether the students clearly understand about the sequence of nursing process step or not, how to write a perfect goal statement, what are the essential components in writing goal statement, and what should include while writing the client's outcome. The findings are presented in Table (4.14) as follow;

Table 4.14

*The Student nurses' Knowledge about Goal/Outcome identification step of NPM**(n=486)*

Items		Correct	Incorrect	DNK	NR
Q9: After identifying the nursing diagnosis, developing a plan of care involves:	a) setting patient goals.	460 (94.7%)	16 (3.3%)	1 (0.2%)	9 (1.9%)
	b) evaluating the number of days the individual will be hospitalized.	170 (35%)	247 (50.8%)	54 (11.1%)	15 (3.1%)
	c) a review of the individual's medications.	90 (18.5%)	319 (65.6%)	59 (12.1%)	18 (3.7%)
Q10: Goals established in a plan of care should be:	a) realistic and focused only on immediate needs.	132 (27.2%)	293 (60.3%)	45 (9.3%)	16 (3.3%)
	b) reasonable but focused exclusively on long term concerns.	90 (18.5%)	323 (66.5%)	59 (12.1%)	14 (2.9%)
	c) stated in terms of what the patient is to do and when.	304 (62.6%)	87 (17.9%)	76 (15.6%)	19 (3.9%)
Q11: Which statement includes essential components of a well written goal?	a) Within 2 days the individual will reduce his risk of falls by correct use of his walker each time him ambulates.	340 (70%)	92 (18.9%)	38 (7.8%)	13 (2.7%)
	b) Mr. Jones will ambulate independently within a few weeks.	101 (20.8%)	326 (67.1%)	46 (9.5%)	13 (2.7%)
	c) The nurse will teach the patient the correct use of a walker within 2 days.	181 (37.5%)	227 (46.7%)	56 (11.5%)	22 (4.5%)

Table 4.14

Continued

Items		Correct	Incorrect	DNK	NR
Q12: Patient outcome should include:	a) specific actions or behaviors that the patient takes to achieve the goal.	418 (86%)	31 (6.4%)	24 (4.9%)	13 (2.7%)
	b) subjective and objective data clustered to identify a problem.	112 (23%)	294 (60.5%)	63 (13.0%)	17 (3.5%)
	c) summary of staff accomplishments.	152 (31.3%)	225 (46.3%)	85 (17.5%)	24 (4.9%)

According to table (4.14), 94% of students know sequence of nursing process steps as they choose correct response, however, when distractors added, 35% and 18.5% only know that these are not correct. Concerning how to write goal statement, 62.6% of students know it, however, while the distractors added, 27.2% and 18.5% only know that the distractors are not correct. While asking them to choose well written goal statement, 70% of students can choose the correct statement, however, as usual, when the distractors are added, only 20.8% and 37.5% can say that these are incorrect. Concerning asking about what is outcome, 86% know that this is the outcome of the clients' goal, however, as usual, while the distractors came in; only 23% and 31.3% clearly know that these distractors are not relevant. Therefore, it can conclude that most of the respondents (more than half of students) clearly know the step 3 of NPM, however, most of them confuse while the distractors added which indicates that it is needed to improve the students' understanding upon it. The next session is showing the extent of student nurses' knowledge concerning the fourth step of NPM.

Step (4) Planning. There are three questions in the planning step. These questions are also constructed distractors except question no. 14. The meaning of adding distractors is to evaluate whether the students are clear about what are included while thinking about planning, what important facts need to include while planning care for each client, and to make clear that whether the care planning is for each client or can use for every clients. The findings are presented in table (4.15) as follow;

Table 4.15

The student nurses' Knowledge about Planning step of NPM (n=486)

Items		Correct	Incorrect	DNK	NR
Q13: The planning step of the nursing process includes these activities?	a) Evaluating goal achievement	86 (17.7%)	367 (75.5%)	17 (3.5%)	16 (3.3%)
	b) Performing nursing actions and documenting them.	67 (13.8%)	393 (80.9%)	8 (1.6%)	18 (3.7%)
	c) Setting goals and selecting interventions.	442 (90.9%)	15 (3.1%)	17 (3.5%)	12 (2.5%)
Q14: Other important outcomes of care planning include:	a) better continuity of care.	434 (89.3%)	16 (3.3%)	26 (5.3%)	10 (2.1%)
	b) improved communication among caregivers.	346 (71.2%)	71 (14.6%)	48 (9.9%)	21 (4.3%)
	c) identify criteria for evaluating the plan.	357 (73.5%)	50 (10.3%)	63 (13%)	16 (3.3%)
Q15: The plan of care includes specific interventions that:	a) are appropriate for every patient on the unit.	67 (13.8%)	358 (73.7%)	44 (9.1%)	17 (3.5%)
	b) relate to the personalized goals and patient outcomes.	423 (87.0%)	18 (3.7%)	34 (7.0%)	11 (2.3%)
	c) improve relationships between staff and the patient's family.	103 (21.2%)	271 (55.8%)	88 (18.1%)	24 (4.9%)

As mentioned in Table (4.15), 90.9% of students know that goal setting and planning the intervention are needed to consider while planning care, however, they confuse while thinking about the distractors as usual. Concerning important facts to include while planning care in no. 14, most of students (89.3%, 71.2% and 73.5%) know very well. While asking about whether the care planning is for each client or not, 87% of students know very well that the specific intervention needed for client depend on each client's personalized goals and outcome which means the goals and outcomes planning must be based on the different nature of client's needs. However, while thinking about the distractors, only 13.8% and 21.2% of students know that it is not relevant. Therefore, it can conclude that the students understand very well about the planning step of NPM, however, most of them confuse while the distractors are added. It indicates that it is needed to make sure the students' understanding about this step. The next session is presenting the extent of student nurses' knowledge about the fifth step of NPM.

Step (5) Nursing Intervention/Implementation. There have only two questions for this step because intervention is based on the planning step and it is only providing nursing care according to the plan. These two questions are also mixed with distractors to verify the students clearly understand upon whether what is nursing intervention and what is not, and to know whether the students know and familiar about collaborative nursing intervention or not. The findings are presented in table (4.16) as follow;

Table 4.16

The Student nurses' Knowledge about Intervention step of NPM (n=486)

Items		Correct	Incorrect	DNK	NR
Q16: Which would generally not be considered an intervention?	Take vital signs every four hours.	193 (39.7%)	254 (52.3%)	15 (3.1%)	24 (4.9%)
	Use open-ended questions as much as possible to encourage the patient to express his or her feelings.	200 (41.2%)	226 (46.5%)	37 (7.6%)	23 (4.7%)
	When leaving the room, tell the patient when you will return.	154 (31.7%)	275 (56.6%)	48 (9.9%)	9 (1.9%)
Q17: Collaborative interventions are therapies that require:	Physician and nurse interventions.	34 (7%)	405 (83.3%)	28 (5.8%)	19 (3.9%)
	Client and Physician intervention.	127 (26.1%)	277 (57%)	58 (11.9%)	24 (4.9%)
	Multiple health care professionals	417 (85.8%)	19 (3.9%)	32 (6.6%)	18 (3.7%)

According to table (4.16), only 39.7% of students understand that what is not nursing intervention; however, 41.2% and 31.7% of students understand what is nursing interventions that need to carry out. Concerning collaborative nursing intervention, 85.8% of students understand that it is the intervention considered and decided by multi health care professionals, however, most of the students get confuse with the distractors.

Therefore, it can conclude that more than half of students are not very clear about what is nursing intervention and what is not which indicates that it is need to make clear understanding because they confuse while the distractors added. The following session is presenting about the extent of student nurses' knowledge concerning the last step of NPM.

Step (6) Evaluation. In this last step of NPM included four questions. Among four questions, all responses of question no. 18 and 19 are correct to evaluate whether the students know what they suppose to evaluate during evaluation phase, and need to raise some important questions to answer and confirm whether the goal/outcomes are met or need to modify. Question no. 20 and 21 are supposed to confirm whether the students know what they suppose to do depend on the evaluation results and it is mixed with the distractors. The findings are as follow;

Table 4.17

The Student nurses' Knowledge about Evaluation step of NPM (n=486)

Items		Correct	Incorrect	DNK	NR
Q18: The evaluation phase:	a) examines how well patient outcomes are met.	443 (91.2%)	18 (3.7%)	17 (3.5%)	8 (1.6%)
	b) judges progress toward achieving goals.	360 (74.1%)	64 (13.2%)	42 (8.6%)	20 (4.1%)
Q19: Questions during the evaluation phase include:	a) "Has the goal been met and to what degree?"	389 (80%)	27 (5.6%)	65 (13.4%)	5 (1.1%)
	b) "Is the goal still relevant?"	303 (62.3%)	90 (18.5%)	68 (14%)	25 (5.1%)
	c) "Does the problem statement require modification?"	304 (62.6%)	76 (15.6%)	84 (17.3%)	22 (4.5%)
Q20: If the plan is not working, but, the nursing diagnosis and goal are still relevant:	a) the plan should be discarded and the staff should start over.	126 (25.9%)	260 (53.5%)	79 (16.3%)	21 (4.3%)
	b) other interventions should be identified and implemented.	449 (92.4%)	13 (2.7%)	19 (3.9%)	5 (1.0%)
	c) staff should wait at least ten days before changing the plan of care.	274 (56.4%)	87 (17.9%)	100 (20.6%)	25 (5.1%)

Table 4. 17

Continued

Items		Correct	Incorrect	DNK	NR
Q21: You are doing the evaluation step of the nursing process and find that two of the goals for the client have not been met. Which of the following actions would be best on your part?	a) Stop working on these goals, as evaluation is the last step.	274 (56.4%)	84 (17.3%)	105 (21.6%)	23 (4.7%)
	b) Reassess problem and then review care plan and revise as needed.	468 (96.3%)	5 (1%)	6 (1.2%)	7 (1.4%)
	c) Determine if the client has a knowledge deficit causing nonattainment.	70 (14%)	318 (65.4%)	74 (15.2%)	24 (4.9%)

As shown in Table (4.17), more than half of students know what is evaluation and what kind of questions need to consider while performing evaluation. Concerning asking about what suppose to do when the plan is not working out, 92.4% of students know that the other relevant intervention need to plan and implement; however, as usual, when the distractors add, only 25.9% and 56.4% of students knows the correct concepts unshakably. While asking about the unmet goals, 96.3% of students understand that it is needed to reassess the problem, review and revise the nursing care plan. Among the two distractors, 56.4% understand undoubtedly that evaluation is not the last step and should not stop if the stated goals are not met as intended; however, only 14.4% of students clearly understand that the unmet goals are not related with the client's deficit knowledge. Therefore, it can conclude that more than half of students understand clearly about evaluation step, however, it is need to make clear that evaluation is not the last step and it depend on

the outcome of the client's condition. The following table (4.18) is presenting the summarize findings of the student nurses' knowledge about NPM.

Table 4.18

Summarize findings of Student nurses' extent of Knowledge about NPM (n = 486)

Steps of NPM	Extent of knowledge
Aim and steps (2 questions)	96.5% of students understand the aim and 97.5% know the steps of NPM. Less than 26% can only choose the correct upon the distractors.
Step (1) Assessment (3 questions)	More than 82.5% know what kind of data must be included in assessment phase. Total 88% of students can choose the correct answer of subjective data, and 90% of students can choose what objective data is. However, nearly 50% and 56% of students confuse on how to differentiate between subjective and objective data.
Step (2) Problem Identification and formulating Nursing Diagnosis (3 questions)	94.7% understand what nursing diagnosis is. Less than 42% can only choose the correct upon the distractors. 83%, 54%, 73% understand about how to identify problem. 85.4% of students know when formulating nursing diagnosis is completed. Less than 42% can only choose the correct upon the distractors.
Step (3) Goal/outcome identification (4 questions)	More than 62% of students know very well if the distractors are not considered. Less than 35% of students can only choose the correct upon the distractors.
Step (4) Planning (3 questions)	More than 70% know about the planning step. Less than less than 22% can only choose the correct answers upon distractors.
Step(5) Nursing intervention (2 questions)	Less than 40% of students know what the actions need to perform is in providing nursing intervention Total 86% of students know that collaborative nursing intervention. Total 26% and 7% of students can only choose the correct answer for the distractors

Table 4.18

Continued

Steps of NPM	Extent of knowledge
Step (6) Evaluation (4 questions)	<p>91% and 74% understand what they suppose to evaluate.</p> <p>80%, 62%, and 63% know what suppose to ask during performing evaluation.</p> <p>Total 92% of understand what suppose to do when the nursing care plan is not working, and goal and diagnosis are still relevant.</p> <p>Total 96% know what action needed to do when the goals are not met.</p> <p>However, 56% and less than 26% can only choose the correct answers from distractors.</p>

The next session is presenting the student nurses' impression towards their practices of NPM in their clinical practice sessions.

Impression of Student Nurses upon their Clinical Practice. Based on the clinical checklist of Mississippi Medical Center 2015, the researcher adapted the practice of NPM for the student nurses which composed of 15 items that reflect the steps of NPM. The findings are presented only about Agree which is the combination of agree and strongly agree, and disagree which is the combination of disagree and strongly disagree responses. Even though some information can lost though combining, the researcher's intention on combining the original five points Likert scale is to discuss about the positive which is the driving forces and negative attitude which is the restraining forces which is based on the Lewin's change theory which is applied in this study. However, combing the scale is only for discussion upon descriptive statistical results and does not applied for inferential statistic to cut down on potential confusion and reduce survey fatigue. The findings of the student nurses'

impression upon their ability and chances to perform nursing process steps are shown in table (4.19) as follow;

Table 4.19

The student nurses' responses towards their Practical Performance of NPM in Clinical setting (n=486)

Response items	Agree	DK	Disagree
I participate in data collection of nursing history.	422 (86.8%)	59 (12.1%)	4 (0.8%)
I participate in therapeutic communication.	438 (90.1%)	42 (8.4%)	6 (1.2%)
I perform physical assessment.	444 (91.4%)	30 (6.2%)	10 (2.1%)
I provide information needed to registered nurse/clinical instructor for discharge planning.	369 (75.9%)	84 (17.3%)	28 (5.7%)
I formulate nursing diagnosis based on assessment data.	433 (89.1%)	38 (7.8%)	13 (2.7%)
I set the realistic goals and outcomes based on the nursing diagnoses.	447 (92.0%)	34 (7.0%)	4 (0.8%)
I contribute nursing plan of care (nursing care plan) based on the nursing diagnoses.	448 (92.2%)	33 (6.8%)	4 (0.8%)
I observe and participate in assessment of behavior/health state and responses to therapy.	450 (92.6%)	29 (6.0%)	6 (1.2%)
I provide proficient nursing care based on validation of nursing care planning.	388 (79.9%)	84 (17.3%)	12 (2.5%)
I do chart down nursing care and observation.	429 (88.3%)	40 (8.2%)	14 (2.9%)
I reflect nursing care plan into record by proper charting.	411 (84.5%)	61 (12.6%)	12 (2.5%)

Table 4.19

Continued

Response items	Agree	DK	Disagree
I do communicate pertinent nursing observations to appropriate members of the health care team.	386 (79.4%)	84 (17.3%)	12 (2.5%)
I participate in evaluation of nursing care given.	416 (85.6%)	55 (11.3%)	13 (2.7%)
I participate in planning of future care based on results of evaluation.	380 (78.2%)	85 (17.5%)	20 (4.1%)
I seek and/or assist in evaluating feedback regarding nursing care to determine necessary changes in the care plan and in own performance.	386 (79.5%)	84 (17.3%)	13 (2.7%)

Based on the findings shown in table 4.19, more than 75% of students indicate that they participate in taking history and performing therapeutic communication with the clients to have subjective data, performing physical assessment to have objective data, and provide information needed for discharge planning.

After that, based on subjective and objective data, they set the goals and identify the outcome which is followed by formulating relevant nursing diagnoses. Then, the students plan the nursing care and provide nursing care based on the plan, and document the implementation they provided. Furthermore, according to their responses, they evaluate the client conditions and they carry out further necessary actions based on the evaluation results. Therefore, it can conclude that more than 75% students are applying NPM in their clinical practice based on their impression. The following session is presenting the findings concerning the attitude of 50 academic staff and 486 student nurses towards NPM and its implementation process.

Attitude of Academic Staff and Student Nurses upon NPM, Application and Implementation Process. Concerning the analysis of the responses on attitudinal factors, the researcher applies descriptive statistics base on 5 points Likert Scale for each item. Total of 20 items are included to assess the attitude towards NPM, its application and implementation process. Based on these results, the researcher combines all these 20 items into five which depend on their same attribute such as the attitude towards aims and application, the practicality and practicability, Kardex system (medical and nursing record system), time constraints, and practice in clinical learning of NPM. The researcher presents the findings of academic staff followed by student nurses' findings. The following Tables show the detail findings of the academic staff and student nurses' attitude towards NPM, its application and implementation process.

Attitude towards Aims and Application of NPM. There are five items to identify the attitude towards the aim and application of NPM. The findings of academic staff are shown in the following table (4.20) and the student nurses' findings are shown in table (4.21).

Table 4.20

The Attitude of Academic staff towards the Aim and Application of NPM (n=50)

Response items	SA	DK	DA
I like the aim of nursing process (NP).	50 (100%)	-	-
The NP should be used by BSc and above nurses only.	8 (16%)	1 (2%)	41 (82%)
I am ready for the application of NP.	44 (88%)	3 (6%)	2 (4%)
I am fed up with hearing about the NP.	6 (12%)	5 (10%)	38 (76%)
I am willing to apply NP during teaching in both classroom and clinical settings.	46 (92%)	1 (2%)	3 (6%)

Table (4.20) is explaining the attitude of academic staff towards the aim of NPM and its implementation. Hundred percent of the academic staff either strongly agree or agree on the aim of nursing process which is positive attitude that support the NPM implementation process. Concerning in what level nursing education program should apply NPM, 16% of the academic staff either strongly agree or agree that NPM should be taught only for bachelor degree program. However, 82% either strongly disagree or disagree which means that NPM application is not only for bachelor degree and above.

Concerning readiness to apply NPM, 88% of the academic staff either strongly agree or agree which means that they are ready to apply it. Concerning negative attitude toward NPM which is feeling of fed up on application of NPM, 76% of the academic staff either strongly disagree or disagree. It can see that 92% of academic staff either strongly agree or agree that they are willing to apply NP in their teaching practices in both theory and practical. To conclude these findings, the score 76% and above which indicates that they have positive attitude towards the NPM and its implementation.

Table 4.21

The Student nurses' Attitude towards the Aim and Application of NPM (n=486)

Response items	SA	DK	DA
I like the aim of nursing process (NP).	473 (97.3%)	12(2.5%)	1(0.2%)
The NP should be used by BSc and above nurses only.	122 (25.1%)	122 (25.1%)	242 (49.1%)
I am ready for the application of NP.	416 (85.6%)	59 (12.1%)	11 (2.3%)
I am fed up with hearing about the NP.	78 (16.1%)	65 (13.4%)	343 (70.6%)
I am willing to apply NP during teaching in both classroom and clinical settings.	410 (84.3%)	58 (11.9%)	17 (3.5%)

According to Table (4.21), total of 97.3% of the students either strongly agree or agree on the aim of nursing process which is positive attitude that support the NPM implementation process. Concerning in what level nursing education program should apply NPM, 25.1% of the respondents either strongly agree or agree that NPM should be taught only for bachelor degree program. Total of 25.1% of students stand on neutral and nearly half of the students either strongly disagree or disagree which means that NPM application does not mean only for bachelor degree and above.

Concerning readiness to apply NPM, more than 85.6% of students either strongly agree or agree which means that they are ready to apply it. Concerning negative attitude toward NPM which is feeling of fed up on application of NPM, more than 70% of students either strongly disagree or disagree which indicate most of the respondent are accepted to implement NPM application. It can see that more than 83% of students either strongly agree or agree that they are willing to apply NP in their teaching practices in both theory and practical.

To conclude these findings, almost all of the respondents have scored 70% and above (except NPM is only for BSc and above) which indicates that 70% of them have positive attitude towards the NPM and its application. The following session is mentioning the attitude of academic staff and student nurses upon the practicality and practicability of NPM.

Attitude towards Practicality and Practicability of NPM. There are six items composed to identify the attitude toward the practicality and how much extent NPM can apply in providing care. The findings of academic staff are shown in the following table (4.22) and the student nurses' findings are shown in table (4.23).

Table 4.22

The Attitude of Academic staff towards Practicality and Practicality of NPM (n=50)

Response items	Agree	DK	Disagree
The NP works well in practice.	37 (74%)	5 (10%)	6 (12%)
The NP can be used in any settings.	39 (78%)	2 (4%)	9 (18%)
The NP simplifies the awareness of patients' needs.	47 (94%)	1 (2%)	1 (2%)
Priorities of care are easy to identify by using NP.	48 (96%)	-	1 (2%)
NP enables nurses to provide quality of nursing care to patients.	41 (82%)	2 (4%)	7 (14%)
I am convinced the NP will work if applied in patient care.	48 (96%)	1 (2%)	1 (2%)

According to Table (4.22), the detail findings of the attitude towards practical and practicability of NPM are as follow;

Impression upon practicing NPM: Total 74% of academic staff either strongly agree or agree that nursing process works well in practice. It indicates that more than half of them agree that NPM works well in practice setting and only 12% do not agree upon that.

Perception towards practicality and practicability of NPM: Concerning practicability of NPM, 78% of academic staff either strongly agree or agree that NPM can applied in any kind of setting, 94% and 96% either strongly agree or agree that NP make easier to find out the patient's needs and priority of care can easily identify by using NPM. Total 82% of academic staff either strongly agree or agree that the nurses can provide quality nursing care by applying NP and 96% convince that NP will work if it is applied in patient care. Therefore, it can conclude that the

attitude towards practicality and practicability of NPM, almost all of the academic staff have positive attitude towards NPM and its application.

Table 4.23

The Attitude of Student nurses' towards Practicality and Practicability of NPM (n=486)

Response items	SA	DK	DA
The NP works well in practice.	438 (90.1%)	16 (3.3%)	30 (6.2%)
The NP can be used in any settings.	398 (81.9%)	67 (13.8%)	21 (4.3%)
The NP simplifies the awareness of patients' needs.	441 (90.8%)	35 (7.2%)	10 (2.1%)
Priorities of care are easy to identify by using NP.	457 (95.0%)	16 (3.3%)	12 (2.5%)
NP enables nurses to provide quality of nursing care to patients.	435 (89.5%)	21 (4.3%)	30 (6.1%)
I am convinced the NP will work if applied in patient care.	462 (95.1%)	17 (3.5%)	4 (0.8%)

According to Table (4.23), the detail findings of the attitude towards practical and practicability of NPM are as follow;

Impression upon practicing NPM: Total 90.1% of students either strongly agree or agree that nursing process works well in practice which indicates that NPM works well while providing nursing care in practice setting and only 6.2% do not agree upon that.

Perception towards practicality and practicability of NPM: Concerning practicability of NPM, 81.9% of respondents either strongly agree or agree that NPM can applied in any kind of setting, 90.4 % and 94% of respondents either strongly agree or agree that NP make easier to find out the patient's needs and priority of care can easily identify by using NPM. More than 89% of students either

strongly agree or agree that the nurses can provide quality nursing care by applying NP and more than 94% of students convince that NP will work if it is applied in patient care. Therefore, it can conclude that the attitude towards practicality and practicability of NPM, almost all of the respondents have positive attitude towards NPM and its application. The following session is mentioning the attitude of academic staff and student nurses upon the medical and nursing record system.

Attitude towards Current Kardex System of NPM. There are two items to identify the academic staff s' attitude upon the record system which can also called kardex system of NPM. The findings of academic staff are shown in the following Table (4.24) and the student nurses' findings are shown in Table (4.25).

Table 4.24

The Attitude of Academic staff towards the current Kardex system (n=50)

Response items	Agree	DK	Disagree
The NP is an elaborated Kardex system.	35 (70%)	5 (10%)	4 (8%)
The Kardex system of nursing record is unsatisfactory.	8 (16%)	14 (28%)	23 (46%)

As shown in Table (4.24), the following findings explain the attitude of academic staff towards the record system NPM.

Impression on Kardex system (medical and nursing record system): Total 70% of academic staff either strongly agree or agree that NP is intricate medical record system and composed of carefully arranged details. Concerning the satisfaction upon the record system, 46% of academic staff either strongly disagree or disagree which means that they satisfy on the record system. However, 16% of them do not satisfy and 38% either do not know or do not response to the satisfaction

towards the record system. Therefore, it can conclude that most of the academic staff perceived that NP record system composed of very detail specific; however, its recording/documentation has positive and negative impression together.

Table 4.25

The Attitude of Student nurses towards the current NPM Kardex system (n=486)

Response items	Agree	DK	Disagree
The NP is an elaborated Kardex system.	162 (33.3%)	310 (63.8%)	13 (2.7%)
The Kardex system of nursing record is unsatisfactory.	70 (14.4%)	324 (66.7%)	91 (18.7%)

According to Table (4.25), findings concerning the attitude of respondents towards the record system of NPM are as follow.

Impression on Kardex system (record system/documentation system): More than 33.3% of students either strongly agree or agree that NP is intricate medical record system and composed of carefully arranged details. More than 63.8% of students mentioned that they do not have any concern towards this record system. Concerning the satisfaction upon the record system, 18.7% of respondents either strongly disagree or disagree which means that they satisfy on the record system. However, 14.4% of them do not satisfy and 66.7% of respondent either do not know or do not response to the satisfaction towards the record system. Therefore, it can conclude most of students' impression towards the record system of NPM is not much clear. The following session is mentioning the attitude of academic staff and student nurses upon the time available to apply NPM.

Attitude towards Time Constraints in Application of NPM. There are three items to identify the academic staff and student nurses' concern upon the time to apply NPM. The findings of academic staff are shown in the following Table (4.26) and the student nurses' findings are shown in Table (4.27).

Table 4.26

The Attitude of Academic staff's upon the Constraints in Application of NPM (n=50)

Response items	Agree	DK	Disagree
There is not enough time to apply NP during patient care.	22 (44%)	4 (8%)	23 (46%)
NP is a waste of time.	3 (6%)	4 (8%)	42 (84%)
The NP involves too much of paper work.	32 (64%)	4 (8%)	14 (28%)

As mentioned in table (4.26), the findings of the attitude towards time constraints while applying NPM are as follow:

Time constraint for application: Concerning time constraint on application of NPM in practical setting, 46% of academic staff either strongly disagree or disagree, 44% either strongly agree or agree, and 8% of academic staff do not know on that. It indicates that nearly half of them said it is not enough time to apply NPM in clinical setting and the other half means that it has enough time to apply NPM in practical concern. These half and half findings reveal that there has constraint for the time given to perform NPM. Total 84% of academic staff either strongly agree or agree that application of NPM is not waste of the time and 64% of respondent said there is too much paper work while practicing NPM. Therefore, it can be concluded that there has a concern on the time available to apply NPM in practical setting. Most of them pointed that there have a lot of paper work, however, application of NPM is not wasting the time.

Table 4.27

The Student nurses' Attitude towards the Constraints in Application of NPM (n=486)

Response items	Agree	DK	Disagree
There is not enough time to apply NP during patient care.	176 (36.2%)	80 (16.5%)	230 (47.3%)
NP is a waste of time.	45 (9.3%)	24 (4.9%)	417 (85.8%)
The NP involves too much of paper work.	207 (42.6%)	85 (17.5%)	191 (39.3%)

As mentioned in Table (4.27), the findings of the attitude towards time constraints while applying NPM are as follow:

Time constraint for application: Concerning time constraint on application of NPM in practical setting, 36.2% of respondent either strongly agree or agree, 47.3% either strongly disagree or disagree, and 16.5% of students do not know on that. It indicates that one third of students said it is not enough time to apply NPM in clinical setting and nearly half of students indicate there have enough time to apply NPM in practical. These findings reveal that there has constraint for the time given to perform NPM is some extent. However, more than 85% of students reveal that nursing process is not a waste of time. Total of 42.6% of students said there is too much paper work in practicing NPM while the other 39.3% said it is not. Therefore, it can conclude that the students' attitude towards time constraint and too much paper work reveal that their impression towards these two items is in between agree and disagree. However, most of them accept that application of nursing process is not a waste of time. The following session is mentioning the attitude of academic staff and student nurses upon the practice of NPM in clinical settings.

Attitude towards Practice of NPM in Clinical Learning Environment.

There are four items to identify the concern upon the practice of NPM in the real clinical setting. The findings of academic staff are shown in the following table (4.28) and the student nurses' findings are shown in table (4.29).

Table 4.28

The Attitude of Academic staff upon Practice of NPM in Clinical setting (n=50)

Response items	Agree	DK	Disagree
I think introduction of NP will cause a problem.	6 (12%)	8 (16%)	36 (72%)
I think patients will not like to be cared for using the NP.	1 (2%)	6 (12%)	43 (86%)
I think the nursing staffs have no willingness to apply NP.	21 (42%)	12 (24%)	17 (34%)
I think the staff will never accept the NP.	7 (14%)	14 (28%)	27(54%)

According to table (4.28), the findings of the attitude towards the practice of NPM are as follow:

Perception towards change: Concerning introducing of NPM, 72% of academic staff either strongly disagree or disagree which indicates that it is cannot be a problem while introducing or practicing in both teaching and clinical setting and 86% confidently respond that patient will like the nursing care by applying NPM.

Staff nurses' willingness to apply NPM: Concerning the staff nurses willingness to apply NP, 42% of academic staff either strongly agree or agree which means that the staff nurses have not willing to practice NPM, however, 34% either strongly disagree or disagree which indicates the staff nurses are willing to apply NPM and 24% stay in neutral. It indicates that nearly half of the respondents pointed that staff nurses have not the will to practice NPM, in contrast, more than one third

of respondents said the staff nurses have the will. Even though, 54% which is more than half of the academic staff either strongly agree or agree that the staff nurses will accept it later. Only 14% of the academic staff responded that the staff nurses will never accept, and 32% of respondents stayed in neutral.

Therefore, it can conclude that most of the academic staff perceived that introducing NPM cannot cause a problem and patients will like the nursing care provided by applying NPM. However, some of the academic staff supposed that staff nurses do not have the will to apply NPM, on the other hand, half of academic staff do not mentioned that the staff nurses will never accept the application of NPM. The following table (4.29) presents the findings of student nurses' attitude towards the practice of NPM.

Table 4.29

The Student nurses' Attitude towards Practice of NPM in Clinical setting (n=486)

Response items	Agree	DK	Disagree
I think introduction of NP will cause a problem.	52 (10.7%)	102 (21.0%)	332 (68.3%)
I think patients will not like to be cared for using the NP.	59 (12.2%)	144 (29.6%)	281 (57.8%)
I think the nursing staffs have no willingness to apply NP.	139 (28.6%)	140 (28.8%)	207 (42.6%)
I think the staff will never accept the NP.	61 (12.6%)	143 (29.4%)	282 (58%)

Perception towards change: Concerning introduction of NPM, 68.3% of respondents either strongly disagree or disagree which indicates that it is cannot be a problem while introducing or practicing of NPM in both teaching and clinical setting.

Total of 57.8% of students indicate that patient will like the nursing care by applying NPM while the other 29.6% of students do not have any impression about it.

Staff nurses' willingness to apply NPM: Concerning the staff nurses willingness to apply NP, 28.6% of students either strongly agree or agree which means that the staff nurses have not willing to practice NPM, however, 42.6% students either strongly disagree or disagree which indicates the staff nurses are willing to apply NPM and 28.8% of respondents stay in neutral. It indicates that nearly half of students pointed that staff nurses have the will to practice NPM, in contrast, nearly one third of students said the staff nurses have not the will. Even though, 58% students either strongly agree or agree that the staff nurses will accept when the situation favors them. Only 12.6% of the respondents responded that the staff nurses will never accept, and 29.4% of respondents stayed in neutral.

Therefore, it can conclude that most of the respondents perceived that introducing NPM cannot cause a problem and patients will like the nursing care provided by applying NPM. However, some of the respondents supposed that staff nurses do not have the will to apply NPM, on the other hand, half of respondent do not mentioned that the staff nurses will never accept the application of NPM which means that the staff nurses will accept nursing process when the barrier or constraints that hinder to apply NPM. The following table (4.30) is presenting the summarize findings of academic staff and student nurses' attitude towards NPM, its application and implementation process.

Table 4.30

The Attitude of Academic staff and Student nurses towards NPM, its Application and Implementation Process

Attitude items	Academic staff	Student nurses
The aim and application (combine 5 items)	All academic staff admit that they like the aim of NPM	97% of student nurses admit that they like the aim of NPM
	82% of academic staffs admit that NPM is not only for BSc and above level.	49% of student nurses admit that NPM is not only for BSc and above level.
	88% of academic staffs reveal that they are ready to apply NPM.	86% of student nurses reveal that they are ready to apply NPM.
	92% of academic staffs admit that they are willing to apply it.	84% of student nurses admit that they are willing to apply it.
	76% of academic staffs state they do not fed up in hearing about NPM.	71% of student nurses state they do not fed up in hearing about NPM.
Practicality and practicability (combine 6 items)	64% indicate NP is working well.	90 % indicate NP is working well.
	78% accept that NP can use any setting.	82% accept that NP can use any setting.
	94% and 96% admit that patients' need and priority of care can easily identify by NP.	91% and 94% admit that patients' need and priority of care can easily identify by NP.
	82% point out NP can give quality nursing care.	89.5% point out NP can give quality nursing care.
	96% convince NP will work if apply in caring patient.	95% convince NP will work if apply in caring patient.
Practice of NPM in clinical (combine 4 items)	72% say cannot cause problem in introducing NP	68% say cannot cause problem in introducing NP
	86% convince patient will like to provide care by applying NP	58% convince patient will like to provide care by applying NP
	42% suppose staff nurses do not have the will to apply	43% suppose staff nurses do not have the will to apply
	Only 14% pointing that staff nurses will never accept NP	Only 13% pointing that staff nurses will never accept NP

Table 4.30

Continued

Attitude item group	Academic staff	Student nurses
Kardex system (combine 2 items)	70% perceive kardex system composed of very specific details 40% admit satisfy to the record/documentation	33% perceive kardex system composed of very specific details. 64% DK about it. 14% admit satisfy to the record/documentation. 67% DK about it.
Time constraints in application (combine 3 items)	44% point out no enough time to apply 84% perceive applying NP is not wasting time. 64% admit a lot of paper work	36% point out no enough time to apply 86% perceive applying NP is not wasting time. 43% admit a lot of paper work

The next session is presenting the academic staff and student nurses' impression towards the supporting factors.

Impression of Academic Staff and Student Nurses upon Supporting factors. Concerning analysis of the responses on the supporting factors, the researcher applied descriptive statistics. The findings of academic staff are shown in the following table (4.31) and the student nurses' findings are shown in table (4.32).

Table 4.31

The Academic staffs' responses towards the Supporting factors that influence the Implementation of NPM Application (n=50)

Response items	Agree	DK	Disagree
The hospital administrations support the application of nursing process.	41 (82%)	5 (10%)	3 (6%)
The allocation of resources for application of NP is adequate.	32 (64%)	9 (18%)	8 (16%)

Table 4. 31

Continued

Response items	Agree	DK	Disagree
The allocated time is sufficient to apply the NP in practice setting.	31 (62%)	4 (8%)	14 (28%)
The nurse/patient ratio is optimal to apply the NP.	23 (46%)	6 (12%)	20 (40%)
We have appreciating feedback for application of NP.	28 (56%)	13 (26%)	8 (16%)
There have monitoring and evaluation system for application of NP.	29 (58%)	11 (22%)	9 (18%)
I had ever seen other nurses applying the NP in education setting.	27 (54%)	5 (10%)	17 (34%)
The hospital learning environment support in application of NP.	41 (82%)	3 (6%)	5 (10%)
I had proper training in application of NP.	41 (82%)	1 (2%)	8 (16%)

As mentioned in table (4.31), the findings of academic staff's impression towards the supporting factors that support implementation of NPM are as follow:

Administrative support: According to the results shown in Table (9), 82% of academic staff either strongly agree or agree that the hospital administrations support the application of NP.

Allocation of resources: Concerning allocation of resources for implementation of NPM application, 64% of academic staff either strongly agree or agree which indicates that the allocated resources are adequate to apply NP in clinical settings.

Time allocation and nurse patient ratio: Concerning the allocated time to apply NPM, 62% of academic staff either strongly agree or agree which indicates the available time to apply NPM is enough. However, the results concerning nurse

patient ratio shows that 46% of academic staff either strongly agree or agree that indicates that the current nurse patient ratio is favorable to apply NPM. Even though, 40% of respondents either strongly disagree or disagree which indicate that the current nurse patient ratio is not optimal to apply NPM in clinical setting. Twelve percent of respondents respond “do not know” about the nurse patient ratio whether it is optimal or not. It indicates that the nurse patient ratio in the hospital setting is needed to highlight as nearly half of respondent accept that it is optimal while the other nearly half of respondent do not.

Motivation: As a motivational attribute, 56% of academic staff respond that they have appreciative feedback for applying NPM while the other 16% do not say that they have appreciative feedback and the other 26% respond “do not know” about it.

Monitoring and evaluation system: Concerning monitoring and evaluation system for NPM application, 58% of academic staff either strongly agree or agree which indicate that there has a monitoring and evaluation system for application of NP. However, 18% either strongly disagree or disagree and 22% mentioned “do not know” about the monitoring and evaluation system of NPM application.

Application of NPM in education: More than half of academic staff which is 56% said they had ever seen the nurses are applying NPM in education setting while the other 34% either strongly disagree or disagree and the other 12% stay neutral. It indicates that some of them apply NPM, however, some are not.

Practical learning environment: Concerning hospital learning environment for the students, 82% of academic staff indicate that there has supportive learning environment to apply NP while the other 16% do not agree on that.

Training for application of NPM: Total 82% of the academic staff mentioned that they had proper training on application of NPM while the other 16% either strongly disagree or disagree about proper training and the other 2% indicated do not know. It indicates that most of them had training concerning NPM and some of them did not. It is critical concern because the academic staffs have to understand properly about NPM to teach, guide and supervise to the student nurses. The next session is presenting about the relationship between the attitudinal and supporting factors and their demographic characteristics.

Table 4.32

The Student nurses' responses towards the Supporting factors that influence the Implementation of NPM Application (n=486)

Response items	Agree	DK	Disagree
The hospital administrations support the application of nursing process.	402 (82.7%)	74 (15.2%)	10 (2.1%)
The allocation of resources for application of NP is adequate.	297 (61.1%)	127 (26.1%)	61 (12.5%)
The allocated time is sufficient to apply the NP in practice setting.	280 (57.6%)	89 (18.3%)	116 (23.9%)
The nurse/patient ratio is optimal to apply the NP.	261 (53.7%)	102 (21%)	122 (25.1%)
We have appreciating feedback for application of NP.	349 (71.8%)	116 (23.9%)	21 (4.3%)
There have monitoring and evaluation system for application of NP.	353 (72.7%)	108 (22.2%)	24 (4.9%)
I had ever seen other nurses applying the NP.	251 (51.6%)	92 (18.9%)	143 (29.4%)
The hospital learning environment support in application of NP.	363 (74.7%)	79 (16.3%)	43 (8.8%)
I can apply nursing process proficiently when I become a staff nurse/clinical instructor/lecturer.	411 (84.5%)	65 (13.4%)	9 (1.9%)

As mentioned in table (4.32), the impressions of student nurses upon the factors that enable and reinforce to apply NPM and its implementation process are as follow:

Administrative support: According to the results shown in table, 82.7% of students either strongly agree or agree that the hospital administrations support the application of NP.

Allocation of resources: Concerning allocation of resources for implementation of NPM application, 61.1% of students either strongly agree or agree which indicates that the allocated resources are adequate to apply NP in clinical settings, however, 26.1% of students do not have any impression on whether the allocation of resources are adequate or not.

Time allocation and nurse patient ratio: Concerning the time allocated, 57.6% of students either strongly agree or agree which indicates they have adequate time to apply NPM, however, nearly half of students either strongly disagree or disagree or do not have any impression on whether the allocated time is enough to apply NPM or not. The results concerning nurse patient ratio shows that 53.7% of students either strongly agree or agree which indicates that the current nurse patient ratio is favorable to apply NPM. Even though, nearly half of students either strongly disagree or disagree or do not have any impression which indicate that the current nurse patient ratio is not optimal to apply NPM in clinical setting. Therefore, it can conclude that time allocation and nurse patient ratio is needed to pay attention as more than half of respondents accept that it is optimal while the other nearly half of respondents do not.

Motivation: As a motivational attribute, 71.8% of respondents indicate that they have appreciative feedback for applying NPM while the other 4.3% do not say that they have appreciative feedback and the other 23.9% do not have any impression about it.

Monitoring and evaluation system: Concerning monitoring and evaluation system for NPM application, 72.7% of students either strongly agree or agree which indicate that there has a monitoring and evaluation system for application of NP. There is only 4.9% of respondent either strongly disagree or disagree and 16.5% do not have any impression about the monitoring and evaluation system of NPM application.

Nurses' Application of NPM: More than half of students (51.6%) said they had ever seen the nurses are applying NPM while the other 29.4% indicate either strongly disagree or disagree and the other 18.9% stay neutral. It indicates that some of them apply NPM, however, some are not.

Practical learning environment: Concerning hospital learning environment for the students, 74.7% of respondents indicates that there has supportive learning environment to apply NPM. The only 8.8% do not agree and 16.3% stay neutral about it.

Confidence on application of NPM: Total of 84.5% of students confidently indicates that can apply nursing process proficiently when they become a staff nurse or clinical instructor or lecturer. Only 1.9% cannot say that they can apply and 13.4% do not have any impression whether they can apply proficiently after they finished their study. The next session is presenting about the relationship between the attitudinal and supporting factors and their demographic characteristics.

The following Table (4.33) is presenting the summarize findings of academic staff and student nurses' impression towards supporting factors.

Table 4.33

The Impression of Academic staff and Student nurses towards Supporting factors

Item	Academic staff	Student nurses
Hospital admin support	82% admit the hospital administrations support the application of NP.	83% admit the hospital administrations support the application of NP.
Resource allocation	64% indicate the allocated resources are adequate to apply NP	61% indicate the allocated resources are adequate to apply NP
Time allocated	62% mention the time allocated to apply NPM is adequate.	58% mention the time allocated to apply NPM is adequate.
Nurse patient ratio	46% indicate current nurse patient ratio is favorable to apply NPM.	54% indicate current nurse patient ratio is favorable to apply NPM.
Appreciative feedback	56% admit they have appreciative feedback for applying NPM.	72% admit they have appreciative feedback for applying NPM.
Monitoring & Evaluation system	58% indicate there has a monitoring and evaluation system	73% indicate there has a monitoring and evaluation system
Supportive learning environment	82% indicate there has supportive learning environment	75% indicate there has supportive learning environment
Training (academic staff) Confidence to apply NP for future career (students)	82% admit they had proper training on application of NPM.	85% admit confidently that they can apply nursing process proficiently in their future career.

The following session is presenting the relationship among the academic staff and student nurses' demographic characteristics and variables.

Demographic characteristics as Predictors to Application of NPM. In this session, the researcher presents the findings of academic staff firstly because there are only two variables to be identified. Afterward, the researcher presents the the student nurses' demographic characteristics, knowledge, attitude and impression towards supporting factors as predictors upon their practice. Attitude, practice and the impression towards supporting factors as DV were analyzed by using the sum of total scores based on five points Likert scale.

Academic Staffs' Gender and Current position as Predictors to their Attitude and Impression towards Supporting factors. The researcher conducted Mann-Whitney test to investigate any significant difference between male and female academic staffs upon their impression towards supporting factors and their attitude towards NPM, its application and implementation process. Total of 4 male and 46 female academic staffs are included and the findings are as follow:

Median value of male academic staffs' responses

Statistics		Gender	Supporting	Attitude
N	Valid	4	4	4
	Missing	0	0	0
Median		1.00	34.00	75.50

Median value of female academic staffs' responses

Statistics		Gender	Supporting	Attitude
N	Valid	46	46	46
	Missing	0	0	0
Median		2.00	33.00	76.00

Attitude and supporting factor by gender (1, 2)

Ranks

	Gender	N	Mean Rank	Sum of Ranks
Supporting	Male	4	26.88	107.50
	Female	46	25.38	1167.50
	Total	50		
Attitude	Male	4	26.00	104.00
	Female	46	25.46	1171.00
	Total	50		

Test Statistics^a

	Supporting	Attitude
Mann-Whitney U	86.500	90.000
Wilcoxon W	1167.500	1171.000
Z	-.197	-.072
Asymp. Sig. (2-tailed)	.844	.943
Exact Sig. [2*(1-tailed Sig.)]	.850 ^b	.959 ^b

a. Grouping Variable: Gender

b. Not corrected for ties.

A Mann-Whitney U test was conducted to evaluate whether there is a difference between male and female academic staff upon their attitude and impression towards supporting factors. The results indicate that there is no significant difference between the impression of male academic staff towards supporting factors ($Mdn = 34$) and the impression of female academic staff ($Mdn = 33$), $z = -.197$, $p > .05$. Male academic staffs had an average rank of 26.9, while female academic staff had an average rank of 25.4. In addition, there is no significant difference between the attitude of male academic staff towards NPM, its application and implementation process ($Mdn = 75$) and the attitude of female academic staff ($Mdn = 76$), $z = -.072$, $p > .05$. Male academic staffs had an average rank of 26.0, while female academic staff had an average rank of 25.5.

The researcher conducted a one way ANOVA to investigate any significant difference between the current positions of academic staffs upon their impression towards supporting factors and their attitude towards NPM, its application and implementation process. Total of 50 academic staffs are included and the findings are as follow:

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Supporting factors	Between Groups	50.354	3	16.785	.649	.587
	Within Groups	1189.249	46	25.853		
	Total	1239.603	49			
Attitude	Between Groups	294.312	3	98.104	1.334	.275
	Within Groups	3383.367	46	73.551		
	Total	3677.680	49			

A one-way between subjects ANOVA was conducted to compare their different positions on their attitude towards NPM, its application and implementation process and their impression towards supporting factors while implementing NPM. Analysis of variance showed the impression towards the factors that support implementation of NPM application $F(3, 46) = .65, p = .587$ and their attitude towards NPM, its application and implementation process $F(3, 46) = 1.33, p = .275$ which indicated did not differ significantly between the different positions of academic staffs.

Student Nurses' Demographic characteristics, Knowledge, Attitude and Impression towards Supporting factors as Predictors to Application of NPM. This is the session that the researcher expresses significance or no significance between their gender, mode of study, knowledge, attitude towards NPM and its implementation, the impressions towards their practice and the factors that support to apply NPM in their practices by applying multiple linear regressions analysis. Whether the finding is statistically significance or no significance, it gives the

important figure for the evaluation process on implementation of NPM application. Among six demographic characteristics, the researcher focuses on gender and the student nurses' different study mode which is mostly related with the evaluation process of this study context.

Before presenting the findings of multiple regressions analysis, the researcher presents the assumptions to conduct multiple regressions such as normality of the data in terms of skewness and kurtosis (presented in the reliability of research instrument session), residuals, and multicollinearity of IV (gender, mode of study, knowledge, attitude and impression towards supporting factors).

Outliers

Firstly, the researcher checks the outliers and the findings are as follow;

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	52.54	69.93	60.43	2.616	468
Residual	-16.311	16.939	.000	5.655	468
Std. Predicted Value	-3.016	3.629	.000	1.000	468
Std. Residual	-2.869	2.979	.000	.995	468

a. Dependent Variable: Practice of students

An analysis of standard residuals was carried out to identify any outliers and 18 respondents needed to be removed. Referring to the reference index of Dart (2013), the standardized residuals are within 3.29 and -3.29. The data contained no outliers in this study (Std. Residual Min = -2.869, Std. Residual Max = 2.979) which are within the standardized residual values respectively.

Colinearity

Coefficients^a

Model		Collinearity Statistics	
		Tolerance	VIF
1	Gender of students	.989	1.011
	Mode of study	.814	1.228
	Knowledge of students	.866	1.155
	Attitude of students	.989	1.011
	Supporting factors	.845	1.184

a. Dependent Variable: Practice of students

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions					
				(Constant)	Gender of students	Mode of study	Knowledge of students	Attitude of students	Supporting factors
1	1	5.826	1.000	.00	.00	.00	.00	.00	.00
	2	.096	7.804	.00	.02	.66	.00	.00	.02
	3	.037	12.468	.00	.25	.14	.67	.00	.00
	4	.029	14.119	.00	.61	.09	.17	.01	.11
	5	.009	25.562	.02	.04	.07	.05	.34	.65
	6	.002	50.971	.98	.08	.03	.10	.64	.22

a. Dependent Variable: Practice of students

Concerning colinearity, referring to Dart (2013) the data met the assumption of collinearity because the VIF value is less than 10 and the tolerance is not less than 0.1; (gender of student, Tolerance = .99, VIF = 1.01); (mode of study, Tolerance = .81, VIF = 1.2); (knowledge score, Tolerance = .87, VIF = 1.2); (attitude score, Tolerance = .99, VIF = 1.01); and (supporting factor score, Tolerance = .85, VIF = 1.2) respectively. There is no multicollinearity concern among variables.

Independent Error

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.420 ^a	.176	.167	5.685	1.707

a. Predictors: (Constant), Supporting factors, Attitude of students, Gender of students, Knowledge of students, Mode of study

b. Dependent Variable: Practice of students

According to the aboved mentioned table, Durbin-Watson values which is also referred to Dart (2013). The value can be anywhere between 0 and 4 in order to meet the assumption of independent errors. The data met the assumption of independent errors (Durbin-Watson value = 1.7).

A multiple regression was conducted to see if the different gender and mode of study, level of knowledge, attitude and impression towards the factors that support application of NPM predicted upon the application of NPM in their practice. The findings are shown in the following tables.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3195.966	5	639.193	19.775	.000 ^b
	Residual	14933.630	462	32.324		
	Total	18129.597	467			

a. Dependent Variable: Practice of students

b. Predictors: (Constant), Supporting factors, Attitude of students, Gender of students, Knowledge of students, Mode of study

Model Summary^b

Mo	R	Adjusted	Std. Error	Change Statistics					
				R Square	F	Sig. F	Durbin-		
del R	Square	R Square	of the	Change	Change	Change	del R	Watson	
1	.420 ^a	.176	.167	5.685	.176	19.775	5	462	.000 1.707

a. Predictors: (Constant), Supporting factors, Attitude of students, Gender of students, Knowledge of students, Mode of study

b. Dependent Variable: Practice of students

Using the enter method, it was found that the student nurses' different gender and mode of study, level of knowledge, their attitude towards NPM, its application and implementation process and their impression towards supporting factors explain a significant amount of the variance in practicing NPM ($F(5, 462) = 19.775, p < .05, R^2 = .18, R^2_{\text{Adjusted}} = .17$).

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	Collinearity Statistics	
	B	Std. Error	Beta	t		Tolerance	VIF
1 (Constant)	25.875	4.758		5.439	.000		
Gender of students	.186	.745	.011	.249	.803	.989	1.011
Mode of study	.721	.491	.069	1.468	.143	.814	1.228
Knowledge of students	.140	.039	.163	3.585	.000	.866	1.155
Attitude of students	.113	.050	.095	2.241	.026	.989	1.011
Supporting factors	.632	.068	.428	9.319	.000	.845	1.184

a. Dependent Variable: Practice of students

The analysis shows that the different gender did not significantly predict the practice of NPM (Beta = .01, $t(19) = .25$, $p > .05$) and mode of study also did not significantly predict the student nurses' practice of NPM (Beta = .07, $t(19) = 1.47$, $p > .05$). However, knowledge (Beta = .16, $t(19) = 3.59$, $p < .05$), attitude (Beta = .10, $t(19) = 2.24$, $p < .05$) and impression towards supporting factors (Beta = .43, $t(19) = 9.32$, $p < .05$) did significantly predict the student nurses' practice of NPM.

Student Nurses' attitude and impression towards supporting factors as predictors in relationship between knowledge and practice. Linear regression analysis was used to investigate whether the student nurses' attitude towards NPM, application and implementation process, and their impression towards supporting factors in the relationship between their knowledge and practice. According to Preacher and Leonardelli (2010-2016), mediation can be occurred when (1) the IV significantly affects the mediator, (2) the IV significantly affects the DV in the absence of the mediator, (3) the mediator has a significant unique effect on the DV, and (4) the effect of the IV on the DV shrinks upon the addition of the mediator to the model. These criteria can be used to informally judge whether or not mediation is occurring. However, MacKinnon & Dwyer (1993) and MacKinnon, Warsi, & Dwyer

(1995) have popularized statistically based methods by which mediation may be formally assessed (cited by Preacher and Leonardelli, 2010-2016).

In this study, the researcher investigates “Is the attitude of student nurses upon NPM, its application and implementation process as a mediating variable in the relationship between knowledge and practice?”

X = extent of knowledge (knowledge)

M = attitude towards NPM, its application and implementation process (attitude)

Y = application of NPM (practice).

“Is the impression of student nurses upon supporting factors as a mediating variable in the relationship between knowledge and practice?”

X = extent of knowledge (knowledge)

M = impression towards supporting factors in application of NPM

Y = application of NPM (practice)

In order to test whether these three conditions are met, the researcher conducted the correlation coefficients for the relationship between three variables; knowledge, attitude and practice (attitude as a mediator in the relationship between knowledge to practice) and the findings are as follow.

Correlations

		Knowledge	Attitude	Practice
Knowledge of students	Pearson Correlation	1	-.085	.067
	Sig. (2-tailed)		.065	.145
	N	468	468	468
Attitude of students	Pearson Correlation	-.085	1	.109*
	Sig. (2-tailed)	.065		.019
	N	468	468	468
Practice of students	Pearson Correlation	.067	.109*	1
	Sig. (2-tailed)	.145	.019	
	N	468	468	468

*. Correlation is significant at the 0.05 level (2-tailed).

According to the correlation coefficients mentioned in the above table, the correlation coefficients between independent (knowledge) to dependent variable (practice), independent variable (knowledge) to mediator (attitude) are not significant; however, the mediator (attitude) to the dependent variable (practice) is significant. These results indicate that each of condition do not necessary to test for the possible role of attitude as a mediator has not been met at the bivariate level. Then, the researcher conducted the correlation coefficients for the relationship between three variables; knowledge, impression towards supporting factors and practice (impression towards supporting factors as a mediator in the relationship between knowledge to practice) and the findings are as follow.

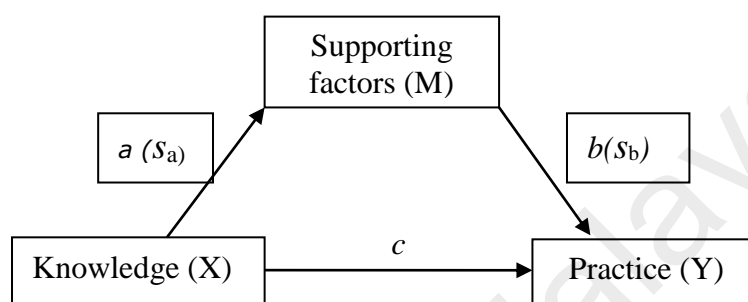
Correlations

		Knowledge	Supporting	Practice
Knowledge of students	Pearson Correlation	1	-.255**	.067
	Sig. (2-tailed)		.000	.145
	N	468	468	468
Supporting factors	Pearson Correlation	-.255**	1	.368**
	Sig. (2-tailed)	.000		.000
	N	468	468	468
Practice of students	Pearson Correlation	.067	.368**	1
	Sig. (2-tailed)	.145	.000	
	N	468	468	468

** . Correlation is significant at the 0.01 level (2-tailed).

According to the correlation coefficients mentioned in the above table, the correlation coefficients between independent (knowledge) to dependent variable (practice) is not significant; however, the independent variable (knowledge) to mediator (impression towards supporting factors in implementation of NPM application), and the mediator (impression towards supporting factors in implementation of NPM application) to the dependent variable (practice) are significant. These results indicate that, at the bivariate level, each of the conditions

necessary to test for the possible role of impression towards supporting factor as a mediator has been met. The next session of analysis is performed referring to a webpage developed by Kristopher Preacher and Geoffry Leonardelli (<http://www.unc.edu/~preacher/sobel/sobel.htm>). The path diagram for impression towards supporting factors as mediator is as follow:



In a mediation analysis, a , b , and c are path coefficients. To conduct mediation the needed numbers include “ a ” is raw unstandardized regression coefficient for the association between IV and mediator; s_a is standard error of a ; b is raw coefficient for the association between the mediator and the DV (when the IV also a predictor of the DV), s_b is standard error of b . The researcher performed regression analysis on the association between knowledge and impression towards supporting factors (knowledge as independent variable and impression towards supporting factors as dependent variable) to get raw unstandardized regression coefficient. Then, the researcher performed regression analysis with knowledge and attitude predicting practice. The following table presents the findings of regression analysis.

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	Collinearity Statistics	
	B	Std. Error	Beta	t		Tolerance	VIF
1 (Constant)	37.889	.907		41.788	.000		
Knowledge of students	-.149 (<i>a</i>)	.026 (<i>s_a</i>)	-.255	-5.699	.000	1.000	1.000

a. Dependent Variable: Supporting factors

The raw regression coefficient (*a*) which is in the column labeled 'B' under the heading 'unstandardized coefficients' for the association between students' knowledge about NPM (the IV) and their impression towards supporting factors (the mediator) is -.15 and the standard error for this raw regression coefficient (*s_a*) which is labeled as 'Std. Error' is .03. The following table is the regression analysis with knowledge and attitude predicting practice.

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	Collinearity Statistics	
	B	Std. Error	Beta	t		Tolerance	VIF
1 (Constant)	35.431	2.761		12.834	.000		
Knowledge of students	.149	.038	.173	3.933	.000	.935	1.070
Supporting factors	.608 (<i>b</i>)	.065 (<i>s_b</i>)	.412	9.390	.000	.935	1.070

a. Dependent Variable: Practice of students

The raw regression coefficient for the association between the students' impression towards supporting factors (*b*) and practice of NPM (controlling for students' knowledge about NPM) is .61; the standard error for this regression coefficient (*s_b*) is .07. The researcher go to the webpage for the Sobel's test and find the portion of the page provided to enter these values to complete the analysis (see the following table).

Input:			Test statistic:	Std.Error:	<i>p</i> -value:
<i>a</i>	-.15	Sobel test	-4.33683384	0.02109834	0.00001445
<i>b</i>	.61	Aroian test	-4.31550966	0.02120259	0.00001592
<i>s_a</i>	.03	Goodman test	-4.35847729	0.02099357	0.0000131
<i>s_b</i>	.07	(Preacher, K.J., 2010-2016)			

The test statistic for the Sobel test is -4.34, with an associated *p*-value of .000. The fact that the observed *p*-value is below the established alpha level of .05 indicates that the association between the IV and the DV (in this case, students' knowledge about NPM and their practice of NPM) is significant by inclusion of the mediator (supporting factors) in the model and there is evidence of indirect mediation effect.

Conclusively, the findings of mediation analysis in a relationship between knowledge of student nurses about NPM and the impression towards their practice of NPM reveals that the attitude does not have any mediation effect between knowledge to practice while supporting factors is mediating between knowledge to practice as an indirect mediation effect. It indicates that the factors that support on implementation of NPM application is the important factor while the student nurses are translating their knowledge into their daily practices.

The next session is “phase two” which is presenting the qualitative findings of open ended questions for the academic staff and the student nurses.

Phase Two: Qualitative Data Analysis and Findings

This session is presenting the findings from open ended questions that are composed with closed ended questions for quantitative enquiry. The collected data are analyzed through applying the concepts from the conceptual framework that was constructed according to the study purpose. Findings presented in this chapter are almost supported by the excerpts from the answers of nursing academic staff and

student nurses. There are six open ended questions for academic staff, and three open ended questions for student nurses. For academic staff, the three questions are concerning their teaching references while they are teaching about NPM, their assessment/evaluation methods to evaluate student nurses' abilities in application of NPM and how do they match NPM theory into practice.

The researcher used the same three open ended questions for both academic staff and students. The first question concerns their overall impression towards NPM. The second question concerns whether the implementation of NPM is needed to improve or not and the important concerns that they want to suggest to improve the implementation process. The third question is concerning their impression towards whether the implementation of NPM application is succeed or need to improve and, inquiring their suggestions and comments upon it.

The researcher used open ended questions on questionnaires to complement, elaborate and triangulate responses to closed ended questions and give the insights or issues which cannot capture in the closed ended questions. Through analyzing their responses, the researcher looks at patterns and trends to get certain conclusions. Through the feedback from initial pilot survey, the researcher refined the six open ended questions basically in terms of sentence structure.

The three open ended survey questions for academic staffs were: "What kind of teaching references are you using for application of NPM in your theory and clinical teaching?" "How do you carry out formative and summative assessment/evaluation concerning NPM in theory and practical skills?" "How do you match/translate NPM theory and practical in the student' clinical posting?"

The same three open ended survey questions for academic staffs and student nurses were: “What are your overall opinions and comments on the strength and weakness of NPM application in both teaching/learning theory and practicing in clinical settings?” “Do you think that application of nursing process in teaching and clinical session is needed to improve? If “yes”, what are your suggestions to improve its application in both theory and practice?” “Do you think that application of nursing process in teaching and clinical settings are successful? If “yes”, what are your opinions that what factors that support you to get succeed. If “no”, what are your opinions that what factors hinder you to apply nursing process?”

The researcher applied qualitative content analysis and the findings are presented three parts: part one is presenting the findings of academic staff concerning their knowledge and practice on teaching about NPM, part two is presenting the findings of the academic staffs’ impression toward NPM and implementation process, and part three is presenting the findings of student nurses’ impression towards NPM and implementation process. Before presenting the findings, the researcher is going to explore the data analysis procedure as follow.

Phase Two: Part One – Findings of Academic Staff concerning Knowledge and Practice on Teaching about NPM. As mentioned earlier in chapter 3, inductive content analysis approach, the researcher transcribes the answers of open ended questionnaires. After that, the researcher reads thoroughly and draws the main points to name the code. The researcher analyzes the questions one by one. There are three main categories which came out from the first three open ended questions which are category 1: teaching references, category 2: assessment/ evaluation system, and category 3: ways of matching theory and practice. Under three main

categories, there are two sub-categories under the category 1, two sub-categories under category 2 and category 3 has only one category. Before presenting the findings, the researcher describes the demographic figure of academic staffs who are actively answering the open ended questions. The demographic figures of 50 academic staffs are presented in the appendix F.

The following Table (4.34) is presenting the findings of 32 out of 50 academic staff who have the will to answer the question no.1. This question is focusing on the academic staff's teaching references while they are teaching about the NPM. In the excerpts, abbreviation "HOD" used to denote Head of Nursing Department, AP/L for Associate Professor/Nursing Lecturer, "L" for Nursing Lecturer, "T" Nursing Tutor, and "CI" for Clinical Instructor.

Table 4.34

Academic staff's Teaching references for NPM (n = 32/50)

Category	Sub-category	Excerpts
Teaching references	Books	University A Textbook (HOD, University A) Books (L-1, University A) Nursing fundamental books, nursing process books, and critical thinking book (L-2, University A) Nursing process book (L-3, University A) Acronyms of nursing process; Assessment, Diagnosis, Planning, Intervention, Evaluation (ADPIE) (CI-1, University A)
		University B Text book and theories model (T-2, University B) Books (text) (T-3, University B) Callista Roy Nursing theorist and Dorothea Orem (T-4, University B)

Table 4.34

Continued

Category	Sub-category	Excerpts
Teaching references	Books	<p>University B</p> <p>Books, theories, models, past experiences (T-5, University B)</p> <p>No ideas, never teach this NPM. (T-6, University B)</p> <p>NANDA (T-7, University B)</p> <p>NANDA (T-9, University B)</p> <p>Fundamental of Nursing books (T-10, University B)</p> <p>NANDA (T-12, University B)</p> <p>Current nursing assessment form is Virginia Henderson 14 Activities of Daily Living (T-13, University B)</p> <p>Books (T-14, University B)</p> <p>Fundamental of nursing reference books (T-15, University B)</p> <p>Nursing diagnosis handbook, NANDA nursing diagnosis (T-16, University B)</p>
		<p>University C</p> <p>Lippincott's NANDA (L-1, University C)</p> <p>Not applicable (HOD-1, University C)</p> <p>Not applicable (HOD-2, University C)</p> <p>NANDA, Medical Surgical Nursing books, Nursing Care Plan books (L-2, University C)</p> <p>NANDA (HOD-3, University C)</p> <p>Lynda Juall Carpenito-Moyet (L-3, University C)</p> <p>Books (HOD-4, University C)</p> <p>Textbooks and Scientific Journals (L-5, University C)</p> <p>Kozer, Barbara et al., Fundamental of Nursing Textbook, NANDA (L-6, University C)</p> <p>NANDA (L-7, CI-8, and CI-9, University C)</p>
		<p>University D</p> <p>Mostly from NANDA publications, for example, Nursing Diagnosis 2012-2014 (9th Edition), NANDA International (AP/L, University D)</p> <p>NANDA (L, University D)</p>

Table 4.34

Continued

Category	Sub-category	Excerpts
Teaching references	Books	University E
		NANDA book references in library (HOD, University E)
		Gulanick, M. and Myers, J. (2011), Nursing CarePlans: Diagnoses, Interventions, And Outcomes, St.Louis, Elsevier/Mosby,
		Doenges, M., Moorhouse, M. & Mum, A. (2010),Nursing Care Plans: Guidelines for Individualizing Client Care across the Life Span: Philadelphia, PA:F.A.Davis
		Potter, P.A. (2013) Fundamentals of Nursing, St. Lousi, Mo: Elsevier/Mosby (L-1, University E)
		NANDA (L-2, University E)
		Textbooks, Research articles (L-3, University E)
		Fundamental of Nursing Textbook , Research articles (L-4, University E)
		Potter and Perry textbook (L-5, University E)
	Online sources	Books, online (E-books, Journal), YouTube Video (HOD-4, University C)
		Online database, video (L-5, University C)
		ANA Web (L-5, University E)

As mentioned on the above table (4.34), the findings reflect the following main category with two sub-categories for the question no. 1: “What kind of teaching references are you using for application of NPM in your theory and clinical teaching?” Concerning this question, there has only one category “Teaching References” with two sub-categories; “Books” and “Online sources”.

Category 1: Teaching References

This is the first category came out based on question no. 1. Total of 32 out of 50 academic staff with different positions willing to answer the teaching references they applied in NPM application in their teaching practices. Almost of them are

applying nursing process from the books that are directly related with nursing process model/framework and its related application nursing textbooks. Some of them refer from the online sources such as the research articles, journals, videos and databases which are related with NPM.

Sub-category 1.1: Books

Concerning the application of NPM in University A, the HOD also carry out teaching function, the lecturer teach and demonstrate NPM and the clinical instructor take the roles to supervise and guide NPM application in clinical setting. Therefore, three of academic staffs (HOD and two lecturers; L-2 and L-3) are applying NPM in their teaching sessions by using Fundamental of Nursing textbooks which comprised steps of NPM, nursing process textbook and critical thinking books. The clinical instructor (CI-1) also follows the acronyms of nursing process steps ADPIE.

The nursing tutors from University B mentioned that they are applying textbook and theories models (T-2 and T-3), Callista Roy Nursing theorist and Dorothea Orem (T-4), NANDA textbook (T-7, T- 9, T-12 and T-16), Fundamental of Nursing textbook (T-10 and T-15), and T-13 stated that current nursing assessment form is Virginia Henderson 14 Activities of Daily Living. T-6 mentioned that she never teaches NPM in her teaching practice. The nursing tutors take double roles in University B which is teaching in classroom and guiding the student nurses' practice in clinical setting as well.

In University C, the HODs also carry out teaching function, the lecturers teach and demonstrate the application of NPM, and the clinical instructors supervise the student nurses in the clinical settings. They are practicing NPM by applying the books such as NANDA (HOD-3, L-1, L-2, L-7, CI-8 and CI-9), Fundamental of

Nursing textbook (L-7), Medical Surgical Nursing text book which is blended with nursing process approach and Nursing Care Plan book (L-2), and nursing process text written by Lynda Juall Carpenito-Moyet (L-3). However, HOD-1 and HOD-2 mentioned that teaching about NPM is not applicable for them because they are teaching Pharmacology and Physiology.

The lecturer from University D also stated that she applied NANDA and the Associate Professor/Lecturer mentioned that she refer mostly from NANDA publications, for example, Nursing Diagnosis 2012-2014 (9th Edition), NANDA International (AP/L, University D). The HOD and lecturers from University E also mentioned that they are using NANDA (HOD, L-2), Fundamental of Nursing textbook (L-1, L-4 and L-5), Nursing Care Plan book (L-1) and research articles (L-3 and L-4).

Sub-category 1.2: Online sources

The lecturer (L-1) from University A mentioned that she is using books and website as a teaching reference for NPM. The HOD and lecturer from University C also mentioned that they are using online sources concerning NPM such as eBooks, online database, scientific journals, and YouTube video for their teaching (HOD-4 and L-5). The lecturer from University E also stated that they are using ANA website (L-5).

The following table (4.35) is presenting the summarize findings of academic staffs' teaching references while they are teaching NPM.

Table 4.35

Summarizing Teaching references of Academic staff

Category 1: Teaching References	
<u>Sub-category 1.1: Books</u>	<u>Sub-category 1.2: Online sources</u>
Nursing fundamental books	Online E-books and Journals
Nursing process books	YouTube Video
Critical thinking book	Online database
Acronyms of nursing process; Assessment, Diagnosis, Planning, Intervention, Evaluation (ADPIE)	American Nurses Association (ANA) Web
Text book and theories model	
Callista Roy Nursing theorist and Dorothea Orem	
Fundamental of Nursing books	
NANDA	
Nursing diagnosis handbook	
Medical Surgical Nursing books, Nursing Care Plan books	
Textbooks and Scientific Journals	

The next session is presenting the findings of question no. 2.

The findings of 32 academic staffs who have the will to answer question no.2 are shown in the following table (4.36). Based on the essence of question, it is enquiring about how the academic staffs assess/evaluate the student nurses' knowledge and application concerning NPM. Based on the types of assessment/evaluation, the researcher focuses on two types of assessment which are formative and summative. Therefore, the main category for question no. 2 is Assessment/Evaluation of student nurses' knowledge and application concerning NPM and the two sub-categories are formative and summative assessment/evaluation.

Table 4.36

Academic staff's Assessment/Evaluation Methods to the Student nurses (n = 32/50)

Category	Sub-category	Excerpts
Assessment/Evaluation system on NPM for student nurses	Formative	University A
	Assessment/Evaluation	<p>Case scenario, Case presentation, role play, bed-side teaching, ward rounds (HOD, University A)</p> <p>Observe communication, skills during data collection (L-1, University A)</p> <p>Case study presentation through nursing process approach (L-2, University A)</p> <p>Case presentation (L-3, University A)</p> <p>Asking questions, group work and ward rounds (CI, University A)</p> <p>University B</p> <p>Formative assessment will be done during classroom teaching whereby the usage of assessment form will be tested by written exam. (T-2, University B)</p> <p>By using standard care plan and health assessment form. (T-3, University B)</p> <p>Using nursing process assessment form (PPUM & Kolej) (T-4, University B)</p> <p>NPM is assessed as a formative assessment in their clinical practice for year one students while for theory, assessed in both assessments. (T-5, University B)</p> <p>By using the nursing process assessment form. (T-6, University B)</p>

Table 4.36

Continued

Category	Sub-category	Excerpts
Assessment/ Evaluation system on NPM for student nurses	Formative Assessment/ Evaluation	<p>University B</p> <p>Give short answer test for formative (T-7, University B)</p> <p>Test by pen and paper. Test with oral presentation and bed-side teaching/discussion. (T-9, University B)</p> <p>Written examination (pen and paper) in theory. Observation in clinical setting. Observation in oral presentation. Nursing report. Reflective writing. (T-12, University B)</p> <p>Formative assessment for theory by pen and paper test. (T-13, University B)</p> <p>Pen and paper (T-14, University B)</p> <p>Formative assessment for theory by pen and paper test. (T-15, University B)</p> <p>Pen and paper test. (T-16, University B)</p> <p>University C</p> <p>Discussion (L-1, University C)</p> <p>Case study during clinical posting through applying NPM (L-2, University C)</p> <p>Using rubric assessment provided by faculty according to NANDA model (HOD-3, University C)</p> <p>Classroom assessment, group discussion/pair-discussion in classroom, submitting paper or verbally, case study presentation in clinical posting (L-3, University C)</p> <p>Case study, simulation practice, group assignment (HOD-4, University C)</p> <p>Case study presentation, group assignment, problem based learning, simulation practice (L-5, University C)</p>

Table 4.36

Continued

Category	Sub-category	Excerpts
Assessment/ Evaluation system on NPM for student nurses	Formative Assessment/ Evaluation	<p>University C</p> <p>Rubric assessment (L-6, University C)</p> <p>Students will present the findings of NPM for their case study (L-7, University C)</p> <p>University D</p> <p>Case study and group work (AP/L, University D)</p> <p>University E</p> <p>Formative assessment – MCQs, tutorial assignments (HOD, University E)</p> <p>Formative – short answer questions or MCQ (L-3, University E)</p> <p>Formative – MCQs (L-4, University E)</p>
	Summative Assessment/ Evaluation	<p>University A</p> <p>Case report and physical assessment (HOD, University A)</p> <p>Exam question (L-1, University A)</p> <p>Written test (L-2, University A)</p> <p>Case study (CI, University A)</p> <p>University B</p> <p>Summative assessment will be done during posting in clinical whereby student will perform objective and subjective data together with history taking and physical assessment on patient using standard nursing assessment form. (T-2, University B)</p>

Table 4.36

Continued

Category	Sub-category	Excerpts
Assessment/ Evaluation system on NPM for student nurses	Summative Assessment/ Evaluation	University B
		Summative assessment in theory and in practical skills we ask the student to do case study. (T-7, University B)
		Summative assessment for practical skills based on complete nursing assessment using nursing assessment form which comprises of collection data based on interview, physical assessment and data for documentation for example blood pressure result, investigation. All collected data used to formulate actual and potential nursing diagnoses. (T-13, University B)
		Physical assessment on patients and develop the diagnosis according the nursing process. (T-15, University B)
		Summative assessment for skills based on complete nursing assessment using nursing assessment which comprise of interview, physical examination, documentation of data. (T-16, University B)
		University C
		Modified essay questions (HOD-4, University C)
		Through examination (L-1, University C)
		Modified essay questions (L-5, University C)
		University D
		Questions based on nursing process format and practical skill to be performed based on what assessment, planning process in the care plan (AP/L, University D)

Table 4.36

Continued

Category	Sub-category	Excerpts
Assessment/ Evaluation system on NPM for student nurses	Summative Assessment/ Evaluation	<p>University E</p> <p>Summative – MEQ for theory, case scenario, bedside case presentation for practical (HOD, University E)</p> <p>Theory – MCQs, SAQs, MEQ, developing care plan for a specific condition.</p> <p>Practical – case studies, presentation during ward round, bedside presentations. (L-1, University E)</p> <p>Modified essay questions (L-2, University E)</p> <p>Summative – MEQ + MCQs, practical – case scenario and bedside teaching. (L-3, University E)</p> <p>Summative – theory-MEQ, practical-case scenario, bedside teaching (L-4, University E)</p> <p>Theory – through case scenario; Practical – everyday care for patient (L-5, University E)</p>

The second open-ended question no. 2: “How do you carry out formative and summative assessment/evaluation concerning NPM in theory and practical skills?”

Depending on the main essence of this question, it has only one category; “Assessment/Evaluation system on NPM for student nurses” with two sub-categories which are based on the type of assessment/evaluation system in education; “Formative Assessment/Evaluation” and “Summative Assessment/Evaluation”.

Category 2: Assessment/Evaluation system on NPM for student nurses

This is the second category with two sub-categories based on question no. 2. Total of 32 out of 50 academic staff with different positions answered willingly concerning their assessment/evaluation system for student nurses concerning application of NPM. Based on the types of assessment/evaluation, the researcher

separates into two; formative and summative assessment/evaluation techniques in their teaching practice concerning nursing process.

Based on the excerpts, the researcher expresses each university's assessment/evaluation system for their student nurses' knowledge and practice concerning NPM because each academic staff is following their respective university's assessment/evaluation system which is based on their curriculum. However, the researcher will highlight any differences or similarities of assessment/evaluation system among the universities. The followings are the two sub-categories came out from category 2.

Sub-category 2.1: Formative Assessment/Evaluation

Concerning the assessment/evaluation system on application of NPM in Nursing Science Department from University A, HOD mentioned that she assessed the students' understanding and practice through conducting role play, case scenario, case presentation, bed-side teaching and ward rounds. The L-1 also mentioned that she observed the students' communication and skills during data collection. The lecturers also mentioned that they assess the student nurses' knowledge and practice of NPM through conducting case study presentation by nursing process approach (L-2 and L-3). The CI mentioned that she assessed the student nurses' understanding and performance through raising questions, by giving group work and ward rounds.

In University B, T-2 mentioned that formative assessment carry out during classroom teaching and the application of assessment form is tested by written exam. The three tutors stated that they carried out student's assessment/evaluation by using standard care plan, health assessment form/nursing process assessment form (T-2, T-3 and T-4). One tutor (T-5) explained that both formative and summative assessment

carry out for first year students. Total of six tutors mentioned that they assessed the students' level of understanding through conducting short answer test (T-7), and pen and paper test (T-9, T-12, T-13, T-14, T-15, T-16). Furthermore, one tutor stated that she observe the student nurses' oral presentation in clinical setting, nursing report and reflective writing (T-12).

In University C, HOD-3 and one lecturer (L-6) mentioned that they are using rubric assessment given by the faculty according to NANDA model. The L-1 mentioned she assess the students by doing discussion. The L-2 stated she assess the students by asking them to do case study during clinical posting through applying NPM. The HOD-4 mentioned that she carries out student assessment/evaluation through giving case study, simulation practice and group assignment. The L-3 stated that she performed classroom assessment, group discussion/pair discussion in the classroom, submitting paper or asks the student to present verbally, and case study presentation in clinical posting. The L-5 also mentioned that assess/evaluate students through case study presentation, group assignment, problem based learning and simulation practice. The CI-7 stated that she asked the students to present the findings of their case study by applying NPM to assess/evaluate their application.

In University D, the AP/Lecturer mentioned that she assessed the students through giving case study and group work. In University E, HOD mentioned that she used multiple choice questions and tutorial assignments to assess/evaluate the students. The L-3 stated she used short answer questions or multiple choice questions, and L-4 mentioned that she used multiple choice questions for her assessment/evaluation for students.

Therefore, concerning formative assessment/evaluation, they are practicing case study presentation, group and/or pair discussion, written test, presentation and performance in clinical posting, conducting role play, giving case scenario, bed-side teaching and ask student to present by applying NPM. It means that they are using some of formative assessment techniques such *conferences* by conducting discussion (group and/or pair discussion), *observations* in their case study presentation, during bed-side teaching and conducting case scenario, *questions and answers sessions* such as giving short answer test format and pen and paper test, *quizzes* such as using multiple choice questions concerning NPM. The next session is presenting summative assessment/evaluation practice of the academic staffs.

Sub-category 2.2: Summative Assessment/Evaluation

As mentioned above, summative assessment is an end point to sums up the performance or learning level of the students' achievement. According to the excerpts answered by HOD from University A, she used to conduct summative assessment by evaluating the case report and physical assessment performed by student nurses. The L-1 mentioned that she carried out summative assessment through exam question and L-2 also mentioned that she conducted written test to carry out summative assessment and the clinical instructor stated that she performs summative assessment for student nurses through their case study.

In University B, one tutor explained that “summative assessment will be done during posting in clinical whereby student will perform objective and subjective data together with history taking and physical assessment on patient using standard nursing assessment form (T-2)”. Another tutor mentioned that “summative assessment in theory and in practical skills we ask the student to do case study (T-

7)”. The other tutor expressed that “summative assessment for practical skills based on complete nursing assessment using nursing assessment form which comprises of collection data based on interview, physical assessment and data for documentation for example blood pressure result, investigation. All collected data used to formulate actual and potential nursing diagnoses (T-13)”. The T-15 stated that she performed summative assessment by checking physical assessment on patients and develops the diagnosis according the nursing process. The other tutor mentioned that “summative assessment for skills based on complete nursing assessment using nursing assessment which comprise of interview, physical examination, documentation of data (T-16)”.

In University C, HOD-4 and L-5 mentioned that they are using modified essay questions as a summative assessment to carry out the evaluation. The L-1 also mentioned that they are assessing the student nurses’ application of NPM through examination. In University D, the AP/L stated concerning summative assessment for application of NPM of student nurses as “questions based on nursing process format and practical skill to be performed based on what assessment, planning process in the care plan”.

In University E, HOD mentioned that she is using Modified Essay Question (MEQ) as summative assessment for theory and case scenario, bed-side case presentation for practical summative assessment. The L-2 also mentioning that she used MEQ as a summative assessment for the student nurses. The L-1 stated that she used to assess Multiple Choice Questions (MCQs), Short Answer Questions (SAQs), MEQ and ask to develop nursing care plan for a specific condition to assess theory and used case studies, presentation during ward round, bed-side presentation for assessing their application. The L-3 also mentioned that she used MEQ, MCQs for theory assessment and case scenario and bed-side teaching for practical. The L-4 also

mentioned that she use MEQ for theory assessment and case scenario and bed-side teaching for practical. The L-5 also stated that she used case scenario to assess theory and assess every care for patient as a practical summative assessment.

Conclusively, all the academic staffs are doing their summative assessment according to the above mentioned summative assessment examples such as *chapter/unit tests* by using MEQ, SAQ, MCQs and through examination to assess theory and evaluating their application through applying case scenario, *performances* through assessing bed-side presentation, physical assessment and ward rounds, and *final copies* such as assessing their case report and case studies. Each university's ways of assessments are mostly the same and cover the formative and summative assessment in similar manners. The following table (4.37) is presenting the summarize findings of academic staffs' assessment/evaluation system of student nurses concerning NPM.

Table 4.37

Summarize findings of Academic staffs' Assessment/Evaluation system concerning NPM

Category 2: Assessment/Evaluation system on NPM for student nurses	
<u>Sub-category 2.1:</u>	<u>Sub-category 2.2:</u>
<u>Formative Assessment/Evaluation</u>	<u>Summative Assessment/Evaluation</u>
Case study presentation	<i>Chapter/unit tests</i> by using MEQ, SAQ, MCQs through examination to assess theory
Group and/or pair discussion	evaluating their application through applying case scenario
Written test	<i>Performances</i> through assessing bed-side presentation, physical assessment and ward rounds
Presentation and performance in clinical posting	<i>Final copies</i> such as assessing their case report and case studies
Conducting role play	
Giving case scenario	
Bed-side teaching	
Ask student to present by applying NPM	

The following session is presenting the findings of question no. 3.

Based on the essence of question, it is enquiring about how the academic staffs match/translate the NPM theory to practice. Based on the excerpts answered by the academic staff, one category which is “ways of matching/translating theory into practice” came out. The following Table (4.38) illustrates the findings of academic staff question no. 3. Total of 36 academic staff from different positions willing to answer the question and the findings are as follow:

Table 4.38

Academic staff's Ways of translating NPM theory to practice (n = 36/50)

Category	Excerpts
Ways of matching/translating theory into practice	<p>University A</p> <p>Care plan, ward rounds, case presentation, case scenario, role play, bed-side teaching (HOD, University A)</p> <p>Case study (L-1, University A)</p> <p>Tell the students to select the case/patient in ward, interview to gather data and formulate nursing diagnosis, planning nursing intervention and evaluation. (L-2, University A)</p> <p>Through assessment (L-3, University A)</p> <p>Explanation, case study and group work (CI, University A)</p>
	<p>University B</p> <p>Use the NPM theory and practical in real patient in clinical base/setting with the strong and enough practice performed by the tutor in classroom. (T-2, University B)</p> <p>By doing bed-side teaching so it more focused on individual care of client in clinical setting (T-3, University B)</p> <p>Nursing process assessment form and nursing care plan in clinical. (T-4, University B)</p> <p>Apply NPM in the real world of patient care setting and assess their competencies in understanding the model. (T-5, University B)</p>

Table 4.38

Continued

Category	Excerpts
Ways of matching/translating theory into practice	<p>University B</p> <p>By using the nursing process assessment form and nursing care plan in clinical. (T-6, University B)</p> <p>During bed-side teaching, ask student to formulate nursing diagnosis then implement the care. (T-7, University B)</p> <p>Use some of nursing theory such as Henderson 14 ADL and Gordon nursing theory. Both of this nursing theory can be apply to all patient care in any unit. (T-9, University B)</p> <p>Student had their theory in the classroom. Nursing tutor in-charge in the clinical practice will show them how to apply the NPM based on client's problem. (T-10, University B)</p> <p>The students carry out the same manner as in written (theory) and should apply in practical area. (T-12, University B)</p> <p>Using the student nursing assessment form which contains patient's particulars, mode of admission, current complaint, past medical and surgical history. Physical assessment from head to toe, mobility, hygiene, elimination, diet and sleeping pattern. Based on data find out, actual and potential problems. Set objectives and plan intervention. Followed up evaluation. (T-13, University B)</p> <p>Physical assessment from head to toe. Based on data, actual or potential problems, set objectives, planning the intervention and do the evaluation. (T-16, University B)</p> <p>University C</p> <p>The students just copy the previous nursing process or the nurses instruct them to write or copy from their work/report. (L-1, University C)</p> <p>Use NPM in case study, relate the pathophysiology of a disease and management to incorporate into NPM (L-2, University C)</p>

Table 4.38

Continued

Category	Excerpts
Ways of matching/translating theory into practice	University C
	Based on case study/Problem based Learning (PBL) (HOD-3, University C)
	Ask them to identify nursing diagnoses based on assessment; priority nursing problems are identified, nursing intervention with rationale. (L-3, University C)
	Case study presentation, Log book, reflective writing (HOD-4, University C)
	Reflective presentation, case study, Log book (L-5, University C)
	Case study, Problem based learning (L-6, University C)
	Using template and follow their template (L-7, University C)
	By following SOP and guidelines (CI-1, University C)
	Follow SOP and guidelines (CI-2, University C)
	Bed-side teaching (CI-4, University C)
	Application in practicing in lab and bed-side teaching when practice in ward. (CI-6, University C)
	According to patient condition and progress of the disease (CI-8, University C)
	University D
	Ask students to do their care based on NPM. Assessment based on NPM. (AP/L, University D)
	Use NPM in clinical assignment (L, University D)
	University E
	Application of nursing process during bedside teaching/case presentation (HOD, University E) During classroom teaching, the NPM theory is taught and discussed, the students write up the care plan to be presented in classroom. (L-1, University E)
	During clinical posting, the same care plan is done for the patient, this time being real problems of the patients. Students can see whether what they learned in classroom can be applied, how to apply and if necessary how to modify the care plan to suit the individual patient. (L-1, University E)

Table 4.38

Continued

Category	Excerpts
Ways of matching/translating theory into practice	<p>University E</p> <p>Bedside case study presentation, case study assignment according to designated system, students required to provide all actual and potential nursing diagnosis, then prioritize, select at least two and develop a nursing care plan according to the framework. (L-2, University E)</p> <p>Based on cases and bedside teaching. (L-3, University E)</p> <p>Using case's in the hospital as case scenario or bedside teaching. (L-4, University E)</p>

The third open-ended question no. 3: "How do you match/translate NPM theory and practical in the student' clinical posting?"

Based on the excerpts shown in Table (4.38), the researcher expresses the ways of matching/translating which means how they teach the student nurses concerning application of NPM.

In Nursing Science Department of University A, HOD mentioned that they match NPM theory into practice through care plan, ward rounds, case presentation, case scenario, role play, and bed-side teaching. The two lecturers mentioned that they are using case study method (L-1) and through conducting assessment (L-3). The L-2 stated that "tell the students to select the case/patient in ward, interview to gather data and formulate nursing diagnosis, planning nursing intervention and evaluation. The clinical instructor also stated that she match theory into practice though explanation, case study and group work.

In University B, one tutor mentioned her way of matching in real patient setting as “use the NPM theory and practical in real patient in clinical base/setting with the strong and enough practice performed by the tutor in classroom (T-2)” and the other tutor also stated as “apply NPM in the real world of patient care setting and assess their competencies in understanding the model (T-5)”. One of the tutors also stated she is focusing individual care of patient in clinical setting through conducting bed-side teaching as “by doing bed-side teaching so it more focused on individual care of client in clinical setting (T-3)”.

The four tutors from University B also stated that they match the student nurses concerning NPM theory to clinical practice by using nursing process steps as “nursing process assessment form and nursing care plan in clinical (T-4)”, “by using the nursing process assessment form and nursing care plan in clinical (T-6)”, “using the student nursing assessment form which contains patient’s particulars, mode of admission, current complaint, past medical and surgical history. Physical assessment from head to toe, mobility, hygiene, elimination, diet and sleeping pattern. Based on data find out, actual and potential problems. Set objectives and plan intervention. Followed up evaluation. (T-13)”, and “physical assessment from head to toe. Based on data, actual or potential problems, set objectives, planning the intervention and do the evaluation (T-16)”.

Furthermore, the tutor from University B stated that she match and evaluate through bedside teaching and raising the questions as “during bed-side teaching, ask student to formulate nursing diagnosis then implement the care (T-7).” Concerning application of theories related to implementation of NPM, one tutor stated as “use some of nursing theory such as Henderson 14 Activities of Daily Living (ADL) and Gordon nursing theory. Both of this nursing theory can be applied to all patient care

in any unit (T-9).” Concerning who is taking responsibilities of student nurses’ application NPM, T- 10 mentioned as “student had their theory in the classroom. Nursing tutor in-charge in the clinical practice will show them how to apply the NPM based on client’s problem.” Another tutor stated her concern that the theory they learned should apply in the practice in the same way as “the students carry out the same manner as in written (theory) and should apply in practical area (T-12).”

In University C, two HODs (HOD-3 and HOD-4) and two lecturers (L-5 and L-6) mentioned that they are matching NPM theory and practice through case study, Problem based Learning (PBL), case study presentation, Log Book, and reflective presentation, reflective writing. Two lecturers stated that they are matching NPM theory and practice through relating the disease and its management with NPM as “use NPM in case study, relate the pathophysiology of a disease and management to incorporate into NPM (L-2)”. The other lecturer also stated that she raise questions relate with the steps of NPM as “ask them to identify nursing diagnoses based on assessment; priority nursing problems are identified, nursing intervention with rationale (L-3).” The L-7 also stated that she followed the template taught in the classroom for her translation of theory into practice.

The CI-1 and CI-2 from University C also mentioned that they followed the Standard Operating Procedure Guidelines. The CI-4 also mentioned that she match NPM theory into practice by conducting bed-side teaching. The CI-6 mentioned that she translate NPM theory to practice in the clinical laboratory and also in the ward as “application in practicing in lab and bed-side teaching when practice in ward.” The CI-8 stated that she match theory and practice according to the patient condition and the disease progress. However, one lecturer mentioned about copying of previous NPM while applying NPM in the clinical setting as “the students just copy the

previous nursing process or the nurses instruct them to write or copy from their work/report (L-7).”

In University D, the AP/L stated that she matches theory into practice through asking the students to apply NPM and her assessment is based on NPM as “ask students to do their care based on NPM. Assessment based on NPM. The lecturer from University D also mentioned that she match theory and practice through using NPM as clinical assignment.

The HOD from University E mentioned that she apply nursing process through conducting bed-side teaching/case presentation. One lecturer separately mentioned how she translate during classroom teaching and clinical setting as “during classroom teaching, the NPM theory is taught and discussed, the students write up the care plan to be presented in classroom. During clinical posting, the same care plan is done for the patient, this time being real problems of the patients. Students can see whether what they learned in classroom can be applied, how to apply and if necessary how to modify the care plan to suit the individual patient (L-1).”

In addition, one lecturer of University E explained how she translates according to the designated system and her ways of matching as “bed-side case study presentation, case study assignment according to designated system, students required to provide all actual and potential nursing diagnosis, then prioritize, select at least two and develop a nursing care plan according to the framework (L-2).” The L-3 also mentioned that she conducts bed-side teaching based on cases to match theory and practice and the L-4 stated she is using cases in the hospital as case scenario or bed-side teaching.

Based on the above mentioned clinical teaching strategies, the ways of matching/translating of academic staffs from five different universities practices most of the strategies such as clinical learning assignments by giving case studies based on NPM, self-directed learning through asking the student nurses to apply and reflect NPM in their case studies and while providing nursing care, clinical simulation such as giving practice by case scenario in the clinical laboratory, virtual reality by conducting bed-side teaching and ward rounds, discussion and conference through conducting case study presentation, bed-side teaching and raising questions in matching NPM theory into practice. The following table (4.39) is presenting the summarize findings of academic staff's ways of matching NPM theory to practice.

Table 4.39

Summarizing the Academic staff's Ways of matching NPM theory to practice

Category 3: Ways of matching/translating theory into practice
<ul style="list-style-type: none"> - Clinical learning assignments by giving case studies based on NPM - Self-directed learning - Clinical simulation such as giving practice by case scenario in the clinical laboratory - Virtual reality by conducting bed-side teaching and ward rounds - Discussion and conference through conducting case study presentation, bed-side teaching and raising questions in matching NPM theory into practice.

The next session, session two: part two is presenting the findings of the academic staffs' impression towards NPM, its application and implementation process.

Phase Two: Part Two – Findings of Academic Staff's Impression towards NPM, Application and Implementation Process. This session is presenting the findings of the last three open ended questions. The first question is inquiring about their overall opinions and comments upon the strengths and weaknesses of NPM application in their teaching practices on both theory and practical. Total of 36 academic staff out of 50 from five different universities are willing to answer this question. Based on the essence of this question and their answer excerpts, the following category came out.

Category 1: Strengths and weaknesses of NPM and application

Based on the excerpts concerning the overall opinion and comments upon NPM application, the academic staffs from Nursing Science Department of UM stated that it is a powerful tool, systematic, client centered, continuity of care and not very sure whether it is standard for care or not, comprehensive, can identify the patient's problems, can identify the patients' needs and deliver appropriate care, *however*, it is time consuming to carry out the steps of NPM such as "systematic, client centered, continuity, standard? for care (HOD, University A)", "consuming time to identify nursing care plan by doing comprehensive assessment (L-1, University A).", "nurses ask to identify the problems and patients' needs and deliver appropriate care, *however*, time consuming to gather data and documentation (L-2, University A)." "Systematic, but, time consuming (L-3, University A), and "nursing care become more effective, *however*, time consuming (CI, University A)."

The tutors from University B also pointed that NPM is a good tool, two way communication tool, powerful tool, evidence based practice, able to recognize clients' problem and how to solve the problems, continuity of care, good in learning

theory, nursing care more systematic and can make a better care to an individual patient as “it is a powerful tool to educate the students to understand the art and science of nursing (T-5, University B).”, “practicing evidence based practice and can prove what the nurses have done during their duty. (T-6, University B).”, “we can see the students’ understanding on NPM and able to recognize clients’ problem and how to solve the problems by using NPM. (T-10, University B).”, “NPM can make nursing care more systematic and can make a better care to an individual patient (T-15, University B).”, “it is a good tool used by student and nurses in clinical base, which cover all aspect of a patient from the day one of admission until discharge. It is a really two way communication tool in nursing practice (T-2, University B).” and “the using of NPM can make nursing care more systematic (T-15, University B).”

However, some of them also pointed concerning the time to applied NPM as it is time consuming, time constraint in the practice settings to do many paper works and cannot focus to carry out the correct NPM as “NPM are not actively applied due to the time consuming in filling-up the various forms and aspect in NPM itself (T-3, University B)”, “Time constraint. Care first then write up (T-4, University B).” and “...however, too many nursing forms end up nurses have not time to do the paper/correct NPM (T-6, University B).”

Furthermore, the three tutors from University B also mentioning about the clinical learning setting which is the place where the student nurses suppose to practice NPM. She stated that some wards develop a general care plan which can be used for every patient to save their time even NPM is focusing on individualized nursing care as “some wards develop a general care plan which can be used for every patient and to save their time, which only need tick on the relevant statement that depend on patient’s condition (T-7, University B).” The other two added the reasons

of gap on supervision of staff nurse as “good in learning theory but need more improvement in clinical setting, because no proper guidance from the staff in the ward (T-14, University B).” and “nursing process approach has been taught in the classroom and it is the responsibilities of each staff to practice in the clinical area. May be it is the attitude of the staff that make them to just ignore about NPM (T-11, University B).”

In addition, concerning the model they are using to apply NPM, one tutor from University B also mentioned that some model only focus to certain environment not really suit to the environment now and many theories make very broad concepts for the students and the students lost their focus as “should need to understand the concept of introduce the model by nursing theorist. Some model only focus to certain environment not really suit to the environment now. Students need to study a lot about the nursing theories – broad to some of students’ especially basic nursing student (T-9, University B).”

Additionally, the three tutors from University B also explaining about some constraints in the clinical learning area concerning failure to apply nursing process steps due to the attitude and less critical thinking of staff nurses, and unfavorable condition in the clinical setting as “not all nursing diagnoses for a particular patient was stated in the nursing care plan. Only the high risk/actual problem were stated. Minor problems were not been reinforced therefore some are miss look (T-12, University B).”, “every ward has a template nursing diagnosis with specific problems to save time and energy. However, nurses lack of identifying the actual problem using critical thinking based on other general current problem (T-13, University B).” and “each ward has a nursing diagnosis with specific diagnosis related to discipline,

however, nurses having lack of skill on identifying actual using critical thinking. All diagnosis is prepared (T-16, University B).”

In University C, most of the academic staffs are mentioning about theory aspects and practical gap, and the weaknesses when they apply NPM in real clinical settings. Almost all academic staffs stated that theory knowledge is complete as “In theory, all the information is given to students to learn and apply the nursing process. They managed to answer regarding nursing process in the examination (L, University C).”, “NPM taught as a theory may be good to make nursing care as a clear process and steps (L, University C).”, and “Theory setting complete in knowledge (HOD & L, University C).” In addition, one HOD, two lecturers and one clinical instructor mentioned that NPM focus on specific patient’s needs and problems, and students more focus on patient-centered care.

However, according two lecturers’ expression, NPM application in clinical setting is not functioning in a correct way. One lecturer pointed how nurses are applying NPM in the clinical setting as “In clinical setting, the nurses just copy previous nursing process without thinking whether it is applicable for that patient (L-1, University C).” In addition, another lecturer’s opinion added the same flow about how nurses are practicing NPM as “...but, in clinical setting, it is not as practical nurses are not following or doing what was in the nursing process. Instead they use the nursing report more as evidence for them at what they were doing/procedure done during their shift (L-2, University C).” This lecturer also convinced that nursing process can be used as nurses’ report in spite of using current nursing report system to avoid any missing data in current report as “nursing process may be simplified that it can be a substitute for a nursing report. So, there will be no redundancy in nurse’s report (L-2, University C).” In addition, one clinical instructor shared her experience

in clinical setting concerning the reason of ineffective application on NPM and the importance of critical thinking to apply NPM as “most of nurses are not know the main problem of patients to do a nursing process. Critical thinking one is the most important in doing nursing process (CI-6, University C).”

One HOD, and two lecturers mentioning about the time constraint and time consuming, workload and much paper work while applying NPM in clinical setting as “time consuming, too much paper work/documentation (HOD-3, University C)”, “...however, it is too much documentation, time consuming and burden workload (L-6, University C)”, and “nurses alert for patient’s need, however, time consuming (L-7, University C).”

Concerning the application of NPM in the student nurses’ clinical learning setting, the HOD, two lecturers and one clinical instructor mentioned about theory practice gap, and everybody need to know and accept the change to improve application of NPM in practical settings as “theory and practical are still a gap. Everybody needs to have “the need for change” especially the management/nurse manager, reward or appreciation should be given to those who are practicing (L-3, University C).”, “....however, clinical setting rarely apply (HOD-4, University C).”, “transforming to clinical setting is very poor (L-5, University C).”, and “practical with simulation have a pro and cons. Nursing should be more practical in a real situation (for example; give more extra hours and time in clinical area) (CI-1, University C).”

In University D, the associate professor also said that student learn about individualized nursing care plan, however, the time allocated cannot enough to prepare for every patient as “students learn how to do individualized care plan, *however*, time constrains may make it difficult for students to have care plan done for

each patient allocated.” The lecturer from University D also mentioned her opinion that if they understand very well about NPM and have positive attitude, it can be very helpful as “it is useful if people understand how to use and appreciate it.”

In University E, most academic staff stated NPM as “effective way to provide continuous effective nursing care (HOD)”, “it provides care tailored to an individual, client is active participant, continuity of care and changes depend on the client’s response to treatment, provides effective communication among nurses and other health care workers (L-3)”, “can be very useful especially for beginner nurse to care for their patient effectively (L-4), and “a quick management of patient (L-5)”.

However, HOD said no proper guide or application to apply NPM, L-3 mentioned it is time consuming and L-5 said student need guidance. One lecturer mentioned concerning the gap between theory and practice due to inadequate administrative supportive system even the students are doing well in theory as “it can be taught very well in classroom but in clinical application is not complete due to administrative system which is not supportive. Students seem to forget the model once they streamline to the administrative system in the ward. Students also find it difficult to write proper care plans despite doing it very well in theory (L-1, University E).” One lecturer said NPM does not cover holistic care as “...however, it does not cover all aspect of care and needs of a specific patient. It is difficult to apply especially for emotional need as every patient’s emotion is different (L-4).”

Conclusively, their opinions upon the strengths of NPM are; it is systematic, client centered, continuity of care, more effective in providing care, a good tool, two way communication tool, powerful tool, evidence based practice, able to recognize clients’ problem and how to solve the problems, individualized plan of care, and provides effective communication among nurses and other health care workers.

However, there have some difficulties while applying it in practical settings such as time constraint, time consuming, too much paper work/documentations/forms to complete, no proper guide or application to apply NPM, unfavorable learning climate such as workload, cannot have support from staff in the unit, inadequate administrative support, the academic staffs themselves must be knowledgeable about it, everybody need to have the change concepts, the staffs in clinical setting should have willing to apply and should practice critical thinking process to apply NPM fully. Moreover, some to them suggested that theory practice translation is needed to improve more to fill the gap. The next session is presenting the findings of question no. 2.

2) “Do you think that application of nursing process in teaching and clinical session is needed to improve? If “yes”, what are your suggestions to improve its application in both theory and practice?”

According to the answers of 34 academic staffs from five different universities, all of them say “yes” which means that implementation on application of NPM is needed to improve. Based on the excerpts of their suggestive answers, there are 9 sub-categories under category 1. The detail expressions are as followed.

Category 1: Highlights to move forward

To overcome the present situation mentioned above and to improve the application, 34 academic staffs with different positions from five different universities suggested the necessary points from their point of view. Depend on their views upon current scenario in implementation on application of NPM, the essence of their highlights are; needed to raise knowledge level and awareness and change

attitude, application of NPM must be realistic, practical based and hands-on, need standard guidelines, make it simple and give proper guidance, conducting refresher course for those who are not in touch with NPM, collaboration among nurses and other health care professionals to help each other to apply NPM properly, need to motivate nurses by recognition and encouraging, prompt monitoring, and find out and accept concerning why it is fail to apply. Based on these points, the researcher presents the following 9 sub-categories.

Sub-category 1.1: Raise knowledge, awareness, and change attitude

The lecturer from University A and University C, three tutors from University B highlighted that nurses in both teaching and practical settings need to improve knowledge and awareness concerning application of nursing process and need the real concern of authority person upon application process as “Lecturer must be knowledgeable towards theory and implementation of NPM (L-1, University A)”, “Very few places are applying nursing process. It needs to be improved. A lot of awareness about it is needed. Upgrading the knowledge of the hospital staffs, encouraging them to practice, changing the attitude of authority person to all is needed. Need to raise awareness, changing attitude of nurses, research pointing out that “the benefit of nursing care plan in patient care” have to be conducted more (L-3, University C).”

In addition, the tutor from University B highlights that student nurses and nurses also need to raise their knowledge, attitude and practice through more awareness, think properly and willing to apply as “all student nurse and nurses must know the basic concepts of the theories. Application to suitable place. Keen to do

documentation and assessment in proper way. Know basically how to do physical assessment to the patient (T-9, University B).”

Additionally, the two tutors suggested that the way of teaching is needed to focus more on changes of the client’s complaint, not to too much rely on the already prepared nursing diagnoses and must have the skills to identify the appropriate nursing diagnoses depend on the client’s changes as “nurses must be taught to/create more awareness to assess the current complaint and not being stereotype. Avoid generalize all the patients in one ward using the template provided (T-13, University B)”, and “nurses must be taught to have awareness to over the current situation or problems on their patients. Even though there is template available for nursing diagnosis; nurses need to have skill in diagnosing not being stereotype (T-16, University B)”.

Sub- category 1.2: Realistic, Practice based and Hands-on

The HOD, lecturer and clinical instructor from University A, tutor from University B, and AP/L from University D highlighted upon the teaching learning practices as theory and clinical teaching should be meaningful and realistic manner which means it must be illustrated, practical based and hands-on, need to practice more while providing nursing care as “...to use case study/ examples to illustrate application (HOD, University A).”, “Need to be practice based (L-3, University A).”, “Utilize more nursing process in providing nursing care (CI, University A).”, “Using case study so that each disease condition is taught “with a face” and application of NPM is more meaningful (AP/L, University D).”, “It should have hands on practical session whereby after the class may be the student needs to go to clinical area and

apply straight away so that they will understand the need/purpose of learning NPM (T-11, University B).”

In addition, the three clinical instructors from University C mentioned that practical based practices should be taught since teaching theory and make it real before the student nurses go into the clinical settings as “It should be implemented during class and must be realistic (CI-3).”, “It should be implemented during class. Not just give title of nursing process (CI-4).” and “students must learn in class before implement to a patient in clinical setting/hospital (CI-6)”.

Sub- category 1.3: Standard guidelines

Basically, according to the steps of NPM, the first step is assessment which needs to choose the theory or model to carry out this step (detail discussion of common theories and models used to implement NPM is in chapter 2). It is an important step to precede the next steps. Therefore, the standard guidelines/standard assessment theory/model to perform assessment step are an important issue. The lecturer from University A mentioned that a standard guidelines and assessment form are needed as “Need to have a standard guidelines and model, standard assessment form to reduce writing (L-2, University A).” In addition, the lecturer from University E discussed that the steps of NPM is not need to improve, however, how to apply this steps to different nature of patients is needed to explained more as “Process no need to improve, but how it’s done on different types of patients should be stepped-up/elaborated (L-5, University D)”. The tutor from University B also suggested to standardize simple form suit to every setting as “May be simple diagnosis could write up in simple form and must be standardized it to every setting by using abbreviation and must be understood by every people (T-12, University B).”

Sub- category 1.4: Simplified integrated checklist and proper guidance

Concerning the structure and application of NPM, the HOD, three lecturers from University C, three tutors from University B stated that the steps of NPM should be simple, integrate and need the simple checklist form which can help nurses' documentation purpose, proper guidance on how to apply and want less paper work as "Simplified checklist for nursing process (HOD-3, University C).", "Simplified the nursing process by using checklist (L-6, University C).", "It should be simplified and integrated in the nursing report. So, there not many documentation for nurses and still there is documentation (L-2, University C).", "Need paper less (L-7, University C).", "Proper guidance is needed and simplifies the NPM (T-4, University B).", "Simplify the process in clinical practice sessions (T-6, University B).", "Make it more simplicity (T-15, University B)".

Sub- category 1.5: Training, Continuing Nursing Education and Refresher course

While introducing the new policy to apply nursing education and practice updates, conducting some kind of seminar, workshop, conference, training or short courses and continuing education program are needed to carry out (detail discussion about educational change theory in chapter 2). The lecturer from University A mentioned that "Need to have a nursing process action team to do audit and training (L-2, University A). The two tutors from University B and lecturer from University D mentioned that those who nurses qualified before 1990 are not familiar with NPM as "not all nurses are exposed with NPM especially those who are very senior for example; those who are qualified as RN before 1990 (T-3, University B).", and "Continuous education on nurses using nursing process need to be done (T-16, University B)." The lecturer from University D suggested that yearly or two yearly

refresher courses should have for implementation of NPM “To have refresher course for all nurses yearly/2 yearly to update on latest nursing diagnoses and its intervention as the old time nurse may have lost touch (L-4, University D).”

Sub- category 1.6: Inter- and Intra-professional Collaboration

As mentioned by the tutor from University B in the above sub-category 1.5, those senior nurses who qualified before 1990 and those nurses who did not have any continuing professional nursing education, it is not only needed refresher course but also need collaborated working relationship with those nurses who are familiar and can practice NPM correctly. One of the tutors from University B mentioned that to improve the implementation process of NPM, need to help nurses on how to apply NPM in their daily care as “If we assist the nurses on how to implement NPM in their daily work (T-7, University B).” In addition, the other tutor from University B also stressed that the understanding of other health care professionals also necessary to improve implementation of NPM as “Need support from other health care provider to understand the need of NPM and together enhance to importance of NPM for better patient’s care (T-2, University B).”

Sub- category 1.7: Recognition, Encouragement, Empowerment and Motivation

Encouragement, recognition, appreciation are the motivation factor that improve the implementers’ willingness to carry out certain kind of intended goal. To succeed the implementation of NPM application, motivation to the implementers is the necessary points to inspire what the policy makers want to be. Concerning motivation to the nurses in all sectors, especially in the clinical setting, the HOD and lecturer express their opinion as “to improve its application; just maintain the present

situation which means curriculum, MQA criteria in theory side. From practical side, strongly motivate the staff to apply in caring patient (for example-set to put one criterion in KPI) (HOD-4, University C), “The sense of recognition or encouragement should be given to those who start the process. (L-3, University C).”

In addition, tutor from University B also mentioned that well understanding concerning NPM and, the motivation/empowerment from ward managers is needed to improve the implementation of NPM as “empowered/motivation from ward managers, managers must be well verse with nursing process (T-13, University B).” Additionally, the other tutor explaining about the important role of nurse managers in implementing NPM such as negotiating, managing, and giving appropriate knowledge concerning NPM, empowering and monitoring as “Nurse manager need to negotiate their subordinates to use and apply nursing process, nurse manager need to be given appropriate knowledge on nursing process so she/he can highlight to their nurses, nurse manager can empowered other nurses who good in nursing process to help in monitoring usage of nursing process among the ward nurses (T-16, University B).”

Furthermore, one tutor from University B also highlighted that higher organization level support is needed to improve as “Need more support from the higher organization level to improve the NPM application to enhance our patient care system (T-5, University B).” Additionally, the T-5 and another tutor also stressed that need to encourage the educators and student nurses concerning the importance of NPM application as “More teaching, supervision, encouragement should be stressed by the educators on the importance of NPM application in patient care (T-5, University B).” and “Need more and more teaching and encourage student the important when this NPM is applied during patient’s care (T-2, University B).”

Sub- category 1.8: Close Monitoring

Monitoring is the necessary steps in any implementation process to check whether it is improved or need to improve (detail discussion about monitoring and evaluation in chapter 2). In implementation of NPM application, the lecturer from University A, University D, University C, University E, HOD from University E and three tutors from University B discussed about monitoring the daily activities of students nurses at all levels and nurses in the clinical setting. In addition, they are suggested concerning auditing by action team for NPM application, regulatory body to check the progress of application process and conducting workshop to find out whether it is improving or fail in implementing process. The following excerpts of them are expressing all these facts.

“Need to have a nursing process action team to do audit and training (L-2, University A).”, “Have workshop to understand the reasons for failing to use the NPM (L, University D).”, “It has to be improved in application process, especially in clinical setting. The hospital management is the responsible person for it. They have to closely monitor the staff nurses whether they are utilizing the nursing process in their daily care to patients (L-5, University C).”, “It must be assessed the application in every level/years of student by using the standard assessment form according the organization need (T-2, University B).”, “Each level of students needs to be evaluated in any form of NPM application in patient care (T-5, University B).”, “Ward managers must be passing report based on SBAR (situation, background, assessment, recommendation) technique aggravate the use of nursing process(T-13, University B).”, “Continuous monitoring of its application (HOD, University D)”, “To have a body to monitor the application of this nursing process continuously to maintain its standard and uniformity (L-4, University D).”

Sub- category 1.9: Why it is fail and How to improve

Two issues; time consuming and too much writing for documentation that make fail to apply NPM are pointing out by two tutors from University B. They mentioned that to overcome time consuming, need improvement in documentation through supplying the necessary resources such as make it easy to access online, technology support such as providing computer, and Tablet in the clinical setting as “Especially in clinical practice, our nurses were not documented properly because of time consuming. May need to improve in term of documentation. NPM should be online and easy for the nurses to access. Resources such as computer, Tablet should be provided to the ward (T-10, University B).”, “Theory not much to say, but, in practice some may not be able to write up because too much to write (T-12, University B).”

In addition, the lecturer from University D mentioned about when did NPM introduced, why it was fail as “Since the inception of NPM more than 20 years ago till now, I have not seen any hospital in Malaysia applying the model fully. Every manager wants to apply it, but, there are many set-books that do not allow it to happen, the student nurses can be taught the perfect NPM but in clinical it is difficult due to many reasons. It just seems not practical when the ward is so busy and the nurses are burned (L-1, University D).”

The next session is presenting the findings of the following question no. 3.

3) “Do you think that application of nursing process in teaching and clinical settings are successful? If “yes”, what are your opinions that what factors that support you to get succeed. If “no”, what are your opinions that what factors hinder you to apply nursing process?”

Total of 29 academic staffs of different positions from five different universities are willing to answer. According to the essence of question, 16 of them say “no” which means the application of NPM did not succeed. Three of them say “yes”, another one says “yes in certain extent”, 5 of them say “yes” in theory teaching, 4 of them neither “yes” or “no”, however, they suggested ways to improve implementation process. Therefore, based on their answers, there have the following two categories. The detail descriptions are as follow:

Category 1: Promoting factors

With the support on the answers of HOD, Nursing Science Department from University A and tutor from University B, giving enough time to apply what they learned in theory, those who are expert in teaching about NPM, the support of teaching sector and the nursing administration which all are the promoting factors to the successful implementation of NPM as “Yes. Enough time allocated to practice what was taught. Having model which means has someone championing the use of nursing process (HOD, University A).” and “We have good support from the college and the nursing admin. (T-14, University B).”

In addition, the lecturer from University A mentioned that the implementation is succeeded in certain extent which means have awareness and reinforcement from nursing management as “Yes in certain extent, have awareness and reinforcement by nursing management (L-2, University A).” The AP/L from University D also revealed that the implementation of NPM for the student nurses is succeed as “Yes, the students’ performance in the theory examination and clinical assessment.”

Category 2: Hindrances

Based on the excerpts answered by 7 tutors from University B, three lecturers from University C, HOD and two lecturers from University D, the factors that hinder on application of NPM has two which are the hindering factors that directly come from student nurses and indirectly hindering the student nurses' practices that are happening in the student nurses' practical/clinical learning settings.

The student factor is they see NPM as an evaluation tool for better marks which is stated by the tutor from University B as "Not really because students are seeing it just an evaluation tool to get better marking (T-5, University B)." In addition, one of the tutors from University B also mentioned that it is difficult to know whether the student nurses' apply NPM in their real practice because they can only assess the tool/assessment form in their clinical exam as "Not 100% because most the tool/assessment form is the evaluated the student's knowledge only in using in clinical setting (exam). Mostly not shown/no evidence proves those students are really using this during their posting when carry or performing procedure on their patient (T-2, University B)".

The HOD from University C also stated that NPM is successful in teaching, however, they face some issues like student nurses follow the incorrect NPM which was suggested by in-charge staff nurse as "Yes, successful in teaching. We able to produce/discuss on the correct nursing process based on scenario/condition of client given. No in clinical session. Students tend to follow previous nursing process done which is not correct as per advised by the staff nurse in-charge (HOD-3, University C)."

The factors that hinder on the successful implementation of NPM application in the student nurses' practical/clinical learning settings are; not practicing critical thinking, incomplete report/documentation due to busy, time constraint, time consuming, patient condition, too many paper work, burden in their work, do not understand basic concepts about NPM, lazy to upgrade, lousy ward routine, do it as a must and tick without proper assessing patient's condition.

The tutors from University B mentioned these hindering factors as "No time according to the situation or patient condition (T-4, University B).", "Too many paper work and form need to fill up in clinical area (T-6, University B).", "Burden in their work and they don't have enough time to write down their action or care for the patient (T-7, University B).", "No in University B. Not all nurses apply the nursing process. Did not understand the basic concepts of nursing process. Lazy to read and upgrade the knowledge about nursing process. Too lousy with the ward routine. Only apply and tick (✓) the checklist prepared by organization without think while they do. Do it as must, not as the patient need. (T-9, University B).", "No, the knowledge is in our mind, put, putting into documentation after been applied to the patient was not been able to write up become too much to write. Documentation after been applied to the patient was not been able to write up become too much to write. (T-12, University B).",

The HOD, lecturers and clinical instructors from University C also mentioned as; "Too much time taken up for documentation (HOD, University C).", "No, because the nurses just apply and write the nursing process without having critical thinking. Just write for granted (L-1, University C).", "No, some of the template/form is left unwritten. Busy ward (L-7, University C).", "there are some factors behind: rules and regulation of the hospital setting, attitude of staffs,

management and leadership styles of nurse managers, time and workload of staff (L-5, University C).” and The lecturer from University C also mentioned that success in teaching, however it is difficult to manage and follow the correct structure of NPM in a complex practical setting even the nurses know all planning and interventions are in their mind as “Yes, successful in teaching because it is very structured and clear.

However, in complex clinical setting, all the interventions and planning are there in nurses’ mind and they are aware of it. But, they did not perform it as structures as it is in the nursing process (L-2, University C).” The clinical instructor from University C also mentioned that NPM should apply for each client and it is needed to highlight to the student nurses as “We have to really highlight the student about nursing process, mostly it will be implement during nursing management. It should be applied individually based on the client (CI-4, University C).”

The lecturer from University D stated that implementation of NPM can only success the support of nurses from the clinical service as “Use of NPM can be only successful if it is supported by nurses from the service side.” The lecturer from University E also mentioned as “Time consuming, a lot of paper work, only can tackle physical problem but lacking in emotional problem as many patients not able to express their feeling towards the nurse. (L-4, University E).”

Conclusively, based on the answers of academic staffs with different positions from five different universities, total of five main categories had. There has one category in question no.1 “strengths of NPM and weakness in implementation process” In question no. 2, there has one category “Highlights for moving forward” with 9 sub-categories namely “Raise knowledge, awareness, and change attitude”, “Realistic, Practice based and Hands-on”, “Standard guidelines”, “Simplified integrated checklist and proper guidance”, “Training, Continuing Nursing Education

and Refresher course”, “Collaboration”, “Recognition, Encouragement, Empowerment and Motivation”, “Close Monitoring”, and “Why it is fail and How to improve.”

There have two main categories in question no. 3; “promoting factors”, and “hindrances” and “Limitations to succeed”. The next session, session two: part three, is presenting the findings of student nurses from the same three open ended questions with the academic staffs. In the excerpts, they are coded based on their study program such as diploma as “D-1, D-2, etc.”, Bachelor Degree as “BSN-1, BSN-2, etc.”, Master Degree as “MSN-1, MSN-2, etc.” and doctoral degree as “PhD-1, PhD-2, etc.”.

Phase Two: Part Three – Findings of Student Nurses’ Impression towards NPM, Application and Implementation Process. This session is presenting the findings of the last three open ended questions. The first question is enquiring about their overall opinions and comments upon the strengths and weaknesses of NPM application in their learning and practices on both theory and practical. Total of 444 student nurses out of 486 from five different universities are willing to answer this question. The demographic figures of student nurses are presented in appendix G.

Based on the essence of the question no. 1; “What are your overall opinions and comments on the strength and weakness of NPM application in both teaching/learning theory and practicing in clinical settings?” and their answer excerpts, the two main categories “Strengths of NPM” and “Weaknesses while implementing NPM application” come out. The researcher presents the findings of

each university separately and summarizes the main categories and sub-categories as a summary of qualitative findings of student nurses.

The findings of University A

There are five sub-categories namely “A good framework, holistic and best model” “Problem solving, reliable, and better management of work” “Efficient, systematic, standardized, organized and clear documentation” “Identify patient’s needs, better care and outcome, reduce hospital stay” and “Rationalize, Stimulate and enhance critical thinking” which are under the first main category “Strengths of NPM”; and three sub-categories “Unfavorable Climate of practical settings (Workload, time constraints, nurse patient ratio, non-professional nursing tasks, too much paper work)” “Concerns of nurses and management in clinical” and “Unclear understandings on application” which are under the second main category in University A. The detail descriptions are as follow.

Category 1: Strengths of NPM

Total of 31 student nurses from University A are mentioning the strengths of NPM as it is a good framework and give a short cut way while planning care, holistic and best model, promote patient’s care, better care and outcome, reduce hospitalization, stimulate critical thinking, guide to solve patient’s problem, more efficient and systematic, guide to identify priority of care, provide overall idea in caring, rationalized while providing nursing care, can identify patient’s needs, reliable, better management of work, can identify the important things of patients, can plan and organized the patient’s needs, provide standardized individual care, and

can document clearly. All these strengths are divided into five sub-categories as follow.

Sub- category 1.1: A good framework, holistic and best model

Two students say that it is a good framework and give a short cut way while planning care, holistic and the best model as “The nursing process model application is a good framework for the nurses in applying the nursing care. In short of time, the nurses may find the nursing process requires some time to complete it and causing some nurses use a shortcut way in completing care plan (BSN-10, University A).” “It can provide a holistic care to the patient by indentifying patient’s problem either actual or risk problem. Then, the nurses used that information to set the goal thus implement any necessary action for the best interest for the patient. By using NPM, we can nicely plan and organized the needs of the patient. In my opinion, there is no weakness of NPM as it is a critical thinking approach for the patient’s needs and it is nicely used, it can be the best model for caring patient (BSN-49, University A).”

In addition, six more students convince NPM as “I think that nursing process model really have more advantages rather than disadvantages. In general, it gives more benefit for all nurses to provide holistic nursing care towards the patient in clinical setting (MSN-11, University A).” “It can help the nurses to understand and know the overall of the content that need to be included inside the nursing planning and intervention. At the same time, the goal of intervention can be achieved or not. May be the nurses able to identify and make the proper nursing process (BSN-48, University A).” “NPM application is useful in learning theory and practicing because it gives overall idea on how to care for the patient with problem (BSN-13, University A).” “Nursing process is good to be implemented in both learning theory and

practicing in clinical setting (BSN-14, University A).” and “Good. NPM can be applied in practical sessions and theory (BSN-22, University A).” and “I’m still new but overall I think it s very good if we can apply it in our field (BSN-47, University A).”

Sub- category 1.2: Problem solving, reliable, and better management of work

The two students mention that NPM provide problem solving skill as “Nursing process guide the staff nurse to solve problem regarding giving treatment (BSN-3 and BSN-4, University A).” One student doing bachelor program also convince that NPM make student nurses and registered nurses more effective and if apply NPM, can manage their work better as “Very effective to the student nurse or registered nurse to adapt nursing process. Nurse can do better management of work (BSN-32, University A).” One more student also mentions that NPM is reliable and can apply as “Reliable. NPM can be applied in the theory and clinical setting (BSN-21, University A).”

Sub- category 1.3: Efficient, systematic, standardized, organized and clear documentation

Total of ten students mention the good qualities of NPM as “It is really helpful to make nurses’ work more efficient and systematic. Students could always practice on how to identify the priorities of care (BSN-6, University A).” “NPM is good for students. It is systematic that help me a lot (BSN-26, University A).” “Nursing process is a good method for the nurses to be more commitment in their work and helps the nurses a lot and more systematic (BSN-37, University A).” “We can plan exact ways (BSN-39, University A).” “We can see the health progress of an

individual, applied according to individual's need and problem, systematically and documented clearly (BSN-43, University A)." "I think nursing process model application in both learning theory and practicing in clinical setting is good to be practice because it is systematic step in order to give a good nursing care to the patient (BSN-45, University A)." "Applying nursing care systematically and have quality (BSN-46, University A)." "Nursing process is a good tool to provide standard individual care and also will enhance nurses to apply critical thinking in their daily work (BSN-50, University A)." "Know patient's problem and patient get well soon. Have to document every intervention (BSN-52, University A)." and "We can organize and plan the care for individual patient/client (BSN-53, University A)."

Sub- category 1.4: Identify patient's needs, better care and outcome, reduce hospital stay

The five students highlight the good qualities while NPM apply in caring patients as "Theory of nursing process is good to apply in clinical setting which promote patient's care for better outcome and reduce hospitalization (MSN-7, University A)." "Overall, the nursing process is to identify and meet the most patient's need (BSN-15, University A)." "I think the theory really help to classify the most need. It is easy for me to find any important thing for the patient (BSN-33, University A)." "Focus the main problem, better care given. The patient's condition is better and better care is provided. (BSN-35, University A)." and "Good practice. It can guide the nurses to give better care the patients (BSN-51, University A)."

Sub- category 1.5: Rationalize, Stimulate and enhance critical thinking

Total of six students convince that NPM create rationalization of their thoughts and action which stimulate and enhance their critical thinking skill as “Nursing process helps nurses to prioritize their work and also stimulate critical thinking. Nurses aware of their patient disease condition and realize what to identify and practice in work. (MSN-17, University A).” “Nursing process makes nursing intervention more rationalized based on thorough assessment and achievable goal. (BSN-11 and BSN-12, University A).” “It can train student to critical thinking (BSN-30, University A).” “Make us easier to adapt to the hospital environment. It helps me to be more critical thinking (BSN-31, University A).” and “will enhance nurses to apply critical thinking in their daily work (BSN-50, University A).”

Category 2: Weaknesses while implementing NPM application

Total of 32 student nurses from University A mention some weak points while implementing NPM in real clinical settings as it cannot apply properly due to workload, time constraints, nurse patient ratio, non-professional nursing tasks, too much paper work, prior and existing culture of wards/units in clinical and unclear in application process. All these strengths are divided into three sub-categories as follow.

Sub- category 2.1: Unfavorable Climate to practice in practical settings (Workload, time constraints, nurse patient ratio, non-professional nursing tasks, too much paper work)

Total of thirteen students highlight on workload of the clinical setting, time constraints, imbalance nurses and patients ratio, some tasks that are not relevant for professional nursing context however nurses still need to carry out and too much

writing for paper work. The following excerpts show details about these weaknesses in the supporting background that make improper implementation of NPM.

“It is time consuming and influenced by nurses’ workload (BSN-3, BSN-4 and BSN-6, University A).” “Time limiting due to patient nurse ratio (BSN-11, University A).” “It can improve quality of patient care. But, sometime it will take a long time to apply it (BSN-16, University A).” “Specific look into the patients’ problem, however, increase burden among nurses unless the general nursing care plan was provided (BSN-17, University A).” “Guide the nurse in nursing care, however, time consuming, workload and nurse patient ratio (BSN-20, University A).” NPM can be applied in the theory and clinical setting. But, sometime it is difficult to be applied during practical due to the nurse patient ratio (BSN-21, University A).” “Too much writing. Staff nurse does not have enough time to record data (BSN-29, University A).” “The time for nurses to plan the nursing process is hard since nurses many work which not related to nursing professional like change diaper that spend a lot of time for it. Suggest that hospital should encourage the patient’s family involve in taking care the patient. Family members should not totally depending on nurses to make the job of nurses much easier (BSN-34, University A).”

Nursing process is a very good idea to a nurse to evaluate her work, but, the ratio of nurses to patient and heavy workload cause nursing process cannot perform in clinical setting. (BSN-41, University A).” “I think nursing process application is suitable to be applied in the ward, but, because of lack of time compared to load of work, nurses tend to skip doing one by one this nursing process (BSN-44, University A).” Because of lack of time in the clinical setting cause the staff nurse did not performed well according to the nursing process models (BSN-45, University A).”

“Applying nursing care systematically and have quality, however, time consuming in terms of paper work (BSN-46, University A).”

Sub- category 2.2: Concerns of nurses and management in clinical

Four students explore the management concern and concern of nurses regarding fail to follow and carry out the real the application of NPM while providing nursing care as “Nursing process is very important to us, but, in general hospital management considers it some of the main point to achieve the JCI goals and in main hospitals, I think it just being a kind of paper work. Not none (MSN-10, University A).” “Easy to understand and apply. Too depend on old nursing process in the ward. Not create new one that suit to patient (BSN-7, University A).” “My opinion is it can guide staff nurse but not all staff nurse follow the guidelines (BSN-19, University A).” “At the same time the nurse just not taking the nursing process seriously. They just write or tick whatever they think is right (BSN-34, University A).” “May be the nurses able to identify and make the proper nursing process. However, not all of them able to apply and put the nursing intervention plan into an action. They might help them to understand and also plan the good intervention but might not be able to perform in the clinical setting (BSN-48, University A).”

Sub- category 2.3: Unclear understandings on application

The one more weakness in implementing NPM application is that they are not very clear about it. The four students express as “It is good even though sometimes it will make nurses becomes task oriented and less care about the emotional needs of the patients (BSN-8, University A).” “Focus the main problem, better care given, however, wasting paper and very hard to evaluate some points sometime (BSN-35,

University A).” “NPM helps us to identify the main problem faced by patient, however, when the patient had multiple diseases, it seems like NPM application can’t apply well (BSN-40, University A).” “In my opinion, I was think that nursing process model application is good to be practiced for all nurses, but, it is quite complicated to apply in clinical practice (BSN-42, University A).” and “...however, medical and nursing diagnosis are not clearly defined, time consuming and nurses are not implementing according to their nursing care plan (BSN-43, University A).”

The next session is presenting the findings of University B.

The findings of University B

Under the first main category, “Strengths of NPM”, there are seven sub-categories namely “Act as a Good Guide” “Helps in identifying patient’s needs, problem and at risks” “Can do planning in proper way” “Can do evaluation and documentation of care” “Good and Systematic” “Best quality nursing care and make quality professional nurses” and “Good progress and discharge earlier”. There are four sub-categories under the second main category “Weaknesses while implementing NPM application” which are “Unfavorable working climate (Time constraint and workload, Nurse patient ratio, Uncooperative teamwork, Too much paperwork and writing)” “Theory practice gap and Standardize format” “Vague understanding on application” and “Concern of nurses and patients.” The detail descriptions are as follow.

Category 1: Strengths of NPM

Total of 121 student nurses from University B are mentioning the strengths of NPM as it is a good guide to identify the patient's problems and needs, planning care and support in evaluating patient's condition. In addition, they mention that it is improve patient and nurse communication, and guide nurses more manageable and arranged their work smoothly. All these strengths are divided into seven sub-categories as follow;

Sub- category 1.1: Act as a Good Guide

Total of thirty students mention that NPM is important and it is like a guide which gives guidelines to perform their actions to improve and easier as "It can help the students improve more by doing this nursing process. Besides, it helps a lot student in examination. I as year 1 semester 1 student, I can do better in with this nursing process. (D-3, University B)." "Nursing process is very good for student to know well about patient and can get detail about patient. It helps nurses to get more information about patient and nursing process need to apply in nursing. Nursing process can give an idea about what need to ask to the patient and nurses do not think too much about how to ask question that they want to ask to the patient. It can also help and make easier for nurses and doctor to plan proper intervention for patient (D-5, University B)."

"Use of nursing process is very nice for us to know the background of the patient. It will make useful, knowledgeable and experienced nurses (D-9, University B)." "Nursing process simplifies the nurses' task and make not to left care for patient. I can make correct decision through answering questions which is related with the patient's condition (D-11, University B)." "It helps me to collect data easily

(D-12, University B).” “In the clinical setting, NPM is very helpful and can make every nurses know about their patients in details (D-15, University B).” “Nursing process is a good method that we can know about patient history and the nurse or hospital staff can take any plan to cure patient (D-24, University B).” “NPM helps students’ better understanding the action they made in the clinical (D-34, University B).”

“We can care more about the patient. We also know about the patient’s condition from head to toe. When practical, we also can apply the nursing process what we learn in the class (D-36, University B).” “Nursing process makes us to get patient’s details clearly (D-37, University B).” “This help us a lot to understand more and can improve our skill (D-38, University B).” “From my opinion, I think the NPM application in both learning theory and practicing in clinical setting is a good idea to help on teaching and our clinical because it can be as guideline (D-41, University B).” “The strength is nursing process is our work schedule and program could be manageable and arranged smoothly (D-43, University B).” “It helps a lot to understand better (D-48, University B).” “The nursing process as a guideline when we are in clinical. So that, we do not awkward when perform any procedure or in difficult situation (D-64, University B).”

“We must use this nursing process because that to monitor patient condition (D-65, University B).” “That nursing process is will improve if we do to patient because that we can observe during patient hospitalization (D-67, University B).” “Good. Our staff will more know about the patient condition (D-105, University B).” “Easier to do work (D-108, University B).” “Staff nurse can perform their work based on nursing process (D-109, University B).” “It can help the nurses to do the correct intervention (D-114, University B).” “It is good because we can understand

about patient. Rapport between nurse and patient can build in and patient can express her feeling about general and latest condition (D-120, University B).” “It is good, staff will know about patient. It can help the nurses to take care the client (D-121, University B).”

“It can be as guideline and improve nursing care (D-122, University B).” “It can improve nursing care (D-123, University B).” “It can be guideline to provide quality nursing care (D-126, University B).” “Nursing process may be important to implement correct nursing care to the client/patient. With the nursing care, we can set the goal of recovery phase for the client/patient. With the nursing process, we can build a nursing diagnosis and make an intervention from that. It can improve our learning skill in doing any study case (D-137, University B).” “NPM application is good and it is very learning theory and practicing in the clinical setting (D-153, University B).” “NPM application is a good thing to practice both in theory and practicing in the clinical setting. It is very useful for us to get to know the patient deeper (D-162, University B).”

Sub- category 1.2: Helps in identifying patient’s needs, problem and at risks

Total of sixteen student nurses convince that NPM is important which helps them in identifying the patient’s problems, at risk problems and care needed as “NPM is very important to us especially among the student. They can learn how to do and how to handle patient’s problem and care needed (D-1, University B).” “It can help to identify the patient’s problem and treatment according to the patient’s condition. It can improve the skills in patient care (D-7, University B).” “Suitable to detect and solve patient’s problems (D-20, University B).” “Can recognize patient’s problems and create treatment plan to help patient’s recovery (D-21, University B).”

“Nursing process is good for nurses to solve the patient’s problems (D-29, University B).”

“For me, it helps as a student to understand the possible problems faced by patients (D-40, University B).” “In my opinion, there are most strength of NPM application because the problem that happen to the patient will be cleared and settle (D-42, University B).” “It helps the nurse to identify the basic and the need of our patient. Besides, the nurse will recognize more and better the problem of patients (D-87, University B).” “I think nursing process is very important to identify the problem (D-88, University B).” “It must apply because it is the ways how we can know about patient risk or problem that we can solve when give nursing care. Besides that, from nursing process we can know that important about patient and illness (D-103), University B).” “The strength of NPM application is it can help the nurses to do the correct intervention on patient and get them the correct guideline in do nursing process. By nursing process, will help to provide the care of patient to meet their needs (D-104, University B).”

“In my opinion, it must be applied because it is the ways how we can know about patient risk (D-113, University B).” “Nursing process in good because the staff can understand about their patient problem and can give the best nursing care to them (D-129, University B).” “The strength of NPM is student able to identify the main or potential problem and as baseline (D-136, University B).” “Nursing process is helpful for the staff as they can identify patient’s problems and enable them to plan the interventions to overcome it (D-139, University B).” “When we assess the patient we can apply the nursing process. So all the intervention can apply for patient regarding their condition. So, factor that supports to get successful allow nurse can

prevent any risk of harmful or anything else based on nursing process (D-164, University B).”

Sub- category 1.3: Can do planning in proper way

Total of eight students mention that through applying and referring NPM, they can plan nursing care for patients properly and can manage the patient’s daily actions and activities as “It can get a more better about patient care in the ward, we can also advice client what they can do and can’t do. The nursing process also can manage our plan or further plant for client. Besides that, our works can make it easy. We can manage client’s activities and daily activities at the ward. The problems can reduce when we applied nursing process. when we are at the clinical, the nursing process is good to use for as our referred (D-2, University B).” “It can help the nursing to planning the care to the patient (D-8, University B).”

“We can know about patients’ condition and proper planning of nursing care (D-54, University B).” “Strength of nursing process is good because we can plan what we want to do, what necessary, what must do first to patient (D-140, University B).” “Strength of nursing process is help us to plan what we want to do, what necessary, at according to important thing what went do (D-145, University B).” “The strongest is it can make our job, our life and management more manageable (D-149, University B).” All NPM application is good (D-154, University B).” “Nursing process is good for study and planning (D-160, University B).”

Sub- category 1.4: Can do evaluation and documentation of care

Total of five students mention that NPM help in evaluation of the patient's condition which show the patient's progress, support the future management and intervention and show the evidence through documenting as "Nurses can evaluate overall condition of patient and plan further management and intervention. It helps staff nurse to do works in more appropriate way (D-56, University B)." "The strength of nursing process is we know our patient progression better and easy to document (D-70, University B)." "Nursing process is the important assessment to evaluate the patient and it can help the staff during working (D-79, University B)." It enhances our self-discipline to be more focused on work especially when recording our charting these information since patients' lives in our hand (D-25, University B)." "We can record and observe correct way (D-134, University B)."

Sub- category 1.5: Good and Systematic

The six students convince that NPM is good, provide systematic care which make the work productive and clear any mistaken and error as "The application of NPM is very useful to nursing student and nurses to be applied during patient care in clinical area. It facilitates patient care more systematic (D-6, University B)." "It is helpful for nurses to do their work. It makes nurses more systematic and produce nurses that productive (D-13, University B)." "Nursing process is a good system which teaches us to do any application on patient. More systematic and clearly to do any procedure. It makes me as a good nurse which following the instruction and do not get any mistake from taking any data of patient or any amount of medication (D-19, University B)." "Nursing process can help staff nurse to do work more systematic (D-62, University B)." "It is good for caring patient (D-111, University B)."

“Nursing process helps our work become more systematic and prevent from any error in our job (D-141, University B).”

Sub- category 1.6: Best quality nursing care and make quality professional nurses

Total of thirteen students reveal that NPM help nurses in providing quality nursing care through identifying the patient’s priority issue and avoid failing to provide the needy intervention to the patients which in turn upgrade the status of nurse to professional nurses as “The strength of nursing process is actually to avoid fail intervention dealing with the patient. For me, it is a better way to make up quality profession as nurses (D-69, University B).” “Nursing process will help nurses to provide the best quality of nursing care to the patient. I can give the best care for my patient. I can identify patient’s real problem and correct intervention for the patient. (D-10, University B).” “It will be more easy to identify the condition of patient and enable nurses to provide quality nursing care to the patients (D-33, University B).”

“From nursing process, we can know the patient’s priority and give the best nursing care (D-35, University B).” “Actually nursing process is better do for patient. (D-66, University B).” “As a nurse, if we practice the nursing process, it is good for our patient for effective care (D-68, University B).” “Nursing process enables us to provide quality of nursing care to patient and better for the patient during hospitalization but it takes time for nurses to complete the nursing process due to busy in the ward (D-85, University B).” “The strength of nursing process is it simplifies the awareness of patient needs and it provides more quality nursing care for patient (D-89, University B).” “The strength is it will increase modification and make the nursing intervention more quality. (D-90 and D-92, University B).”

“Nursing process can be used and make thing better but it can be the worst thing and caused heavy work (D-94, University B).” “The nursing process enables nurses to provide quality nursing care to the patient (D-116, University B).” “Quality to take care the patient (D-124, University B).” “Yes, as quality of nursing care. Nurses can take care of client base on guideline (D-125, University B).”

Sub- category 1.7: Good progress and discharge earlier

Five student nurses convince that NPM provide better nursing care which make the patient in good progress, decrease hospital stay and discharge earlier as “Through applying NPM at least, can plan a very efficient care plan for patient, patient may discharge earlier if practice a very very good and excellent planning care. It is one of a systematic way to provide/get information about patients (D-25, University B).” “Nursing process can provide many benefits which is we can meet a better achievement towards goal/plan for our patients by providing better intervention to patients (D-32, University B).” “Nursing process is good for patient and progress patient. Nursing process can do perfect progress (D-132 and D-133, University B).” Nursing process is good to apply in both of learning and practicing because it can improve our management and help our patient to healthy move faster as early if nursing process is used in a right way (D-147, University B).”

Category 2: Weaknesses while implementing NPM application

Sub- category 2.1: Unfavorable working climate

Sub- category 2.1.1: Time constraint and workload

Total of twenty-eight students are mentioning about the time to apply NPM is not enough due to busy ward and need enough time if they want to apply it as “The time allocated is really not enough to practice all this NPM (D-31, University B).” “In the same time, nursing process also is hard to apply for some nurses especially for them who in the busy ward, since they have no much time to allocate enough time to apply nursing process (D-32, University B).” “Able to identify patient’s problem and can know patient’s condition, however, nurses have not enough time to apply nursing process because of so busy (D-40, University B).” It helps to identify patient’s problem and implement the evaluation to overcome it, but not enough time to do the nursing process as the staff still need to do other works (D-47, University B).”

The allocated time is insufficient to apply nursing process in practice in the clinical setting (D-50, D-74, D-75, D-96 and D-143, University B).” “The time provided is insufficient and we overlooked over minor intervention and just do important intervention (D-51, University B).” “The allocated time is insufficient to apply nursing process in practice in the clinical setting. If the specific intervention needed, we must make time to do that and have to overlooked minor intervention (D-52, University B).” “The allocated time is insufficient to apply nursing process in practice setting (D-57, University B).” “We don’t have enough time to implement the care that we learn in the class (D-58, D-59 and D-60, University B).” “It can help to identify general condition about patient and we can monitor based on that nursing process. The weakness is it takes time (D-61, University B).”

“Nursing process can carry out into practice, however, time constraint limit to do so (D-63, University B).” “Where by the weakness of nursing process model application is lack of time to do it (D-70, University B).” “We don’t have enough time to implement the care that we learned in the class (D-71, D-72 and D-73, University B).” “Nursing process enables us to provide quality of nursing care to patient and better for the patient during hospitalization but it takes time for nurses to complete the nursing process due to busy in the ward (D-85, University B).” “The weakness is it will increase the staff work (D-90 and D-92, University B).”

“Can practice and easier to answer exam and perform in clinical. But, when nursing process perform in ward. Duration to communicate with patient is less (D-119, University B).” “The students need more time to follow nursing process properly, the patient will feel uncomfortable (D-136, University B).” “There is not enough time for the staff to do the whole part of nursing process as they still need to cope with other various works (D-139, University B).” “Weakness is not enough time for staff to do nursing process (D-140, University B).” “The weakness is do not have enough time (D-142, University B).” “Weakness of nursing process is not enough time for staff to do (D-145, University B).”

Sub- category 2.1.2: Nurse patient ratio

The two students are mentioning that the nurse patient ratio does not favor them to practice NPM fully in clinical settings as “When in theory, it is really easy to apply, but, when it comes in practicing the time allocated and the number of patients that we need to nurse is 1:11. So it is really hard to practice (D-31, University B).” “Nursing process helps me to identify main problem of the patient and how to solve patient’s problem. It also makes patient comfortable. However, nurses do not have

enough time to apply it to the patient because the ratio of nurses and patient (D-135, University B).”

Sub- category 2.1.3: Uncooperative teamwork

One student, D-53 mention about the importance of cooperation if they want to practice NPM as “The weakness is uncooperative team work in performing nursing process because need a lot of documentation and it makes nursing process complicated recorded. But, it is good actually to look for progressing and fixed what is fault. It also helps in identifying client’s main problem.”

Sub- category 2.1.4: Too much paperwork and writing

The two students mentioning about many paperwork that make nurses to take time to write up everything as “Give us ideal on what to do especially for the junior student to learn. Implementation is easy as it was nurse’s job. But, to write in every single piece of paper about what have we done to patients is complicated and takes time (D-86, University B).” “For weakness, I think it will take more time for complete details and involve of paper work (D-89, University B).”

Sub- category 2.2: Theory practice gap and Standardize format

Total of six students is mentioning about the gap between theory and practices that contribute them do not have the real practical essence on application of NPM in their clinical learning process as “It makes nurses work easier and systematic, however, this nursing process has rarely used (D-28, University B).””In theory part, the tutor teaches us to practice, but because of the exam system, we are just applying it in exam. When in theory it is really easy to apply, but, when it comes

in practicing the time allocated and the number of patients that we need to nurse is 1:11. So it is really hard to practice. The time allocated is really not enough to practice all this NPM (D-31, University B).” “The disadvantage is when the students are thinking what is taught by lecturer in theory but cannot do it when in clinical areas (D-98, University B).”

“There is a good of application of theory of nursing process but when it comes to practical in clinical setting, there are some underlying causes that may contribute to the inability to perform nursing process. The factors are the nursing process that has been taught in the theory is about 8 interventions and when it in the clinical setting is 6. We do understand that the cause is reasonable due to that insufficient time. But, it would be easier for the management to teach course of nursing process as when we goes to the its get more complicated to understand the form. The nursing process also should be standardized between the tutors, nurses, medical board and nursing students. So that when it comes to nursing process all can work together to provide a good care to the patient (D-39, University B).” “We must do the nursing process real in our life. It cannot just be observe or seen (D-77, University B).” “There are many benefits that can get in nursing process. But, sometimes, as a nurse, not all of the interventions can be done as there is not much time. But, it is a must in learning theory as student can learn more (D-130, University B).”

Sub- category 2.3: Vague understanding on application

According to the answers of five students, it is need to improve their understanding upon the concepts of NPM and how to apply it in real clinical settings. All these excerpts reveal this issue; “Some of the weakness of nursing process is

there is not enough intervention that will achieve the main goal of nursing diagnosis. But, it is not give disturbance too much because as a nurse we can do critical thinking and add on what other interventions need to be done (D-104, University B).” “NPM do not accurate for certain patient in the hospital. Certain yes because for the simple nursing process. Certain no for complex problem of client (D-131, University B).” “In the nursing process, the nursing intervention was not enough and too simple. We can add on some more intervention for learning process to student especially student nurse. Practical was the best time for student to understand about nursing care of client in the ward depending on patient condition. If student manage to fill up all the nursing intervention. They will know how to take care of their patient (D-144, University B).” Some student/staff nurses still do not understand about how to use nursing process (D-156, University B).” In learning theory, some students do not understand well until go to clinical setting (D-165, University B).”

Sub- category 2.4: Concern of nurses and patients

The four students mention their learning climate and concern of staff in their practice setting as “It must be honest during fill the nursing process sheet. Cannot just fill without interpret (D-78, University B).” “Staff nurse can perform her work in easy way by using nursing process but must be honestly (D-99, University B).” “Nursing process is the most important assessment for the patient if the staff done the assessment correctly (D-80, University B).” “NPM can be used effectively if we used it overall (D-150, University B).”

However, the two students mention differently with the first mentioned four students and they state that some staffs are practicing and some are not because of insufficient time in the clinical as “Some staff nurses in the ward don’t have much

time to follow the nursing process. Some staff also have practice for nursing. They can apply it (D-148, University B).” “Some staff did not apply the nursing process and some issue cannot be settle (D-149, University B).”

The two students mention about the concern of patients when they apply NPM to them as “Sometime, patient seem want to refuse if follow the nursing process procedure (D-134, University B).” “The weakness of nursing process is some patients do not want to do assessment because they shy (D-151, University B).”

The next session is presenting the findings of University C.

The findings of University C

Under the first main category, “Strengths of NPM”, there are seven sub-categories namely “Valuable guide, best/excellent model, good framework, organized, systematic, holistic” “Can detect patient’s problems and needs, improve skills, make easier” “can plan and proof” “A Good and efficient nurse, mutual benefits for nurse and patient, better quality service and best treatment” “Increase awareness and alert, rapid recovery of patients” “can evaluate” and “More creative, innovative and critical thinking”. There are four sub-categories under the second main category “Weaknesses while implementing NPM application” which are “Unfavorable working climate (Time constraint, too much paperwork, over workload” “Concern of nurses/student nurses, nurse patient ratio and a gap” “patient concern” and “resources”. The following are the detail descriptions of their answer excerpts.

Category 1: Strengths of NPM

Sub-category 1.1: Valuable guide, best/excellent model, good framework, organized, systematic, holistic

Nursing process is valuable if it can be done in proper way in managing client. Proper nursing process will guide student in plan, implement, evaluate the care to their patients for further application in practice (PhD-1, University C). The theory is perfect (PhD-3, University C). It will help the nurses to evaluate the recovery process of patient and to determine either the treatment successful or not (MSN-5, University C). Nursing process is organized and systematic in care of patients (BSN-8, University C). NPM is more organize or systematic to handle patient (BSN-9, University C). It will help the nurses to do their work in correct ways and the patient will satisfied with their works (BSN-15, University C).

Good it is systematic (BSN-21, University C). it help us as nursing student to follow the proper guideline to be nursing students (BSN-22, University C). It is good that they can know the correct condition of the patient (BSN-23, University C). I think NPM is a good thing to be applied for student nurses (BSN-26, University C). It is efficient but only to some person based on the theory that I learned (BSN-27, University C). Strength is it is comprehensive the weakness is not enough time I guess (BSN-28, University C). Aid nurses to have holistic interventions (BSN-31, University C). Nursing process help nurses to summarize the important thing about patient (BSN-38, University C).

NPM application would help a lot if it is really applied in correct way/steps in both learning theory and practicing in clinical setting (BSN-47, University C). In learning theory, NPM aid the nurse to plan for treatment of the patient in systematic way (BSN-49, University C). NPM is needed as it is the guidelines for the nurse in

order to achieve their goal which is provide comfort and ensure the patients to get heal. Without NPM, the nurse can be blank and lost in what they need and should do (BSN-50, University C). Very good and there are many exercises given by our lecturers to us about NPM application and I'm thankful because it can help me applied it in clinical setting (BSN-51, University C). My overall opinions are good. It is because NCP help me to care the patient. It makes me know what I need to do next. Also it helps another health worker to understand the patient (BSN-52, University C).

Nursing process make the system and care of patient become more systematic. (BSN-54, University C). NPM can help the nurse to achieve holistic care for the patients (BSN-57, University C). The nursing intervention will be given systematically to the patient and the planning to achieve the expected outcome goal is clear (BSN-58, University C). NPM is good to apply in learning theory and clinical setting because we can have idea what are the interventions to the patient (BSN-61, University C). From my view, the nursing process is good for planning what need to do on the patient. So that our job become more practical and systematic (BSN-65, University C). It is the best model that we can provide to the patient (BSN-84, University C). Can give idea what to be done in providing the care for the client (BSN-85, University C). Can determine the correct intervention to the patient. The aim for diagnosis to save life (BSN-89, University C).

NPM is a good and excellent model in order to achieve the patient's need (BSN-91, University C). Overall nursing process is very good to apply in taking care of patients (BSN-92, University C). Theoretically, nursing process doe give good framework on what to do in caring patients. Nurses know what the priority is in caring one patient (BSN-103, University C). Learning theory provide good method

and guidelines about the nursing process (BSN-121, University C). Provide guidelines and methods on how to deliver the care to the patient effectively (BSN-122, BSN-123, and BSN-147, University C).

Theory is very good if we learned and applied. Practicing- holistic care can give to patient (BSN-131, University C). NPM application is good enough for nurses in giving care and does intervention for patient. It can act as a guideline and they can prioritize their work based on patient's current problem. The work can be done systematically (BSN-156, University C). Systematic and good to implement. By application of nursing process, it will help us to give the care and treatment according to patient's priority (BSN-158, University C). NPM helps us a lot in hospital setting and good to be practiced by nurses (BSN-160, University C).

Sub-category 1.2: Can detect patient's problems and needs, improve skills, make easier

I belief that within NPM application, we can detect, know more about the patient or client problems in order to evaluate the problems (BSN-6, University C). It is good to improve our skill in nursing process and for posting (BSN-14, University C). The strength is we can know the problem of the client (BSN-18, University C). Can improve skill (BSN-24, University C). Determine the needs of clients (BSN-69, University C). It is good to apply NPM in theory and clinical setting because I can know the priority of the patients' need (BSN-71, University C).

NPM can be fully understood by the students during practical session. This is because they know the real situation of the patient and the data of the patient is so it is easier for them to formulate the nursing process according to the situation (BSN-87, University C). Can help nurses to achieve the goal of nursing process (BSN-90,

University C). NPM gives a lot of benefits to the practical students and RN in carried out NCP (BSN-93, University C). Make the information of patient and health care given more arrange able (BSN-138, University C). Nursing process is good to practice because we will focus on patient priorities need (BSN-155, University C). Nursing process able to help in recognize the needs of patient but sometimes when the nursing diagnosis is not in priority, the needs of patient unable to be done and the progress of patient cannot be maximized (BSN-161, University C).

Sub-category 1.3: Can plan and proof

Good way to improve process of helping and have plan to that patient. So, something we do if have plan, will be achieved. For proof and reference for future (BSN-59, University C). NPM application in learning theory is good and I had study a lot of things to plan what is the best for the patient based on the priority (BSN-76, University C). My opinion is nursing process is the step to do care planning to the patient and it is important, because important to check the patient and to improve care giver (BSN-79, University C). As a student, we do remember the steps on doing the nursing process which gives us a clear view on planning care for the patient (BSN-83, University C).

In hospital, the strength of nursing process we as a nurse get is we can see the real problem and what patient feels by face to face (BSN-88, University C). Model application in both learning theory and practicing in the clinical setting are very useful to be practiced among student nurse and staff nurse. It helps the student nurse/staff nurse in planning the interventions toward the patients. It helps to identify abnormalities by collecting subjective and objective data by history taking and physical assessment (BSN-94, University C). Nursing process is the best care plan

for patients at all setting and no weakness. We can plan better for care plan and can determine the priority of care plan (BSN-95, University C). Good for education in both learning theory and practical. Provide knowledge about the best planning of care to the patients. Implementing interventions needed (BSN-98, University C).

NPM give a systematic planning in providing care to the patient. It gives the basic idea or interventions on what the best thing need to be performed on the client so that the client will get the best care and effective care (BSN-100, University C). We can apply the nursing process in any setting. The nursing process helps nurse to make plan and interventions for outcomes of the patient (BSN-106, University C). Proven by the hospital that we were posted for as the nurse applied nursing process (BSN-113, University C). Nursing process is very important in planning the care to the patient. Student also will learn how to do the nursing process (BSN-115, University C). It is very important to plan the care for the patient (BSN-117, University C). Provide planning for patient throughout the hospitalization (BSN-133, University C). NPM application can help the nurses to plan the appropriate nursing intervention towards the patient (BSN-141, University C). NPM would help nurses and nursing student to plan, interventions which could satisfy all patients' needs. The car provided would be more effective (BSN-142, University C).

Sub-category 1.4: A Good and efficient nurse, mutual benefits for nurse and patient, better quality service and best treatment

In my opinion, NPM application is very important in developing a good and efficient nurse whether in learning theory or practical setting. The NPM application not only helps in improving the nursing skills but also benefits the patient itself. By applying NPM, it will enhance the care giving in the health care setting the results in

a better service for the patients. (MSN-6, University C) it will give benefit for both parties (BSN-3, University C). My opinion about nursing process is such a good way to give the best treatment to the patient. (BSN-10, University C) It helps us to be a good nurse (BSN-19, University C).

I agree with the NPM because it can help nurses to do their job better (BSN-25, University C). As for learning theory, it is very effective as it does not apply yet the nursing care plan we think and write. So it is very easy to think and change or re-do the nursing process model. When it comes to the clinical setting, it also works but the human body may wrong according our planning or not. So, clinical setting, it can be unpredictable and it is effecting in determining what steps did we did wrong/missed the stage (BSN-33, University C). From my opinion, the strength is both staff nurses and students can make a better care for patients according to their needs (BSN-41, University C).

Nursing process helps a lot towards patient betterment of quality of life. (BSN-55, University C). Good application in the ward. It complements patient care. (BSN-81, University C). It achieves its goals in defining many ND (nursing diagnosis) and taking care of patient (BSN-111, University C). Focused and scrutinize the types of care. Nursing process which implement the factor of prioritization of taking care of symptoms help the health care giver to be more focus on their works (BSN-118 and BSN-119, University C). It will give benefit and advantages toward everyone (BSN-120, University C). NPM give strength for nurses in quality care of the patient to accomplish patient basic needs. (BSN-128, University C) Good to apply for quality of care (BSN-143, University C).

Sub-category 1.5: Increase awareness and alert, rapid recovery of patients

The strength of NPM application will increase the awareness of the nurse to the patient. Next, if we do NPM application can help the patient to recover rapidly (BSN-2, University C). The strength of nursing process is more care about patient and patient will be healthy as soon as possible. (BSN-4, University C) Should be more awareness to the patient and make care plan more effective and easy make the health assessment of the clients (BSN-11, University C). It can help nurses a lot by referring to it and help to improve the patient's health despite on just refer to medical process (BSN-17, University C). Can promote the goal of patient's health. (BSN-37, University C) it is important to make sure patient will throughout the recovery with enough attention from staff nurse. So, they can heal faster (BSN-40, University C). When someone has goal, they have tendency to follow the goal. Same like NP out patients can improve better soon according to our correct NP (BSN-56, University C).

The NCP is usually focused on the priority need to the patient. Thus, this will prevent the patient lead to another stage of illness and prevent the illness become worse (BSN-58, University C). I experience it is easy to treat patient; it is a good and short way (BSN-59, University C). Nursing process make nurse alert with patient condition (BSN-78, University C). The patient gets well soon and discharges early. The patient problems can be solving in systematic ways in all aspects physical, psychological (BSN-80, University C). I need to apply nursing process in clinical sessions to manage patient properly (BSN-104, University C). Can plan what next of event/intervention to the patient. May reduce the length of stay at hospital (BSN-126, University C).

Sub-category 1.6: Can evaluate

Can evaluate the correct intervention to be given to patient (BSN-30, University C). Overall, nursing process helps nurses to evaluate problem facing by patient to create planning care so that achievement goal is met (BSN-53, University C). All application of nursing process is already good. It gives the good idea to know the goal and evaluation to diagnose patient problem of diagnosis (BSN-88, University C). we get to know the client's health progress (BSN-97, University C).

Sub-category 1.7: More creative, innovative and critical thinking

Practicing it make the nurse be more creative and think outside the box (BSN-32, University C). Innovative – strength (BSN-38, University C) We need to be more creative in doing our intervention. So, the patient will recover faster (BSN-40, University C). It is a bit different between the theory and the actual practical, need more creative thinking and think out of the box (BSN-82, University C). Critical thinking is needed in nursing process. Hence, nurse should have critical thinking in order to achieve good NPM (BSN-153, University C).

Category 2: Weaknesses while implementing NPM application

The following are the sub-categories and detail descriptions of their answer excerpts.

Sub-category 2.1: Time is a matter: Time constraints, too much paperwork, and over workload

Too much working paper to be done (PhD-2, University C). The theory is perfect. But, in clinical setting, due to lack of nurses, the documentation takes a lot of time, which may jeopardize the quality of care to the patient (PhD-3, University C).

Only a few nurses nowadays applied. Nursing process model during their working time due to busy in exhausted environment and workload in hospital setting (MSN-7, University C). I agree about the application of nursing process but it may be burden for patient and nurse (BSN-3, University C). Should use less papers as the paper usage may lead to the negative output (BSN-13, University C) Most of nurses cannot apply NPM because they do not have enough time to do it due to overload of work (BSN-34, University C).

However, I'm strongly agree that this whole nursing process require lots of time in clinical setting this it make nurses difficult to manage their time (BSN-53, University C). It takes a lot of time just to write it down. (BSN-54, University C) nursing process is applicable in theory, but in clinical settings, it is a bit hard as planning a proper nursing care plan takes a lot of time and nurses in the hospital has plant of their work to do (BSN-68, University C). NPM is good for planning the intervention for the patient management of health. But, if there is too much paper to document within every shift is not too good (BSN-107, University C). It took time to revise but it really helps in terms of making work more systematic and prioritizes the vital interventions (BSN-113, University C). Take time to complete it the nurse may copy the previous nursing diagnosis and the goal not achieved (BSN-126, University C).

The weakness is we need to write a lot of things and think a lot. And, we also did not have enough time to write it better. So it is difficult to write the NPM application (BSN-2, University C). Mostly in hospital setting, nurses do not have enough time to assess patient and do their own diagnosis (BSN-30, University C). Nurses do not have sufficient time to do nursing process (BSN-31, University C). Learning is so good to get the knowledge. The application of nursing process is not

enough time to do it (BSN-36, University C). Lack of time (BSN-37, University C). However, when the theory is being applied in clinical setting, most of staff nurse do not able to plan for nursing care plan due to insufficient time (BSN-49, University C). But, there is not enough time to fully apply the NPM in clinical setting (BSN-57, University C).

In my opinion, sometime do not have enough time to create proper NPM application in practicing at clinical setting because of too much work to do (BSN-64, University C). Don't have enough time to practice in clinical setting (BSN-66, University C). Does not have enough time to practice the nursing process in the clinical setting (BSN-67, University C). Lack of time for applying NP. There are also too many procedure instead there are many patients for an in-charge staff nurse to take care. I am willing to help them, but pressure of time with other workload make me difficult to focus on nursing process for each patient (BSN-74, University C).

But, when I came to the clinical setting, I can see that the nurses are not fully applying the nursing process. They just writ it (copy and paste) from the previous one. I do not like it what the nurses applied nowadays because they said that they do not have time (BSN-76, University C). Some intervention cannot apply due to insufficient time during working. (BSN-89, University C) Good. It is great to have the detailed client's health progress but the problem is time lacking for every staff to complete the NPM (BSN-97, University C). Limited time to focus thoroughly for each patient in clinical session (BSN-99, University C). However, nurses don't have enough time for that. Just for completing all the forms, the cares are neglected. It is not so applicable for such busy nurse (BSN-103, University C).

It makes a proper plan for the patients. Usually a nurse take nursing process as easy, they ignore about this process as with a reason. They do not have enough time to do it (BSN-105, University C). do not have time due to busy with handling the treatment to the patient (BSN-106, University C). NPM not fully practice in the clinical setting may be due to too much workload and time consuming (BSN-132, University C). Holistic care, but, takes time and confuse with each theory (BSN-114, University C). There is time shortage for nurses to do nursing process (BSN-133, University C). Take time. Most nurses were busy and not have enough time to fully participate in doing nursing process. (BSN-138, University C) However, due to workload and time constraint, most nurses could not perform it (BSN-142, University C).

Nursing process is good to learn to apply. However, as I can see, many nurses do not have time to do all nursing process properly in hospital setting (BSN-144, University C). Nursing process is good to learn to apply. However, as I can see, many nurses do not have time to do all nursing process properly in hospital setting (BSN-144, University C). Nursing process is good in clinical setting as we can give therapeutic nursing care. However, not all nurses have time to apply it properly (BSN-145, University C). NPM is very good to apply but nowadays nurses do not have enough time to apply then nursing process in clinical setting (from my observation) (BSN-146, University C). Nurses have a lot of workload (BSN-149, University C).

Sub-category 2.2: Concern of nurses/student nurses, nurse patient ratio and a gap

To me, in clinical setting, the application of nursing process is got a lot of weakness as the workers did it just to fulfill the requirement of the hospital (BSN-35, University C). However, not all nursing process can be applied in clinical setting due to lack of time and number of patient is too many (BSN-41, University C). In my opinion, there are many weakness related to NPM application such as the staff nurse just simply copy from the previous nurse shift. This show the staff nurses nowadays are not professional and not be able to use their time wisely. However, during nursing studies, they are exposes to the good NPM. Unfortunately, they are not applying in the clinical setting. This is because they need to take care of 10 person/clients at one time (BSN-42, University C).

NPM is a very good practice but due to the ratio of patient to nurses is not balance. Thus, specific care plan for a patient is not fully done (BSN-44, University C). NPM is good especially for nursing student during study because they show a complete nursing care plan for patient. However, it sometimes cannot be performed in clinical setting because of lack of nurses (BSN-45, University C). The weakness of NCP is the nurses are unable to handle lot of observation as they have to manage many patients to be observed. Thus, the observation of the patient condition is not quietly correct (BSN-58, University C). Nursing process is hard to apply for all patients because of their business in work to care all patients at the same time. That's why they just copy the nursing process from the previous one (BSN-60, University C).

However, sometimes because of busy, crowded situation with many patients, staff nurse have not time to do nursing process. I think we need to employ more nurses (BSN-61, University C). It is quite easy to apply NPM in learning but not in

the real setting. The ratio of patient: nurse makes it impossible for a nurse to write a proper care plan for a patient (BSN-70, University C). But at clinical settings, it is not apply very good on NPM. Most of nurses just copy previous nursing diagnosis even evaluation was not met (BSN-71, University C). But during clinical posting, the staffs are not using the nursing process and they just do it for the sake of SOP (BSN-83, University C).

Learning theory, our lecturers really take it as serious matter to study and focus on, however, when we are in clinical setting, we are not able to do well as what we learned. This is due to SN always asking us to do other things while we are handling the patient. So, it hard for use to practice nursing process. When there is a ward round, SN start to fill the sheet without nursing process (BSN-96, University C). NPM actually is very helpful to nurses but the set back that this county have is imbalance population of nurse/patient which make it difficult to apply it (BSN-101, University C). For theory, it is good to know but for clinical setting, sometimes it is wasting time to write the same intervention every day (BSN-107, University C).

NPM is not applicable during clinical setting due to have many patients that need to assist compared to learning theory and setting. Besides, it needs a lot of paper work. (BSN-110, University C). Nurses tend to ignore/follow the previous nursing process of patient. Nurse attitudes towards nursing process in clinical setting (BSN-118 and BSN-119, University C). It is difficult to implement the nursing process when care to real clinical setting (BSN-121, University C). I think if the nurse to patient ratio is not relevant, and it is hard to apply the NPM appropriately. The nurse may have just the general diagnosis for their patients and apply same care plan for them. NPM should be applied because the nurses might have a clear care plan specifically to particular patient (BSN-124, University C).

It is a good intervention to know the progress of patient. But, most of staff nurse just copy the nursing process from the previous staff nurse (BSN-127, University C). Need a lot of time to write the nursing process. Not enough time for caring patients and do nursing process. The ratio of nurses to patients is too high (BSN-134, University C). In my observation, based on my clinical posting, SN did not apply nursing process based on patient condition. They do not have enough time (may be) because a lot of patient to handle in government hospital (BSN-148, University C). NPM actually good to practice in clinical setting. However, the nurses rarely used this nursing process in the ward because staff nurses are not enough to care and apply the intervention needed by the patient (BSN-151, University C).

In learning theory, we do not face the real problems. In the clinical, it is difficult to totally perform what we learned in theory into clinical setting (BSN-152, University C). There is a wide gap between learning nursing process and practicing it. This might be due to certain condition in clinical setting that restrains the nurses to apply nursing process for example heavy workload and shortage of staff (BSN-154, University C). Based on my practical experience in clinical setting, all hospitals that I had been posted were applying nursing process but not strong enough in application. The staff nurses tended to create same nursing process day by day without asking patient's problem. This is because they had high workload and busy. They assumed that nursing process is not much important enough. Other task much more important. Sometimes, they just guessed and create random nursing process which leads to irrelevant nursing process. Here, I can conclude that application of NPM still in low level and not strengthen enough to improve patient care (BSN-157, University C). In my opinion, NPM is important in order to know the major problem that the patient

faces. However, most of staff nurses keep repeating the same nursing diagnosis without any progression (BSN-159, University C).

Sub-category 2.3: Patient concern

The weakness is I don't know either the client would like it. (BSN-18, University C) Afraid the patient will not compromise and tolerate to answer the question (BSN-21, University C). For me, learning the theory is easy but for applying it in clinical setting, it needs more time, supportive client and staff (BSN-108, University C). Nursing process is good for learning in class because it give the overview what is nurse care on the patient. However, when come to practicing it, the patient's condition sometime is unexpected and may change through the care (BSN-153, University C).

Sub-category 2.4: Resources

Sometime, in clinical setting, the theory we learned cannot be done because lack of equipments (BSN-39, University C). Outstanding but the hospital needs to fulfill all the requirements needed in order to achieve the best of NPM application (BSN-48, University C). The weakness is may be lack of knowledge to perform it accurately (BSN-79, University C). It is okay if we have to keep data by using computer, but when we have to write it takes time and have to consume paper (BSN-109, University C).

The findings of University D

Under the first main category, “Strengths of NPM”, there are five sub-categories namely “A Guideline, Good and useful, best way, systematic and organized, holistic” “Improve understanding on nursing, decision making, patient’s need and problem” “Provide relevant treatment, better care, can monitor and patient improve faster” “critical thinking” and “Improve image and provide sense of responsibility”. There are five sub-categories under the second main category “Weaknesses while implementing NPM application” which are “Unfavorable working climate (Time constraint and time consuming, too much paperwork, nurses ratio)” “confuse on how to apply and relate” “hard to recall relevant nursing diagnosis sometime” “limited resources and support” and “reality beyond expectation” The detail descriptions are as follow.

Category 1: Strengths of NPM

Sub-category 1.1: A Guideline, Good and useful, best way, systematic and organized, holistic

Good and useful (BSN-1 and BSN-43, University D.) It is systemic, organized weakness (BSN-2, University D). Systematic and well organize (BSN-12, University D). More organized. It covered the whole area that need to be attained from the patient (BSN-13, University D). NPM gives a guideline for the nurses or what he/she needs to do/what care that the nurse should give (BSN-16, University D). In my opinion, NPM is very useful in both learning theory and practicing in critical setting as it has step by step to do the things. So, work will be more systematically (BSN-22, University D). More organize (BSN-25, University D). NPM is important because it can help nurses to plan their NCP. Then, nurse can

review back their NPM if needed. It also can practice nurses to be more systematic (BSN-31, University D).

NPM able to ease the nurses to diagnose the patients. It also makes the process systematic (BSN-36, University D). Nursing process is the best way/process to care about patient's health. As a nurse, we can provide holistic care to them and help them to get a better treatment and recovery very well (BSN-40, University D). Systematic care to patient (BSN-42, University D). Overall, nursing process helps student and staff nurse to continuously assess the patient be diagnose them and plans out their interventions on how to improve patient's health. The nursing process could improve more by making it applicable for nurses and also easier for the nurse to use daily for the working history (BSN-45, University D). NPM does help nurses in caring the patients by providing appropriate, organized, and systemic nursing care based on patient's deficiency/weakness/diseases (BSN-47, University D). enable to come out with outcome based on the collected objective of the patient's condition (BSN-57, University D).

Sub- category 1.2: Improve understanding on nursing, decision making, patient's need and problem

It helps me to be more understood about patient situation and problem (BSN-22, University D). NPM give students to be more understanding about nursing field and students could practicing based on theory/theories in a better way (BSN-23, University D). NPM application giving the students the idea for proper health care management in wards. This application is more efficient to assess patients as nurses could collect more information about patient and help them in their health care (BSN-32, University D).

It lets the nursing students get knowledge about the nursing process that they will perform in the hospital (BSN-33, University D). This make students gain more knowledge and have the chance to do practically (BSN-34, University D). NPM helps nurses to prioritize the nursing care that meets patient's needs (BSN-47, University D). Comfort the patient. The nurse also be able to make analysis and decision making appropriately (BSN-60, University D).

Sub- category 1.3: Provide relevant treatment, better care, can monitor and patient improve faster

I think patient's health can improve or can be cure faster if nursing process is apply (BSN-35, University D). it help patient to get appropriate treatment (BSN-36, University D). Nursing process is good and it helps us to provide better care for patients because students able to make better NCP and implanted it in nursing care toward patients (BSN-38, University D). It is good to learn the NPM to plan and give patient a better health care (BSN-39, University D). As a nurse, we can provide holistic care to them and help them to get a better treatment and recovery very well (BSN-40, University D). Good, encourage patient and nurses to be closer. Patient's ways to maintain/improved their health can be monitored (BSN-49, University D). enables a nurse to communicate well and assist the patient's condition so that patient's in a good condition (BSN-57, University D).

Sub- category 1.4: Critical thinking

We can use our critical thinking in order to provide better care based on patient condition (BSN-12, University D). we need to use our critical thinking at that time (BSN-28, University D).

Sub- category 1.5: Improve image and provide sense of responsibility

Strength of nursing process is providing student nurse that will be more responsible in doing their nursing care towards patients (BSN-30, University D). The application of nursing process enhances my knowledge and understanding on nurses' job and built the feeling of being real nurse in me (BSN-32, University D). The nursing process will give the nurses to good image (BSN-60, University D). increase and have better strength in nursing's life (BSN-61, University D).

Category 2: Weaknesses while implementing NPM application

The following are the sub-categories and detail descriptions of their answer excerpts.

Sub- category 2.1: Time constraint and time consuming, too much paperwork, Ratio of nurses

Short time to perform it (BSN-2, University D). Time consuming (BSN-13, University D). Too much paper work. Sometime patient been neglected (BSN-24, University D). The weakness of NPM might come from insufficient staff nurses as it will take time to diagnose one patient (BSN-36, University D). The time to implement nursing process sometime is inadequate (BSN-42, University D). There should be enough nurse ratios to patient to enable NPM to be carried out successfully (BSN-5, University D).

Sub- category 2.2: Confuse on how to apply and relate

In my opinion, when we learning theory about it, it seems easy but in real clinical setting, it hard to apply what we learned. Sometimes, I feel lost; don't know how to relate what to do (BSN-10, University D).

Sub- category 2.3: Hard to recall relevant nursing diagnosis sometime

But, sometime, the nurses have a difficult on remembering the appropriate sentence for their nursing diagnosis (BSN-16, University D).

Sub- category 2.4: Limited resources and support

Learning theory and practicing in the clinical setting can be a challenge for nurses. This is because what they learned sometime is not being able to be implemented in the clinical setting due to limited resources and support. (MSN-1, University D) Sometime cannot be applied in hospital because of several reasons such as environment, other staff, equipment, authorities and patient (BSN-29, University D).

Sub- category 2.5: Reality is beyond expectation

Some of the nursing process are not complete and some of them just copying the before one (BSN-18, University D). The student can practice what they have learned in lecture and have imagination about the process but the weakness is the students cannot perform it if the situation in reality is beyond expectation (BSN-33, University D).

The next session is presenting the findings of University E.

The findings of University E

Under the first main category, “Strengths of NPM”, there are five sub-categories namely “systematic guidelines, systematic and organized” “Provide relevant and quality care efficiently” “Good planning and provide rationalize plan” “Better nursing care, achieving goal and nurses feeling motivated” and “critical

thinking and innovating”. There are four sub-categories under the second main category “Weaknesses while implementing NPM application” which are “Time consuming and constraint” “different teaching format and materials” “poor awareness of users” and “Loss direction due to documentations besides NPM” The detail descriptions are as follow.

Category 1: Strengths of NPM

The following are the sub-categories and detail descriptions of their answer excerpts.

Sub- category 1.1: Systematic guidelines, systematic and organized

NPM helps to provide systematic approach/guidelines to give patient an individualize care throughout hospitalization and achieve the expected outcome (BSN-5, University E). It is more organized and systematic in nursing care (BSN-6, University E). It helps making a systematic and well-planned care for the patient. It helps me to organize the whole care plan better (BSN-7, University E). it is more organized and systematic in nursing care (BSN-10, University E). Systematic NCP, efficiency of the nursing care, re-evaluate nursing care (BSN-11, University E).

Sub- category 1.2: Provide relevant and quality care efficiently

Strength of NPM application in both will help users to be aware of their aim in providing a suitable and efficient care towards patients (BSN-1, University E). Students are able to identify specific interventions that can be done to achieve the goals and improve the efficiency of nursing care (BSN-4, University E). provides

more detail on patient information and carries out quality nursing care (BSN-9, University E).

Sub- category 1.3: Good planning and provide rationalize plan

Modify and plan an appropriate nursing care with rationales to particular patient to receive a holistic care. Students learn nursing process and practice it benefits them in their future nursing career (BSN-3, University E). Able to have a good planning, able to have a specific goal for the patient (BSN-12, University E).

Sub- category 1.4: Better nursing care, achieving goal and nurses feeling motivated

The application of NPM helps nurses to identify various interventions that can be done to provide a better nursing care. It can also be used to motivate nurses as there are goals to be achieved (BSN-4, University E).

Sub- category 1.5: Critical thinking and innovating

Nursing process allows students and lecturers to have critical thinking (BSN-6, University E). Improve my critical thinking make me think out of the box (BSN-8, University E). Student able to carry out critical thinking in ward/classroom (BSN-9, University E). It allows us to think critically and room for innovation (BSN-10, University E). It stimulates the student to think of how/what action they should do to provide good health care for the patient (BSN-12, University E).

Category 2: Weaknesses while implementing NPM application

The following are the sub-categories and detail descriptions of their answer excerpts.

Sub- category 2.1: Time consuming and constraint

Some student nurses are less applies the nursing process as they may have not enough time to apply it during patient care. (BSN-3, University E) Weakness is time consuming (BSN-5, University E). more paper work which causes time consuming (BSN-6, University E). It is slightly time consuming (BSN-7, University E). I am still new on doing nursing process during clinical posting. So far I think it is okay but just the paper work too many and it will consume the time (BSN-8, University E). It is time consuming and increase paper work (BSN-10, University E). more paper work, time consume (BSN-11, University E). Consume a lot of time to do nursing process, not everyone is doing nursing process (BSN-12, University E).

Sub- category 2.2: Different teaching format and materials

The way of teaching, the format given is different from time to time. The nursing process I learned from the beginning somehow is different. The way of teaching by lecturer is different from another. The format containing diagnosis, goal, intervention and evaluation is the same. However, the way how to write the intervention and rationale differs. The demands from lecturers are different (BSN-2, University E).

Sub- category 2.3: Poor awareness of users

Weakness of it will be the users are to negleable on the plan made and doesn't notice that changes can be made according to patient condition (BSN-1, University E).

Sub- category 2.4: Loss direction due to documentations besides NPM

However, due to various types of documentations other than NPM, nurses are unable to fully use NPM, let alone applying interventions that are planned. In the hospitals, NPM is done only for the sake and documentation and hence, does not serve the purpose of implementing the model (BSN-4, University E). A lot of paper work causes loss of focus on care (BSN-9, University E).

Conclusively, based on the main two categories which are “Strengths of NPM” and “Weaknesses while implementing NPM application”, there are five sub-categories which are based on the answer excerpts of the student nurses from University A, seven sub-categories which are based on the answer excerpts of the student nurses from University B, seven sub-categories which are based on the answer excerpts of the student nurses from University C, five sub-categories which are based on the answer excerpts of the student nurses from University D and five sub-categories which are based on the answer excerpts of the student nurses from University E. The following session is presenting the findings of second open-ended question.

2) “Do you think that application of nursing process in teaching and clinical session is needed to improve? If “yes”, what are your suggestions to improve its application in both theory and practice?”

According to the answers of 358 student nurses from five different universities, total of 218 students admit “yes” which means that implementation on application of NPM is needed to improve, and 142 students indicate “no” which means it is not need to improve and they mention current status is good enough to

proceed. Based on the excerpts of their suggestive answers, there are 9 sub-categories under the main category 1: Highlights to move forward.

The findings of University A

There are eight sub-categories namely “Standardize and latest materials for teaching and clinical setting” “Make it short and simpler” “More lectures, guided hands-on practice, and more concentrate on holistic nursing care” “Discussion, upgrade knowledge of staff, training and create adequate staffing” “Inter-professional and intra-professional collaboration and management support” “Need to conduct survey, audit, monitor and evaluate critically” “Time for work out” and “Improving the performance in clinical setting” which are under the second main category in University A. The detail descriptions are as follow.

Category 1: Highlights to move forward

The following are the sub-categories and detail descriptions of their answer excerpts.

Sub-category 1.1: Standardize and latest materials for teaching and clinical setting

Provide standard teaching in classroom and clinical setting (MSN-1, University A). Clinical approach (setting) required in planning nursing process. Some hospital protocol may not practice the same intervention we saw or read in books. Pre-printed nursing process will help better especially nurses lack of time for paper work (MSN-17, University A). There are a lot of methods to apply the nursing process to perhaps it is better to standardize which model to use in learning institution. Various methods, while helpful, may be confusing to the students when they are applying in clinical practice (BSN-5, University A). Make more intervention

for specific diagnosis that can be practice for nurses and other health care provider (BSN-14, University A). Guideline to perform action (BSN-21, University A). Improve to latest intervention same line with the new technology (BSN-32, University A).

Sub-category 1.2: Make it short and simpler

Make it easier and short to use and apply and clinical practice. To reduce time for make it. Give nurses concern more to take care of patients and give better nursing care. Nursing process is easier to use when we had proper guidelines and had the template for nursing process (MSN-7, University A). By simplifying the method and less paper work (BSN-50, University A). The nurses have more paper work to be done. Prefer simplified style such as tick/√ on intervention (BSN-46, University A). Nursing process must be simplified and easy to use (MSN-9, University A). We need to take more activity in hospitals to apply (MSN-10, University A).

Sub-category 1.3: More lectures, guided hands-on practice, and more concentrate on holistic nursing care

Giving more lecture about it (MSN-2, University A). During clinical practice session should assign students for holistic nursing care, not functional (MSN-6, University A). Personally, nursing process should be taught on every semester as a reminder of the importance of nursing process. When it is taught only in the first semester of year one, students tends to forget about it in subsequent semesters. It may be important to include the nursing process aspect in relevant subjects so that students can remember. This is the same in clinical setting (BSN-5, University A). More exercise and hands on practice (BSN-22, University A). Make it more

practicable (BSN-31, University A). Give the guidance during applying the nursing process for few times (BSN-35, University A). In clinical practice, CI must choose patient who with problem and instruct student to take care till patient discharge. Review every day (BSN-52, University A).

Sub-category 1.4: Discussion, upgrade knowledge of staff, training and create adequate staffing

Since NPM requires discussion, participation and staff knowledge. The hospital needs to be very supportive to implement this model in patient care. For example: continuing staff training, adequate staffing, good documentation protocol, etc. lacking in any factor would affect the use of NPM. Provide supportive environment to create positive attitude (MSN-14, University A). To improve knowledge and practical skills (BSN-42, University A). Educate the nurses and reinforce the importance and purpose of using nursing process. So that they realize it but not study or doing it blindly (BSN-43, University A). Encourage staff nurse to do nursing process and document. Add number of nurses in a ward so that the nurses can focus to nurse small number of patients (BSN-51, University A).

Sub-category 1.5: Inter-professional and intra-professional collaboration and management support

If other professional team members and hospital administrator or managers support the application of nursing process, it is really working for caring improvement (MSN-18, University A). Give a talk to staff nurse (BSN-9, University A).

Sub-category 1.6: Need to conduct survey, audit, monitor and evaluate critically

Should critically be evaluated by the nurse leaders sometime (BSN-2, University A). I think it must have more question about practice. They need to do survey about all aspects of nursing (MSN-13, University A). Apply the strict action towards the nurses that ignored the nursing process (BSN-48, University A). The evaluation part plays crucial role cause it can reflects either our care is successful or not (BSN-49, University A).

Sub-category 1.7: Time for work out

In theory, it alright, but, for practice the student and nurses will tend to avoid doing nursing process since it requires time and work (BSN-34, University A). Spend more time, so that everyone should be ready and more confident on what they are doing (BSN-37, University A). Increase the number of nurses to patient so that each nurse have more time to allocate on setting goals, assess and create nursing diagnoses and intervention for patient (BSN-38, University A). I think staff nurse should spend more time to process the orientation and prepare nursing process for a patient because it is important to know the patient before performing any procedure (BSN-41, University A).

Sub-category 1.8: Improving the performance in clinical setting

Its application in both theory and practice need to be improved. The nurses should implement the intervention that had been formulated (MSN-11, University A). Nowadays, some of staff nurse rather spend their time in social network than completing the nursing process. Although I mention the problem of staff nurse

attitude but I still believe that is a small amount of them having these attitude problems (BSN-41, University A).

Because in my clinical practice area, the diagnosis is already printed out on the paper. The nurses just simply take it and put it in the nursing form. Hence, this can reduce nurse's critical thinking to assess patient and formulating their own diagnosis. My suggestion is to encourage the nurses themselves to formulate their own diagnosis based on their knowledge and assessment they have made to the patient. By doing so, it enhances the knowledge of nurses without depends on the diagnosis provided on the printed paper. Besides, increase the professionalism status of nurses (BSN-49, University A).

The next session is presenting the findings of University B.

The findings of University B

There are five sub-categories under the main category "Highlights to move forward" namely "Standardize, make clear, simple and understandable" "Improve teaching: Teach orderly, systematically, close guidance, more time and practice" "Improve knowledge and application in clinical setting" "Add some more intervention for clinical setting" and "Use technology to be more discipline". The detail descriptions are as follow.

Category 1: Highlights to move forward

The following are the sub-categories and detail descriptions of their answer excerpts.

Sub-category 1.1: Standardize, make clear, simple and understandable

Nursing process should be standardized as it can give a good care to the patients. The exact nursing process in clinical practice should be taught to make the students familiar with it (D-39, University B). To make more clear and understandable to be more effective and systematic (D-40, University B). It should be more systematic and simple to follow to practice and used of next generation in nursing. Nursing is a fine art. So, make it simple and interesting to be learned in appropriate way (D-53, University B). Improve theory contain, sometime different from the ward guideline (D-64, University B). More specific data in nursing process (D-103, University B).

Sub-category 1.2: Improve teaching: Teach orderly, systematically, close guidance, more time and practice

I think should be more emphasized by teacher and the clinical instructor needed to give close guidance to promote students' understanding more. To get successful application of nursing process, it is need to teach orderly and systematically (D-6, University B). Every student nurse and staff nurse must practice their nursing process to get better improvement. Must practice nursing process, must study more about it (D-14, University B). Teaching and clinical practice sessions need to be improved. In teaching, while it is better to have demonstration about the topic. While in practice session, the lecturer/guidance must try to avoid from feeling boring. Nursing process in theory will not straight expose us to the condition in the clinical site. We can't imagine how it was looks like by learning only theory. We must participate and practice more (D-16, University B).

Need more time in practicing nursing process form student will more excellent if they do more practice. Lecturer need more spent time in ward with student. Student can score high more in exam (D-21, University B). This application must be improved to give more knowledge in communication with patient (D-37, University B). I think nursing process should be practice at all time in both teaching and practice (D-54 and D-55, University B). Because we need more time in teaching and practical (D-82, University B). Need to focus in teaching and more time in clinical practice (D-84, University B).

NPM should be instilled more than just implementing theory and practicing in clinical setting. Each and every student should know the importance of nursing process and the correct flow. Without knowing the basic of NPM application, the student will not know the correct implementation and how to identify problems in patient. The lecturer should put some interest to teach more in clinical practicing than learning theory (D-107, University B). Must teach us more knowledge about how to do a perfect nursing process (D-153, University B). Do more practices in clinical area. Study smart about the nursing process (D-154, University B). Nursing process must be improved in teaching and clinical to make sure staff or student or others can do the nursing process successfully. So this application can be useful (D-147, University B). Do more audio or video, visual to show how to do nursing process in term of drama or acting (D-165, University B).

Sub-category 1.3: Improve knowledge and application in clinical setting

Make sure every nurse have done their nursing process when patient admitted to the ward to easy the care of the patient (D-8, University B). It is needed to improve, especially in clinical. Everybody, especially staff nurse really needs to

improve and teach student as well as tutors (D-31, University B). The theory session had fulfilled enough in this application but I think must be same improvement in ensuring the nurses' practice the intervention accordingly to the nursing process during practical session (D-43, University B). By selecting intervention to perform (D-51, University B). by selecting important intervention to perform (D-52, University B).

Need to improve regarding patient's feeling. Sometime patient a little bit anxiety and depression(D-70, University B). Staff nurse must be access the patient condition on every shift (D-77, University B). It should be improve from time to time. As a staff, they should always up to date so that it can be a successful in nursing life (D-80, University B). Staff nurse need to be more improvement in nursing process (D-81, University B). Because need more knowledge and student need to improve their knowledge either in any course (D-83, University B). To improve the skill (D-160, University B). Staff has to be friendly with the patient and communicate well with the patient (D-158, University B). Must be improved more. The clinical setting much expose than learning theory about nursing process. Nursing process in learning theory need to change more (D-161, University B).

Sub-category 1.4: Add some more intervention for clinical setting

It just need to add some more nursing intervention in the nursing process so that the staff and student can give the more best nursing care to patient (D-129, University B). History of patient illness (D-138, University B). It just needs to add on some more nursing in each of intervention. So student will be learning more while fill up nursing intervention form (D-144, University B). More disease and solution can be produced in paperwork (D-94, University B).

Sub-category 1.5: Use technology to be more discipline

Since nursing process has its own weaknesses for providing a lot of sheets, we may use technology to transfer all these information via gadgets from nurses, doctors or health care workers so, there will be no cases lots of information of client. Be more discipline on work and focused to get success (D-25, University B).

The next session is presenting the findings of University C.

The findings of University C

There are ten sub-categories namely “Revise to be more efficient, standardize and give a guide to follow” “Make it simple to understand more” “Appropriate nurse patient ratio and adequate time” “Apply and practice more, make it reality” “Computerize to become more efficient” “Improve application in clinical setting” “Need to reinforce and monitor practices” “Improve teaching in institution, match theory and practice” “Provide a workshop, talk, educational program and support group for nurses” and “Improve as it is important and provide better quality care” which are under the main category “Highlights to move forward” in University C. The detail descriptions are as follow.

Category 1: Highlights to move forward

The following are the sub-categories and detail descriptions of their answer excerpts.

Sub-category 1.1: Revise to be more efficient, standardize and give a guide to follow

Application in teaching can be done but for clinical practice need to be revised to be more efficient to conduct based on time consuming. Nursing process need to be revised to suit the role of nurses in the ward (PhD-1, University C). Develop a box of item contain of assessment, diagnosis, planning, etc. Nurses have

only to tick only (PhD-2, University. An institution should provide a guide for nursing care plan. It is easier for all nurses to follow them (BSN-70, University C). They need to give example and prepare a proper guidance such as a guide way book specially sum up all nursing and nursing management (BSN-82, University C).

I think the ministry of higher education and ministry of health should standardize the standard of procedure and ensure that all sector practicing it (BSN-83, University C). May be for nursing students, there would be local authorizing book that we can refer as it is more suitable with the local patient. The nursing process I mean (BSN-113, University C). Nursing process need to be improved in the several choice of the intervention (BSN-115, University C). Provide guidelines that already provided, for example:

Disease: Asthma

Nursing care plan	Done	Not done
1.....	√	
2.....		x
3.....	√	
4.....		
5.....	√	
6.....		

So, based on the guideline, give staff nurse just only tick on the nursing care that he/she had done, and which nursing care is appropriate that can be done to the patient More practical in doing nursing process. So that can know what to do in certain conditions. Standardized the nursing process in hospital (BSN-140, University C). More practical in doing nursing process. So that can know what to do in certain conditions. Standardized the nursing process in hospital (BSN-144, University C).

Sub-category 1.2: Make it simple to understand more

Make it simpler in term of documentation (PhD-3, University C). Better understanding more than just theories. Should be applied (MSN-1, University C) Nursing process in the clinical setting should be made simpler for nurses (BSN-68, University C). Make more simple nursing process as to reduce the time take for to gather the data. (BSN-105, University C) Need to do in simplest way (BSN-127, University C).

Sub-category 1.3: Appropriate nurse patient ratio, and adequate time

It should be improved by; Student aspect – via case study, they form nursing process and perform. Staff nurse – review of documentation on nursing process and implementation. To improve implementation of nursing process in practical setting should be time consuming and simple documentation. Ratio of nurse patient appropriately (MSN-4, University C). Serve a lot of time of clinical practical session. So that we can master in practicing nursing process (BSN-7, University C). Give more time for nurses in practical session. (BSN-25, University C) Everyone nurse should take care not more than 5 clients, so that they can give fully attention to their client and prepare a complete nursing process to them (BSN-42, University C).

We need more allocated time to practice in a perpetual environment (BSN-48, University C). Government need to employ more staff nurse so that care to patient can be done (BSN-61, University C). Increase the number of nurses in a hospital as the number of patient also increase every day (BSN-70, University C). Student must really understand the objective of nursing process. They must apply it in clinical setting. (if possible, government hospital should reduce the number of

patient for a monitoring staff nurse. I believe optimum care will be given to each patient) (BSN-74, University C).

Staff nurse has a lot of work to do and do not have enough time do nursing process precisely. So please reduce the number of patient to 1 nurse to make the staff nurse more focus on doing nursing intervention (BSN-75, University C). Provide more reading sources and more staffs in the clinical setting. So that, nursing process can be focused and achieved (BSN-90, University C). By educating the health care worker using nursing process. (BSN-104, University C) Increase the number of nurses (BSN-133, University C).

Sub-category 1.4: Apply and practice more, make it reality

The application of nursing process in teaching and clinical practice session is needed to improve by applied it well (BSN-5, University C). Not only documentation but makes it as reality. Properly documented but in the clinical practice it seems not exist (MSN-8, University C). Nursing process is good enough, but need to be practiced frequently to make it easier in setting later (BSN-53, University C). Practice or learn more diagnose and intervention (BSN-59, University C). I think the application of this nursing process should be done in clinical setting (BSN-77, University C). Need to implement nursing process in clinical setting precisely (BSN-75, University C). Teach/use a common nursing practice in clinical setting (BSN-80, University C).

While in theory, the student only knows how to write the nursing intervention without knowing whether it is effective or not in fulfilling the needs of the client. Therefore, practicing in clinical setting helps the students more in doing nursing process compared to learning only the theory (BSN-87, University C). The

lecturer should provide the real nursing process and intervention that has been done to patient and explain it well to the student. This is because may be in the class, the student just listen to theory lecture, but during the clinical, they realized that the intervention usually does not even fulfill the client's needs. So, the student should do some research on how to do a good nursing intervention so that the goals in nursing process can be achieved completely (BSN-87, University C). More practice rather than theory. Find out more theory on nursing process (BSN-93, University C). The nurse should take action about it. Consider its goal, intervention and so on (BSN-126, University C).

Sub-category 1.5: Computerize to become more efficient

My suggestion is to make the nursing process more efficient like do it in computer. I mean systematic way (BSN-2, University C). Improve by making it applicable by typing any soft ware by all hospitals (BSN-17, University C). Use a soft copy instead of hard copy. Use laptop online or tab (BSN-21, University C). It should be including of what Islam teach to us that can be apply to the work (BSN-11, University C).

Sub-category 1.6: Improve application in clinical setting

Nurse needs to practice as it will improve the systematic management to the patients. The time take by the patient to recover depend also on the care given by health care provider. I hardly see the nurse in the hospital practicing the nursing process (BSN-12, University C). Absolutely indeed as most of the hospital existed in Malaysia, the nursing care plan for each patients are same starting from the first day of hospitalization until the patient got discharged (BSN-50, University C). I think the

application not being improved, but the practitioners are who need to change and improve (BSN-52, University C).

It has to be improved. In clinical setting, there should be a push to force the staff nurses as well as student nurses to emphasize on the nursing process (BSN-55, University C). I think the application not being improved, but the practitioners are who need to change and improve (BSN-52, University C). NPM should be applied by all nurses regardless of their degree of study (BSN-62, University C). Nurses should implement nursing process during taking care of patients (BSN-65, University C). In theory. I think it was already good but in practice the student nurses should not copy the previous nursing diagnosis. If the evaluation was met, nurse should come up new nursing process if the patient is not discharge yet (BSN-71, University C).

Encourage staff nurse to implement the intervention, not only write it as the book (BSN-89, University C). Theoretically I think it is good enough. Practically may be the nurse should write the nursing process every 2 hours in a shift. When a nurse came for shift, assess and write a nursing process. So, within 2 hours, evaluation can be written and move on for another nursing diagnosis (BSN-103, University C). By assessing patient holistically from head to toe every shift (BSN-135, University C). I think it need to be improved especially in clinical practice (BSN-154, University C). Need to focus on patient's care plan; intervention does not reflect the NCP (BSN-139, University C). Understand better subjective and objective data from the patient thus we can give the best intervention to the patient (BSN-145, University C).

Sub-category 1.7: Need to reinforce and monitor practices

May be strict law needs to be imposed on the RN that failed to improve the patient's condition without solid reasons. And also, it is very likely depend majorly on the RN's willing to do the best for patient (BSN-33, University C). I suggest that NP in clinical practice need to be monitored from time to time to avoid any cheating and copy paste only (BSN-56, University C). It has to be improved. In clinical setting, there should be a push to force the staff nurses as well as student nurses to emphasize on the nursing process (BSN-55, University C). Explanation more about intervention and has to evaluate. Documentation of all action/care plan (BSN-95, University C). Ensure SN is honest and be responsible during doing their work (BSN-96, University C). I think once the nursing process is applied both theory and practice, there will be one authority to check whether they do or not. Thus, it shows the efficiency of the care (BSN-131, University C).

The ratio of nurse to patient must be reasonable. The nurse also needs to observe/review on the nursing process in patient/in class by on more knowledgeable officer/lecturer (BSN-99, University C). NPM application should be applied in both learning theory and practical session in order to improve students in practical setting. Application of nursing process in teaching and clinical practice sessions need to be improved by auditing nurses whether they are doing it in correct way. Besides that, student must also learn how to apply it in correct way rather than just following what nurses do (BSN-138, University C). I suggest that if systematized and good management of nursing process in SN job must be evaluate and make it innovative way to ease the burden of SN. When we are learning, everything will look easy but it is not same as we go to clinical setting. Staff nurse should have "get ready" or

standardized of nursing process that are provided by hospital so it will be easy for them to refer to the guidelines (BSN-140, University C).

Sub-category 1.8: Improve teaching in institution, match theory and practice

Improve the teaching (education) in nursing institution (BSN-148, University C). Provide a session for specific test (BSN-23, University C). Lecturer need to provide more information related to nursing process. Publish nursing process on internet so that student can easily access it (BSN-30, University C). The lecturers should teach their students by giving the example; so that the students can understand better and the students should apply what they had learned in the clinical practice (BSN-62, University C). Learn and understand more about nursing process so that nurses can understand more about their patients (BSN-91, University C) Provide learning based method in hospital setting (BSN-106, University C).

The nursing process in teaching and clinical practice session should be improved to provide more effective way of nursing intervention (BSN-107, University C). Good for learning process and practical. Combine both in the learning process (BSN-130, University C). I do think that application of nursing process in teaching and clinical practice sessions need improvement there are some nursing student who are still unable to formulate the appropriate nursing diagnosis for a certain patient (BSN-142, University C). In theory, the nursing students should already learned and practice well because be a staff/registered nurse. In practice, to have a good practice, the registered nurse/student nurse should have the theory. The theory is important to implement practice (BSN-155, University C). Teach the students/staff nurses how to do the correct and proper ways to make nursing process (BSN-161, University C).

Sub-category 1.9: Provide a workshop, talk, educational program and support group for nurses

Factors for success – empowerment of knowledge regarding nursing process, priorities to do nursing process (MSN-4, University C). Teach again nurses the effective way to do nursing process (MSN-5, University C). It need to be teach from lower grade of nursing school so that it is because get use to it and for practice and clinical setting, it needs more time and support group (BSN-108, University C). Provide educational programmes on application of nursing process among the nurses to make them more understand and know well how to apply it in their work (BSN-160, University C). Ward manager must highly expertise the nursing process that has been done by staff nurse. A workshop or talk regarding the importance of nursing process to be applied in order to improve patients' care need to be arranged (BSN-157, University C).

Sub-category 1.10: Improve as it is important and provide better quality care

Because it can care the patient very well (BSN-20, University C) Because it is an important in theory and practical (BSN-51, University C). Students need to understand the importance of nursing process (BSN-60, BSN-64, University C). Because nursing process is good for the betterment of our patient since it based on priority (BSN-152, University C). Think about quality of care to patient in both theory and practice (BSN-128, University C).

The next session is presenting the findings of University D.

The findings of University D

There are seven sub-categories namely “Make it simple” “Give more practical based exercise, practice and make it real” “Support needed resources from management, monitoring and evaluation” “Balance ratio of nurses and patients, make user friendly and time efficient” “Specific course, update latest illness and diseases” “Adequate knowledge and encourage nurses” and “Digitalize documentation” which are under the main category “Highlights to move forward” in University D. The detail descriptions are as follow.

Category 1: Highlights to move forward

The following are the sub-categories and detail descriptions of their answer excerpts.

Sub-category 1.1: Make it simple

Make theory model simpler (BSN-20, University D). Simpler nursing diagnosis. Straight to the point and patient centered. Not doing nursing process became been forces to do (BSN-24, University D).

Sub-category 1.2: Give more practical based exercise, practice and make it real

Give student exercise about NPM by giving scenario of patient (BSN-22, University D). By giving students exercise or more days to practicing in hospital could improve application of nursing process (BSN-23, University D). I think we should focuses more in clinical practice than teaching. Besides, I think the lecturer should ask every nursing students to perform the process with their observation because some students practice what they believe should be but in reality it's the wrong believe (BSN-33, University D). Make the teaching and clinical practice more

interesting, add more knowledge, give more examples and explain about the process (BSN-34, University D). Teach more how to do the interventions (BSN-38, University D).

It should be done as a real hospital condition experience (BSN-44, University D). More practice (BSN-50, University D). Teaching nursing students more on how to do NCP (BSN-51, University D). I suggest that if the clinical instructor can teach completely, for example; giving situation and discuss together may be it would be great (BSN-10, University D) Student should be in clinical setting long enough to observe and evaluate their nursing care plans due to some factors that affect the effectiveness of nursing interventions. In learning setting, nursing process is very relevant only if student is able to practice this model in real life situation, so that students able to see the effectiveness of their care plans (BSN-11, University D).

Sub-category 1.3: Support needed resources from management, monitoring and evaluation

Needed full support from the management in term of resources. In addition, monitoring and evaluation need to be done as to identify any shortcomings and need for further improvement (MSN-1, University D). Application of nursing process is a good of improvement steps in patient's care, but, important whether it is carried out as planned and appropriate to ward setting-availability of time and enough staff to carry out. Otherwise, it is only a paper work-failure, useless. Everyone in the ward setting co-operated and works with one goal (D-1, University D). Sometime cannot be applied in hospital because of several reasons such as environment, other staff, equipment, authorities and patient. NP should be improves, also nurses can be moved professional in future (BSN-29, University D). Make sure all students pass all the

theory examination and clinical examination. For better, make sure they are all succeeded (BSN-53, University D).

Sub-category 1.4: Balance ratio of nurses and patients, make user friendly and time efficient

Make sure ratio of patient nurse is balance to easy making chart and progress (BSN-25, University D). Decrease nurse patient ratio to 1:2 so that nursing process can be applied easily (BSN-39, University D). Should be learned and improve because it makes nurses' work become much easier and efficient. Make it more friendly and time-efficient (BSN-8, University D).

Sub-category 1.5: Specific course, update latest illness and diseases

Because this NP should be more innovative and creative by the time goes on. There more and new illness and diseases, that need new nursing process. It does not have been cut off but need something changes according to situation and conditions. (BSN-29, University D). Specific course in nursing program to teach nursing process. (BSN-42, University D).

Sub-category 1.6: Adequate knowledge and encourage nurses

Encourage nurses to ensure the application (BSN-31, University D). Need adequate knowledge on how to do and apply nursing process (BSN-3, University D).

Sub-category 1.7: Digitalize documentation

Documented in digital way (BSN-3, University D). It should be documented in a digital way (BSN-5, University D).

The next session is presenting the findings of University E.

The findings of University E

There are three sub-categories namely “Standardized teaching” “Make it real application” and “Provide adequate time” which are under the second main category “Highlights to move forward” in University A. The detail descriptions are as follow.

Category 1: Highlights to move forward

The following are the sub-categories and detail descriptions of their answer excerpts.

Sub-category 1.1: Standardized teaching

The criteria and demand should be standardized in teaching. For the practical part, I think it is crucial for the students to look back at what had they written for the nursing process in order to apply the patient (BSN-2, University E).

Sub-category 1.2: Make it real application

Application of nursing process in teaching and clinical practice sessions should be improved because we are not only planning on a written paper work and also need to make sure students are also know the ways to apply to the patient with supervision (BSN-3, University E).

Sub-category 1.3: Provide adequate time

Adequate time should be given to nurses for application and documentation of nursing process. Otherwise, the nursing process should be simplified to reduce the burden of documentation for nurses. Information systems should be improved to that documentation of nursing process can be done promptly (BSN-4, University E).

Conclusively, based on the main category which is “highlights to move forward”, there are eight sub-categories which are based on the answer excerpts of the student nurses from University A, five sub-categories which are based on the answer excerpts of the student nurses from University B, ten sub-categories which are based on the answer excerpts of the student nurses from University C, seven sub-categories which are based on the answer excerpts of the student nurses from University D and three sub-categories which are based on the answer excerpts of the student nurses from University E.

The next session is presenting the findings of the following question no. 3.

3) “Do you think that application of nursing process in teaching and clinical settings are successful? If “yes”, what are your opinions that what factors that support you to get succeed. If “no”, what are your opinions that what factors hinder you to apply nursing process?”

Total of 227 student nurses from five different institutions are willing to answer. According to the essence of question, 142 of them say “no” which means implementation of NPM application did not succeed and 85 of them say “yes” which means implementation of NPM is succeed. Based on their answers, there have the following two categories; category 1: promoting factors and category 2: hindrances. The researcher presents each university separately. The detail descriptions are as follow;

Findings of University A

There are two sub-categories namely “Favorable learning climate: Encouragement from the ward staff and sister, collaborative patient” and “The positive concerns and actions of educators, other health care providers and student

nurses” which are under the first main category “Promoting factors” in University A. The detail descriptions are as follow.

Category 1: Promoting factors

The following are the sub-categories and detail descriptions of their answer excerpts.

Sub-category 1.1: Favorable learning climate: Encouragement from the ward staff and sister, collaborative patient

One of the factors is the staff and the ward sister really encourages students to apply the nursing process during the clinical session. So, students get more familiar and comfortable to apply the application of nursing process (BSN-6, University A). Environment in the ward, condition of patient trigger nurses to do work based on nursing process (BSN-7, University A).

Sub-category 1.2: The positive concerns and actions of educators, other health care providers and student nurses

The educator always emphasize on using nursing process for every conditions learned (BSN-12, University A). All student nurses and other health care provider use the nursing process in delivery of care (BSN-14, University A). Lecturers always stress us and correct us in our case study (BSN-43, University A). We carefully assess the patient based on our knowledge. Then, we formulate the diagnosis according to priority, planning, implementing and evaluation (BSN-49, University A).

Category 2: Hindrances

There are four sub-categories namely “No formal standard teaching and guideline, and need to improve the concern of management and other team members” “Unfavourable climate for application ” “The knowledge, concepts and perception of nurses and student nurses” and “More focusing on functional rather than comprehensive nursing process” which are under the second main category “Hindrances” in University A. The following are the detail descriptions of their answer excerpts.

Sub-category 2.1: No formal standard teaching and guideline, and need to improve the concern of management and other team members

No standard teaching and guidelines on nursing process formally and understanding/knowledge (MSN-1, University A). I think it is really valuable to do but there are some issues like lack of staff or lack of support by the team members to apply nursing process, seriously in the hospitals. If attitude and knowledge of hospital managers and other team members change, it would be more feasible to do (BSN-18, University A). Inadequate equipment to practice (BSN-22, University A).

Sub-category 2.2: Unfavourable climate for application

Under sub-category 2.2, there are three more sub-categories namely “nurse patient ratio and workload” “time constraint and consuming time” and “too much writing for record/documentation/paperwork”. The following are the detail descriptions of their answer excerpts.

Sub-category 2.2.1: Nurse patient ratio and Workload

Patient and nurse ratio restrict nurses to apply nursing process in their clinical setting (MSN-1, University A). There are few factors and limitation for example; the time limitation and work load are the major constraints. Furthermore, the nurse patient ratio is more (not balance) (MSN-11, University A) In government hospital because of shortage of staff and many of them don't have time to do (MSN-12, University A). Time limiting due to patient nurse ratio (BSN-11, University A).

Because sometimes nurses are too busy with the nursing care and it is hard for them to document the nursing process (BSN-13, University A). Because of the workload (BSN-19, University A). Nurse patient ratio is not optimal. So, there is not adequate time to apply nursing process in the clinical setting (BSN-38, University A). They know and plan for it, but, they cannot perform it as planned. Other than that there is number of patient to be take care by the nurse (BSN-45, University A).

Sub-category 2.2.2: Time constraint and consuming time

Not enough time in patient care, lack of staff, no time for interview, planning and documentation with clients (MSN-6, University A). It is successful to use it, however, with the time constraints it is hard to apply at clinical settings (MSN-7, University A). In some clinical setting, nurses do not have enough time to think/to apply properly as a high priority (BSN-1, University A). Time consuming (BSN-3 and BSN-4, University A). Nursing process isn't usually applied nursing teaching and clinical sessions due to lack of time and the fact that every instructor has different methods of preferred nursing process (BSN-5, University A).

No enough time to apply it (BSN-31, University A). The time is not enough for that it required few days to collect the data. It may affect the nurses to apply the intervention to patient in time (BSN-34, University A). Time consuming (BSN-20, University A). In some emergency cases, may not have enough time to apply nursing process (BSN-40, University A). Because of staff nurse did not have enough time to apply the nursing process application in the clinical session (BSN-45, University A).

Sub-category 2.2.3: Too much writing for record/documentation/paperwork

Too much documentation instilled on nursing staff as they find nursing process is not important to document (MSN-1, University A). Too much of time to apply for nursing process especially documentation part (MSN-9, University A). It requires time to record. Nurses have no time to report/fulfill the needed record (BSN-9, University A). Too much writing plus staff nurse does not have enough time to document data (BSN-30, University A). Nurse have a lot of paper work to do including writing report, sending patient to operation theatre passing report, following doctor's round and etc. sometime they just have no time to apply nursing process in the clinical setting as they need to settle that whole lot of staff within one staff (BSN-38, University A). A lot of paper work (BSN-53, University A).

Sub-category 2.3: The knowledge, concepts and perception of nurses and student nurses

Need to emphasize that it is one of the ethical thing for each nurse do nursing care plan (MSN-10, University A). Sometime staff nurse does not apply the knowledge of nursing process in the practical setting even they have knowledge (BSN-2, University A). Because there is lacking on understanding in applying the correct concept of nursing process (BSN-10, University A). It is wasting of the time

because a lot of time will be used to provide nursing care to the patient (BSN-17, University A). The problem is the nursing process has been used when their study time but some staff nurse did not do it during their work time (BSN-47, University A).

Sub-category 2.4: More focusing on functional rather than comprehensive nursing process

Not all the staff and students applied the nursing process and administer nursing care based on nursing process. Most of them deliver the care within doctors' order (BSN-15, University A). They applied the standard care instead of individualized care (BSN-50, University A). Because not all the nurses apply comprehensive nursing process because they are busy (BSN-51, University A).

The next session is presenting the findings of University B.

Findings of University B

There are four sub-categories namely "Learned theory guide practical" "Supportive learning climate" "Hospital administration support" and "Motivated instinct" which are under the first main category "Promoting factors" in University B. The detail descriptions are as follow.

Category 1: Promoting factors

The following are the sub-categories and detail descriptions of their answer excerpts.

Sub-category 1.1: Learned theory guide practical

What I learned in college make easy for my practical session (D-4, University B). The tutor doing it well and it really helps us to improve ourselves in nursing patients (D-31, University B). I focused during lesson in class (D-86, University B).

Sub-category 1.2: Supportive learning climate

It is used well in clinical session (D-20, University B). The trainer often emphasized so that the students always follow the nursing process to facilitate our actions during clinical (D-34, University B). Our lecturer asked use to apply nursing process when we at practical area. And we apply it when we are at clinical area (D-35, University B). This is also the source of tutor that good in teaching and practicing well in performing nursing process (D-53, University B). Always practice nursing process in teaching and clinical session (D-54, University B). Always practice at both of that practice make perfect (D-55, University B). Because majority if apply in ward is needful (D-65, University B).

In this hospital, I can apply nursing process model for both learning theory and practicing in the clinical setting. In my clinical area, a form of nursing process already been provide and we choose the suitable nursing diagnosis for the patient. based on the form that already listed intervention, we can apply on patient, get outcome and achieve the goal to get evaluation (D-104, University B). The factor successful in nursing process is our responsible to look after the patient every day (D-137, University B). And my tutor uses it to teach students and make us being more understand day (D-149, University B).

Sub-category 1.3: Hospital administration support

The hospital administration supports the application of nursing process day (D-97, University B). The hospital learning environment support in application of nursing process day (D-102, University B). For my opinion, the hospital learning environment support in application of nursing process day (D-116, University B).

Sub-category 1.4: Motivated instinct

It is the one factor that can make me becomes a good staff nurse one day (D-63, University B). Because it teach me to become a dedicated staff later day (D-62, University B). When my posting I can apply it on my job/duty because for me as a student it become my role model to manage my job day (D-149, University B).

Category 2: Hindrances

There are two sub-categories namely “Standardize in application format again due to institutional change” and “Unfavourable climate for application” which are under the second main category “Hindrances” in University B. The following are the sub-categories and detail descriptions of their answer excerpts.

Sub-category 2.1: Standardize in application format again due to institutional change

The education management of the college changes, the lecturer changes, the format changes, as all the changes there is no a landing of decision. It would be better to call all the medical board to sit and discussed about the care as it could be standardized so there will be no argument between the health workers. Sometimes the students can't cope with sudden change. Where we all know that we have 10 fingers in different size, the same goes to each people character and behavior.

Anything the change occurs should be informed to all the health care workers day (D-39, University B).

Sub-category 2.2: Unfavourable climate for application

Under sub-category 2.2, there are four more sub-categories namely “Time constraint and many sheets for planning and intervention” “Nurse patient ratio and workload” “Theory practice mismatch” and “Concern of nurses in clinical”. The following are the detail descriptions of their answer excerpts.

Sub-category 2.2.1: Time constraint and many sheets for planning and intervention

Do not have enough time to plan in case a lot of patient is under care. A lot of sheets are needed to occupied planning and intervention day (D-25, University B). Not enough time to do the nursing process as the staff still need to do other works day (D-47, University B). There is no enough time to apply it during patient care day (D-50, University B). As the time needed is insufficient day (D-51, University B). Lack of time to apply nursing process completely when working day (D-57, University B). Lack of time in clinical area day (D-58, D-59, D-60, D-71, D-72 and D-73, University B).

There is not enough time to apply nursing process during patient care day (D-74 and D-75, University B). Because not have time day (D-110, University B) Don't have time to apply day (D-123, University B). But, sometimes, as a nurse, not all of the interventions can be done as there is not much time day (D-130, University B). Nurses do not have enough time to apply it to the patient because the ratio of nurses and patient day (D-135, University B). Nursing process is difficult to do when you are very rushing in the hospital day (D-156, University B).

Sub-category 2.2.2: Nurse patient ratio and workload

The time allocated and the number of patients that we need to nurse is 1:11. So it is really hard to practice. The time allocated is really not enough to practice all this NPM day (D-31, University B). Nursing process also is hard to apply for some nurses especially for them who in the busy ward, since they have no much time to allocate enough time to apply nursing process day (D-32, University B). Because some of the nursing process did not answer truly. It may be because of busy ward day (D-77, University B). Because at clinical session it is a bit busy and the staff can't perform well in written the nursing process day (D-162, University B).

Sub-category 2.2.3: Theory practice mismatch

Learning theory and practicing in the clinical is very different. When we applied is more difficult and we must follow what we plan for better outcome day (D-49, University B). Theory not shows the real. So, when in clinical it is more practical. Chance to observe the realistic, very limited day (D-76, University B).

Sub-category 2.2.4: Concern of nurses in clinical

Because some of health care or nurses did not perform the nursing process appropriately day (D-61, University B). Because some staff nurse un-honest in doing their work day (D-100, University B). The staff does not have interest to fill the nursing process form because don't have time to record and too busy in apply the procedure to patient day (D-107, University B).

The next session is presenting the findings of University C.

Findings of University C

There are four sub-categories namely “Positive learning climate: Motivation from supervisor, cooperative co-workers and patient” “More practice and effective time management” “Understanding the objectives and its importance, hardworking” and “Focusing on nursing process in teaching and clinical” which are under the first main category “Promoting factors” in University C. The following are the sub-categories and detail descriptions of their answer excerpts.

Category 1: Promoting factors

Sub-category 1.1: Positive learning climate: Motivation from supervisor, cooperative co-workers and patient

Factors support includes high motivation and role model by supervisor (PhD-2, University C). Factor that supports me to get succeed is the patient itself. Encourage me a lot to do better when the patient recover from the disease (BSN-2, University C). By asking respective lecturer about nursing process if I feel unclear about something. (BSN-7, University C). Cooperation from patient, co-worker and other professional. (BSN-39, University C) Patient’s collaboration helps a lot (BSN-17, University C). The staff nurses and lecturers are very kind to teach (BSN-41, University C). Because of the lecturer’s contribution in teaching us willingly (BSN-48, University C).

Sub-category 1.2: More practice and effective time management

The factor is we have learned more practical beside the theory which the practical is more important we need to apply (BSN-11, University C). The application of nursing process in teaching and clinical session is good and improve

my skill to practice in doing the posting (BSN-14, University C). By more efficient time management (BSN-28, University C). Due to many practice (BSN-37, University C). Due to many clinical practice (BSN-42, University C). Because it is always applied in theory and clinical setting (BSN-51, University C). Because we are applying the nursing process in the clinical session (BSN-62, University C).

Especially when during studying, our responsibility is less than registered nurse. Therefore, we have enough time for patient and can complete the nursing care without worried about other patients (BSN-84, University C). While during clinical session, the experience in hospital with the patient help me in performing intervention according to nursing diagnosis. This is also because clinical session is a real situation. So I gain a lot of knowledge on how to perform nursing interventions that satisfy client's need (BSN-87, University C).

Sub-category 1.3: Understanding the objectives and its importance, hardworking

Through understanding of objective of nursing process make me realize its importance. My lecturer and clinical instructor also are very good and always explaining the priority nursing intervention that we should focus (BSN-74, University C). because of the hardworking and awesome health care institute. (BSN-77, University C).

Sub-category 1.4: Focusing on nursing process in teaching and clinical

The teaching session help me a lot in formulating a proper nursing process. The exercise given by lecturers and the assignments also one of the factors that help me in writing nursing process (BSN-87, University C). Usually at the class, lecturers focused more with nursing management that includes nursing process. Therefore,

nursing process becomes easier to be practiced in clinical setting (BSN-105, University C). The factors are including from teachers and academic sources (BSN-106, University C). We are doing case study, I need to do assessment and find out the problem. Then, come out with goal, plan, and intervention and lastly evaluate the intervention. By doing this, I learned a lot and hopefully, in the future during be registered nurse, I can apply it. However, the practice is still not well practiced among nurses (BSN-155, University C).

Category 2: Hindrances

There are seven sub-categories namely “Unfavourable clinical learning climate for application” “Inadequate management support” “Inadequate time, imbalance nurse patient ratio and burden workload” “Insufficient knowledge and practice, poor empowerment” “Mismatch of theory and practice, need more practice” “Do not revising student’s application” and “Concern and willingness of nurses and student nurses” which are under the second main category “Hindrances” in University C. The following are the sub-categories and detail descriptions of their answer excerpts

Sub-category 2.1: Unfavourable clinical learning climate for application

I see most of the staff nurses at there usually don’t practice the nursing process correctly (BSN-10, University C). Giving awareness to the SN about the intervention needs for the patient care (PhD-3, University C). Most of staff nurses and clients do not practice nursing process in hospital (BSN-4, University C). Because I just learn about nursing process and I don’t have any experience regarding applying the nursing process to the client (BSN-12, University C). Because there are

some nurses not follow nursing process (BSN-19, University C). Because I have seen RN did write the nursing process, but did not apply it in their clinical sessions. Also, they tend to repeat the same nursing diagnoses even though the patient has no longer had that problem (BSN-33, University C).

Most of nurses only copying the nursing process from other people. They are not planning it correctly (BSN-34, University C). The diagnosis sometimes been copied from the previous day even the goal had been achieved. May be the nursing process should be diminished because it is not that the care to patient will effect if the nursing process is not done. Plus we can give more care to patient if the nursing process is not need to do (BSN-35, University C).

Sub-category 2.2: Inadequate management support

Management did not support the application of nursing process. It only documented but not “technically apply” to the patient (MSN-8, University C). In the teaching as it help us to manage our work. No in clinical settings as they have no time to write on paper but if they can manage their time wisely nothing impossible. For theory, I think is already enough as the lecturers always guide us what to do, if not, we also can googling by ourselves. But, on the other hand, in clinical settings are not satisfying as for me the nurses are busy in caring the patient and they are stressed with many papers and reports. So, the hospital should take part in monitoring the environment of the ward and reduce their stress so that nurses can take care of the patients based on the nursing care plan (BSN-76, University C)

Sub-category 2.3: Inadequate time, imbalance nurse patient ratio and burden workload

Nurses do not have enough time “always copy the previous nursing diagnosis and nursing care plan in clinical setting” (BSN-30, University C). Because the application of nursing process is not performing well due to clinical setting that burden nurses with a lot of responsibilities (BSN-31, University C). Because the nurses do not have enough time (BSN-36, University C). During teaching many exercises on NP is done so that makes us giving better care for the patient. No for clinical sessions because of inadequate number of nurses to patient thus prevent from achieving the best outcomes for the patient (BSN-44, University C). For hospital that provides enough nurses such as 3 patients for one nurse (max). No for very busy hospital such as government hospital. They should provide more space for nurses and patient and more nurses in number because nurse is also human (BSN-52, University C).

My observation in one clinical setting, staff nurses are not done nursing process because of a lot of work to do (BSN-61, University C). Lack of time to do so. Some just re-write the nursing process do not seriously evaluate the patient condition. Increase the number of nurses in a setting so that the ratio of patient: nurse will decrease and a better health care service can be provided (BSN-70, University C). Sometime it seems like nursing process too hard for the beginner. In practice, the application is quite hard, as it depends on the patient’s problem Sometime the nurses are small number in a setting, not enough time to apply all the nursing intervention that want to be applied to the client (BSN-72, University C). They not refer back to what they plan in their intervention because a lot of work to do including documentation (BSN-89, University C).

Factors that hinder are the ratio between SN and patient too big. SN not has enough time to implement all of this (BSN-96, University C). In teaching sessions as we can refer to the lecturer who is expertise. No, in clinical session as limited time to focus thoroughly for each patient (BSN-99, University C). Partially due to imbalance proportion of nurse/patient in hospital (BSN-101, University C). Application in both settings are crucial but it is hard to be implemented overall of nursing process during clinical settings (BSN-102, University C). Students cannot identify what is the priority and suitable interventions for some of nursing diagnosis. It is all based on critical thinking and not all have that thinking (BSN-103, University C). Because we do not have enough staff and there are a lot of clients and do not have enough time (BSN-108, University C).

Because there are many patients to take care of and there are a lot of paper work that need to be done by staff nurse. So, sometimes, they do not conduct properly the nursing process in clinical setting. (BSN-110, University C). Because a lot of patients need to take care of. A lot of time needed to do each nursing process for each patient (BSN-114, University C). This is become when teaching in class the student to make and consider it as an important thing. However, when in duty, the nurses take this as light things due to high workload and no time to do it (BSN-126, University C). Because of behavior of the nurses themselves busy with their work to do report because of many patients. Theory-have to learn more specific diagnoses and interventions. Practical-not all can apply in clinical setting according to patient's needs (BSN-131, University C). Especially during clinical sessions. We are emphasized more on intervention rather than other part. The rest mostly left out due to workload more and not enough time (BSN-132, University C).

Nurse: patient ratio is too high Need somebody (helper) done the nursing process too much writing (BSN-134, University C). Staff nurse too busy and sometime does not have time to do the nursing process (BSN-139, University C). The application of nursing process in clinical setting is not applied by the staff nurse fully. Sometimes SN not has much time to do all care and not remember what task should be done to take care of the patient needs (BSN-140, University C). Because nurses do not have time to apply it correctly in clinical setting (BSN-146, University C). Not assessing patient well. Increase workload. If staff nurse have much time, they tend to create good nursing process, follow up the patient and achieve the goal of care (BSN-157, University C). Time limited and unable to identify the priority needs of the patients (BSN-161, University C).

Sub-category 2.4: Insufficient knowledge and practice, poor empowerment

Students still need to improve it (BSN-32, University C). For me, application with nursing process in teaching session is successful, however, in clinical setting, it is not successful (BSN-45, University C). As a student nurse we still do not have sufficient knowledge regarding medical problem. The practical skill also is not well developed compared to any experienced staff nurse (BSN-49, University C). The empowerment still poor (BSN-130, University C).

Sub-category 2.5: Mismatch of theory and practice, need more practice

Sometimes, the application of nursing process during clinical setting and learning theory is different. This is because sometime they used to use simple nursing diagnosis as in clinical setting (BSN-80, University C). In teaching, we only learn from theoretically and based on the guidelines given, but in clinical, the

students may confuse from the actual staff nurses practically done the nursing process as most of them promptly just copies and past the last and first nursing process from the first patient admitted and they does not update it (BSN-82, University C).

Application of nursing process in teaching is successful but not in clinical sessions. As a student, yes we need to use it as practice for future care, but the staffs are not really using it. May be there is a need for flexibility in application of nursing process (BSN-83, University C). Because we as students not fully handle the patient during our clinical. (BSN-148, University C) Because during my time the teaching of nursing process not being delivered or not being teach in proper way (BSN-154, University C).

Sub-category 2.6: Do not revising student's application

Because it just a collection of data; no revision will be done (BSN-85, University C). Nursing process done just as database collected. No revision doing upon it. Discuss NCP with patient and health care provider is very much needed for effectiveness of NPM (BSN-86, University C).

Sub-category 2.7: Concern and willingness of nurses and student nurses

Sometimes it based on the nurse itself on how they take this thing either seriously or not. And what is the reason of nurses just copy and paste the NCP as the day before? Does the patient doesn't have improvement? Or the improvement is not being done to the patient? They are practicing good but like always, no one is doing that willingly (BSN-50, University C). From my observation staff nurse will copy and paste from previous nursing process/NCP without assessing client (BSN-54,

University C). As I observed in clinical setting, staff nurses take it easy when it comes to nursing process care plan. But, it is not all, it is just some (BSN-55, University C).

As what I see in the clinical settings the nurses do not even apply the nursing process they made. They work the nursing process because they are compulsory to do. As for teaching process, the students do not really interested in doing nursing process as it takes too much time and thinking (BSN-68, University C). Because some students do not come with new NP even the evaluation was met. They just copy the previous NP (BSN-71, University C). This is because only some staff focuses on implementing nursing process (BSN-90, University C). All nurses should apply nursing diagnosis properly. The staff should not just copy paste the nursing process. They should do nursing process properly in taking care of patients (BSN-92, University C).

Because some hospital only assume nursing process as small matter. They just write nursing process without assessing patient (BSN-93, University C). The nursing process is usually use on ICU and very uncommon on medical ward (BSN-104, University C). Because sometimes, SN just got used to just write the nursing process, but does not do it in the real situation. As a nurse, we should implement what we have learned in nursing process (BSN-107, University C). I think health care providers should be prudent in making choices so that we can attain good predicament. Because the application of NP itself is perfect but the lack of attitude and behavior at people towards it (BSN-111, University C). It depends to nurse who want to implement it or not (BSN-121, University C). The implementation in real situation is not really conclusive. I stand neutral in this issue as there are certain nurses who implement this NPM properly while some are not really. The problem is

on the staff nurses themselves whether to apply this or not in clinical setting (BSN-122 and BSN-123, University C).

The model is good but the problem is on the staff nurses themselves (BSN-147, University C). Application of nursing process can be success if staff nurse aware the important of nursing process (BSN-157, University C). The nurses sometimes overlooked the real problems faced by the patient that lead them to misjudge the real nursing process. Some of nurses also only charting the nursing process from the beginning of the patient's admission without looking at the patient's progression from day to day (BSN-160, University C).

Findings of University D

There are four sub-categories namely "Understanding the concepts, meaning and purpose of nursing process" "Adequate lecturing and practices, guiding by experienced lecturers and clinical instructors" "Clinical classes before practice" and "Intrinsic and extrinsic motivation, conducive learning environment" which are under the first main category "Promoting factors" in University D. The following are the sub-categories and detail descriptions of their answer excerpts.

Category 1: Promoting factors

Sub-category 1.1: Understanding the concepts, meaning and purpose of nursing process

The student can perform the procedure with the nursing process and they also understand the concept sometime (BSN-1, University D). The student nurse can perform clinical procedure through nursing process. They understand what the meaning of nursing process (BSN-2, University D).

Sub-category 1.2: Adequate lecturing and practices, guiding by experienced lecturers and clinical instructors

Lecture concern and adequate practice on how to do nursing process (BSN-3, University D). Because the teaching and clinical sessions became much easier for the students and teachers. The students able to develop critical thinking and be creative about solving problems in nursing care (BSN-4, University D). Because students need or are required to do the nursing process in clinical sessions as part of their assignments (MSN-1, University D). The factors that support me to get succeed is when I really understand what is the purpose of nursing process and how to handle it (BSN-28, University D). Because the nursing process has been repeatedly taught in class (BSN-39, University D). Application of nursing process in teaching and clinical sessions encourage students practice better and correct in perform any procedures (BSN-40, University D). Experienced clinical instructor and lecturers guide us. Nursing process assessment frequently held during clinical attachment (BSN-42, University D).

Sub-category 1.3: Clinical classes before practice

The clinical classes before the real practice are good because it make us easy to understand the procedure (BSN-26, University D). The clinical classes before the real practice are too good and easier to understand. Students feel confident to do nursing process in real situation (BSN-53, University D).

Sub-category 1.4: Intrinsic and extrinsic motivation, conducive learning environment

Factors that support me to get succeed are from internal and external factors. From internal factors, such as my curiosity, to learn and practice new things in

nursing. from external factors, such as friends who encourage me to succeed, clinical teacher that always help and update new things to be learned for me and other person like family and community (BSN-29, University D). Factors that support me to get succeed; interest in nursing, willingness of lecturer to teach sincerely, conducive environment (BSN-34, University D).

The reason I said so is due to lack of experience to apply the nursing process in teaching and clinical sessions is not an obstacle that we cannot handle in our life, instead go seek for several helps from the seniors or even the professional ones regarding the proper application of nursing process. Just continue to learn new things until we manage to understand and practice it in our daily job routine (BSN-55, University D).

Category 2: Hindrances

There are two sub-categories; “Busy ward, insufficient time, imbalance nurse patient ratio” and “Confusing while it turn to practice” which are under the second main category “Hindrances” in University D. The following are the sub-categories and detail descriptions of their answer excerpts.

Sub-category 2.1: Busy ward, insufficient time, imbalance nurse patient ratio

Some of the staffs do not do NPM application. Some of the staff are so busy and have to attend many patients (BSN-8, University D). Because I can fully apply the nursing process to my patient. I just do nursing care plan but all the intervention, the evaluation I can't do it because there is no enough time (BSN-10, University D). The ratio of nurses to patients is not balance. Thus, this will lead to poor nursing care given by the nurse to the patient (BSN-11, University D). NPM is not really applied

well in ward. I think the environment of ward like too busy of nurses make nursing process late to be done (BSN-25, University D). Because the health care workers don't have enough time to do nursing process and more focused on report of patient (BSN-41, University D). Not adequate time for staff nurse because too many report to be done (BSN-50, University D).

Sub-category 2.2: Confusing while it turn to practice

Because it is confusing (BSN-9, University D). Staff nurses do not write it appropriately (BSN-9, University D). Lecturer keep teach us the best way to teach us but sometime I get confused (BSN-18, University D). Some ward did not apply appropriate nursing process to the patients (BSN-12, University D). Since not all nurses are really applying the nursing process in their practice properly. Plus, clinical session have different environment compared to teaching session (BSN-14, University D). Nursing process is good. If we really applying it specifically to patient and really can perform the intervention to the patient, not just on paper. I guess if the nursing process is practical enough, every nurses will be able to perform excellent in their nursing care (BSN-24, University D). The next session is presenting the findings of University E.

Findings of University E

There are only two students are willing to answer and only mentioning the hindering factors as follow.

Category 2: Hindrances

Sub-category 2.1: Cannot apply nursing process properly

So far I've been depend this nursing process in my clinical sessions and taught to provide a proper care (BSN-1, University E). I can't write down the nursing process yet doing some of the intervention but not all the interventions as I cannot use to refer back the nursing process than I have done before (BSN-2, University E).

Conclusively, there are two main categories based on the question which are "Category 1: Promoting factors" and "Category 2: Hindrances". Based on the first main category, there are two sub-categories based on the answer excerpts of University A students, four sub-categories based on the answer excerpts of University B students, four sub-categories based on the answer excerpts of University C students, four sub-categories based on the answer excerpts of University D students and there is no students answering it in University E. Based on the second main category, there are four sub-categories based on the answer excerpts of University A students, two sub-categories based on the answer excerpts of University B students, seven sub-categories based on the answer excerpts of University C students, two sub-categories based on the answer excerpts of University D students and one sub-category based on the answer excerpts of University E students.

Summarizing Qualitative findings of Academic staff and student nurses

The researcher summarizes all main categories and sub-categories of academic staffs and student nurses for the last 3 open-ended questions in the following tables.

Table 4.40

Summarize findings of the Academic staffs and Student nurses' overall Opinions and Suggestions on the Strengths of NPM Application in both Teaching/learning Theory and Practicing in Clinical settings

Main category 1: “Strengths of NPM”						
Academic staff	UniA	Students UniA	Students UniB	Students UniC	Students UniD	Students UniE
Sub-category 1.1: A powerful tool, two way communication and systematic	Sub-category 1.1: A good framework, holistics and best model	Sub-category 1.1: Act as a Good Guide	Sub-category 1.1: Valuable guide, best/excellent model, good framework, organized, holistic	Sub-category 1.1: A Guideline, Good and useful, best way, systematic and organized	Sub-category 1.1: A Systematic guidelines, systematic and organized	Sub-category 1.1: A Systematic guidelines, systematic and organized
Sub-category 1.2: Client centered, continuity of care and comprehensive	Sub-category 1.2: Problem solving, reliable, and better management of work	Sub-category 1.2: Helps in identifying patient’s needs, problem and at risks	Sub-category 1.2: Can detect patient’s problems and needs, improve skills, make easier	Sub-category 1.2: Can Improve understanding on nursing, decision and quality care	Sub-category 1.2: Can Provide relevant and quality care efficiently	Sub-category 1.2: Can Provide relevant and quality care efficiently
Sub-category 1.3: Can identify the patient’s needs and problems	Sub-category 1.3: Efficient, systematic, standardized, organized and clear documentation	Sub-category 1.3: Can do planning in proper way	Sub-category 1.3: Can plan and proof	Sub-category 1.3: Can Provide relevant treatment, better care, can monitor and patient improve faster	Sub-category 1.3: Good planning and provide rationalize plan	Sub-category 1.3: Good planning and provide rationalize plan
Sub-category 1.4: provide appropriate care, better care and more effective		Sub-category 1.4: Can do evaluation and documentation of care				

Table 4.40

Continued

Main category 1: "Strengths of NPM"					
Academic staff UniABCDE	Students UniA	Students UniB	Students UniC	Students UniD	Students UniE
Sub-category 1.5: Evidence-based practices, very structured and clear	Sub-category 1.4: Identify patient's needs, better care and outcome, reduce hospital stay	Sub-category 1.5: Good and Systematic	Sub-category 1.4: A Good and efficient nurse, mutual benefits for nurse and patient, better quality service and best treatment	Sub-category 1.4: Critical thinking	Sub-category 1.4: Better nursing care, achieving goal and nurses feeling motivated
	Sub-category 1.6: Best quality nursing care and make quality professional nurses	Sub-category 1.6: Good progress and discharge earlier	Sub-category 1.5: Increase awareness and alert, rapid recovery of patients	Sub-category 1.5: Improve image and provide sense of responsibility	Sub-category 1.5: Critical thinking and innovating
	Sub-category 1.5: Rationalize, Stimulate and enhance critical thinking	Sub-category 1.7: Good progress and discharge earlier	Sub-category 1.6: Can evaluate		
			Sub-category 1.7: More creative, innovative and critical thinking		

Table 4.41

Summarize findings of the Academic staffs and Student nurses' overall Opinions and Suggestions on the Weaknesses of NPM Application in both Teaching/Learning Theory and Practicing in Clinical settings

Main category 2: “Weaknesses while implementing NPM application”						
Academic staff	UniABCD	Students UniA	Students UniB	Students UniC	Students UniD	Students UniE
Sub-category 2.1: Unfavorable working/learning climate		Sub-category 2.1: Unfavorable working/learning climate	Sub-category 2.1: Unfavorable working/learning climate	Sub-category 2.1: Unfavorable working/learning climate	Sub-category 2.1: Unfavorable working/learning climate	Sub-category 2.1: Unfavorable working/learning climate
Time consuming		Workload	Workload	Time constraints	Time constraint and time consuming	Time consuming
Time constraint		Time constraints	Time constraints	Too much paperwork	too much paperwork	Time consuming and constraint
Workload		Nurse patient ratio	Nurse patient ratio	Over workload	Ratio of nurses	Loss direction due to
Too much paper work/documentation/forms to complete		Non-professional nursing tasks	Uncooperative teamwork	Concern of nurses and student nurses	Limited resources and support	documentations besides NPM
No proper guide or application to apply NPM		Too much paper work	Too much paper work	Nurse patient ratio and a gap		Sub-category 2.2:
Attitude and less critical thinking of staff nurses and		Concerns of nurses and management in clinical	Concern of nurses and patients	Patient concern	Sub-category 2.2:	Different teaching format
Inadequate administrative supportive system			Resources		Confuse on how to apply and relate	and materials

Table 4.41

Continued

Main category 2: “Weaknesses while implementing NPM application”						
Academic staff UniABCDE (n =36)	Students UniA (n =31)	Students UniB (n =121)	Students UniC (n = 149)	Students UniD = 33)	(n Students UniE (n=12)	
Sub-category 2.2: Very broad concepts for the students and Theory practice gap	Sub-category 2.2: Unclear understandings on application	Sub-category 2.2: Theory practice gap and Standardize format Sub-category 2.3: Vague understanding on application		Sub-category 2.3: Hard to recall relevant nursing diagnosis sometime Sub-category 2.4: Reality is beyond expectation	Sub-category 2.3: Poor awareness of users	

Table 4.42

Summarize findings of Academic staffs and Student nurses' Suggestions to improve NPM Application in both Theory and Practice

Main category 1 “Highlights to move forwards”						
Academic staff	UniABCDE	Students UniA	Students UniB	Students UniC	Students UniD	Students UniE
Sub-category 1.1: Raise knowledge, awareness, and change attitude	Sub-category 1.1: Standardize and latest materials for teaching and clinical setting	Sub-category 1.1: Sub-category 1.1: Standardize, make clear, simple and understandable	Sub-category 1.1: Revise to be more efficient, standardize and give a guide to follow	Sub-category 1.1: Make it simple	Sub-category 1.1: Standardized teaching	
Sub-category 1.2: Realistic, Practice based and Hands-on	Sub-category 1.2: Make it short and simpler	Sub-category 1.2: Improve teaching: Teach orderly, systematically, close guidance, more time and practice	Sub-category 1.2: Make it simple to understand more	Sub-category 1.2: Give more practical based exercise, practice and make it real	Sub-category 1.2: Make it real application	
Sub-category 1.3: Standard guidelines	Sub-category 1.3: More lectures, guided hands-on practice, and more concentrate on holistic nursing care	Sub-category 1.3: Improve knowledge and application in clinical setting	Sub-category 1.3: Appropriate nurse patient ratio and adequate time	Sub-category 1.3: Support needed resources from management, monitoring and evaluation	Sub-category 1.3: Provide adequate time	

Table 4.42

Continued

Main category 1 “Highlights to move forwards”									
Academic staff	UniA	Students	UniB	Students	UniC	Students	UniD	Students	UniE
Sub-category 1.5: Training, Continuing Nursing Education and Refresher course	Sub-category 1.4: Discussion, upgrade knowledge of staff, training and create adequate staffing	Sub-category 1.4: Add some more intervention for clinical setting	Sub-category 1.4: Apply and practice more, make it reality	Sub-category 1.4: Balance ratio of nurses and patients, make user friendly and time efficient					
Sub-category 1.6: Inter- and Intra-professional Collaboration	Sub-category 1.5: Inter-professional and intra-professional collaboration and management support	Sub-category 1.5: Use technology to be more discipline	Sub-category 1.5: Computerize to become more efficient	Sub-category 1.5: Specific course, update latest illness and diseases					
Sub-category 1.7: Recognition, Encouragement, Empowerment and Motivation	Sub-category 1.6: Need to conduct survey, audit, monitor and evaluate critically		Sub-category 1.6: Improve application in clinical setting	Sub-category 1.6: Adequate knowledge and encourage nurses					
Sub-category 1.8: Close Monitoring			Sub-category 1.7: Need to reinforce and monitor practices	Sub-category 1.7: Digitalize documentation					

Table 4.42

Continued

Main category 1 “Highlights to move forwards”					
Academic staff	UniABCDE	Students UniA	Students UniB	Students UniC	Students UniD Students UniE
Sub-category 1.9: Why it is fail and How to improve		Sub-category 1.7: Time for work out		Sub-category 1.8: Improve teaching in institution, match theory and practice	
		Sub-category 1.8: Improving the performance in clinical setting		Sub-category 1.9: Provide a workshop, talk, educational program and support group for nurses	
				Sub-category 1.10: Improve as it is important and provide better quality care	

Table 4.43

Summarize findings of Academic staffs and Student nurses' Opinions concerning the Factors that Promote while Applying NPM

Main category 1 “Promoting Factors”						
Academic staff	UniABCDE	Students UniA	Students UniB	Students UniC	Students UniD	Students UniE
Giving enough time to apply		Sub-category 1.1: Favorable learning climate: Encouragement from the ward staff and sister, collaborative patient	Sub-category 1.1: Learned theory guide practical	Sub-category 1.1: Positive learning climate: Motivation from supervisor, cooperative co-workers and patient	Sub-category 1.1: Understanding the concepts, meaning and purpose of nursing process	N/A
Having experts in teaching about NPM			Sub-category 1.2: Supportive learning climate			
Support of teaching sector and the nursing administration		Sub-category 1.2: The positive concerns and actions of educators, other health care providers and student nurses	Sub-category 1.3: Hospital support	Sub-category 1.2: More practice and effective time management	Sub-category 1.2: Adequate lecturing and practices, guiding by experienced lecturers and clinical instructors	
Awareness and reinforcement from nursing management			Sub-category 1.4: Motivated instinct	Sub-category 1.3: Understanding the objectives and its importance, hardworking	Sub-category 1.3: Clinical classes before practice	
				Sub-category 1.4: Focusing on nursing process in teaching and clinical	Sub-category 1.4: Intrinsic and extrinsic motivation, conducive learning environment	

Table 4. 44

Summarize findings of Academic staffs and Student nurses' Opinions concerning the Factors that Hinder while Applying NPM

Main category 2 “Hindrances”						
Academic staff	UniABCDE	Students UniA	Students UniB	Students UniC	Students UniD	Students UniE
Students perceived NPM as an evaluation tool for better marks		Sub-category 2.1: No formal standard teaching and guideline, again due to institutional learning climate for application	Sub-category 2.1: Need to standardize	Sub-category 2.1: Unfavorable clinical	Sub-category 2.1: Busy ward, insufficient time, imbalance nurse patient ratio	Sub-category 2.1: Cannot practice properly
Student nurses follow incorrect NPM which was suggested by in-charge staff nurse		Sub-category 2.2: concern of management and other team members	Sub-category 2.2: Unfavorable climate for application	Sub-category 2.2: Inadequate management support	Sub-category 2.2: Confusing while it turn to practice	
Not practicing critical thinking		Sub-category 2.2: Unfavorable climate for application	Sub-category 2.2.1: Time constraint and many sheets for planning imbalance nurse patient ratio and burden workload	Sub-category 2.3: Inadequate time, patient ratio and burden workload		
Incomplete report/documentation due to busy		Sub-category 2.2.1: Nurse patient ratio and Workload	Sub-category 2.2.2: Nurse patient ratio and workload	Sub-category 2.4: Insufficient knowledge and practice, poor empowerment		
Time constraint						
Time consuming						
Patient condition						
Too many paper work						
Burden in their work						

Table 4.44

Continued

Main category 2 “Hindrances”						
Academic staff	UniA	Students UniB	Students UniC	Students UniD	Students UniE	
Do not understand basic concepts about NPM	Sub-category 2.2.3: Too much writing for record/ documentation/paperwork	Sub-category 2.2.3: Theory practice mismatch	Sub-category 2.5: Mismatch of theory and practice, need more practice			
Lazy to upgrade						
Lousy ward routine	Sub-category 2.3: The knowledge, concepts and perception of nurses and student nurses	Sub-category 2.2.4: Concern of nurses in and clinical	Sub-category 2.6: Do not revising student’s application			
Do it as a must and tick without proper assessing patient’s condition			Sub-category 2.7: Concern and willingness of nurses and student nurses			
NPM can only success the support of nurses from the clinical service	Sub-category 2.4: More focusing on functional rather than comprehensive nursing process					
Difficult to manage and follow the correct structure of NPM in a complex practical setting						

Phase Three: Triangulating of Quantitative and Qualitative Findings of Student Nurses and Academic Staffs

Student Nurses' Extent of Knowledge and Exploration (academic staffs and student nurses). The quantitative findings concerning student nurses' knowledge about NPM, more than 50% of them can choose the correct answer (minimum 50% to 100% of student nurses); however, less correct response to distracter items (minimum 7% to 56% of student nurses). It indicates that there is needed to improve and understand clearly about NPM.

The qualitative findings of student nurses also showing as weaknesses while applying in category 2: weaknesses which is under the main category strengths vs. weaknesses in application of NPM with sub-categories such as *Sub-category 2.2*: unclear understanding on application (Student Nurses, University A); *Sub-category 2.2*: theory practice gap and standardize format; *Sub-category 2.3*: Vague understanding on application (Student Nurses, University B); *Sub-category 2.2*: confuse how to apply and relate (Student Nurses, University C); *Sub-category 2.3*: hard to recall relevant nursing diagnosis sometime (Student Nurses, University D); *Sub-category 2.2*: different teaching format and materials (Student Nurses, University E); *Sub-category 2.2*: very broad concepts for the students and theory practice gap (Academic staffs, University A, B, C, D, E).

In addition, in the category 2: hindrances from the main category promoting factors vs. hindrances in application, the student nurses and academic staffs explore such as *Sub-category 2.1*: no formal standard teaching guidelines (Student Nurses, University A); *Sub-category 2.1*: need to standardize again due to institutional change (Student Nurses, University B); *Sub-category 2.4*: insufficient knowledge and practice poor empowerment (Student Nurses, University C); *Sub-category 2.2*:

confusing while it turn to practice and the academic staffs from University A, B, C, D, E admit as do not understand the basic knowledge about NPM. Furthermore, the student nurses and academic staffs explore in the category 1: highlights to move forwards such as *sub-category 1.1*: standardize and latest materials for teaching and clinical setting (Student Nurses, University A); *sub-category 1.1*: standardize, make clear, simple and understandable (Student Nurses, University B); *sub-category 1.1*: revise to be more efficient, standardize, and give a guide to follow, *sub-category 1.2*: make it simple to understand more (Student Nurses, University C); *sub-category 1.1*: make it simple (Student Nurses, University D); *sub-category 1.1*: standardize teaching (Student Nurses, University E); and *sub-category 1.1*: raise knowledge, awareness and change attitude (Academic staffs, University A, B, C, D, E).

Conclusively, the extent of knowledge and their answers from open ended questions reveal that it is needed to improve and understand clearly about NPM by giving standardized guide and teaching which is updated, simple and clearly understandable for the academic staffs and student nurses to follow.

Attitude as Internal motivation. The quantitative findings concerning the aim and application, practicality and practicability, and the practice in clinical settings of NPM, the respondents have more positive rather than negative concern (minimum 64% to 100% of student nurses). The qualitative findings also showing the positive concern in a main category: strengths vs. weaknesses. In the category 1: the strengths of NPM, student nurses from University A explore as *sub-category 1.1*: A good framework, holistic and best model; *sub-category 1.2*: problem solving, reliable, and better management of work; *sub-category 1.3*: efficient, systematic, standardized, organized and clear documentation; *sub-category 1.4*: identify

patient's needs, better care and outcome, reduce hospital stay; *sub-category 1.5*: rationalize, Stimulate and enhance critical thinking. The student nurses from University B also explore as *sub-category 1.1*: act as a good guide; *sub-category 1.2*: helps in identifying patient's needs, problem and at risks; *sub-category 1.3*: can do planning in proper way; *sub-category 1.4*: can do evaluation and documentation of care; *sub-category 1.5*: good and systematic; *sub-category 1.6*: best quality nursing care and make quality professional nurses; *sub-category 1.7*: good progress and discharge earlier.

The student nurses from University C also explore as *sub-category 1.1*: valuable guide, best/excellent model, good framework, organized, systematic, holistic; *sub-category 1.2*: can detect patient's problems and needs, improve skills, make easier; *sub-category 1.3*: can plan and proof; *sub-category 1.4*: a good and efficient nurse, mutual benefits for nurse and patient, better quality service and best treatment; *sub-category 1.5*: increase awareness and alert, rapid recovery of patients; *sub-category 1.6*: can evaluate; *sub-category 1.7*: more creative, innovative and critical thinking. The student nurses from University D explore as *sub-category 1.1*: a guideline, good and useful, best way, systematic and organized, holistic; *sub-category 1.2*: improve understanding on nursing, decision making, patient's need and problem; *sub-category 1.3*: provide relevant treatment, better care, can monitor and patient improve faster; *sub-category 1.4*: critical thinking; *sub-category 1.5*: improve image and provide sense of responsibility.

The student nurses from University E also explore as *sub-category 1.1*: systematic guidelines, systematic and organized; *sub-category 1.2*: provide relevant and quality care efficiently; *sub-category 1.3*: good planning and provide rationalize plan; *sub-category 1.4*: better nursing care, achieving goal and nurses feeling

motivated; *sub-category 1.5*: critical thinking and innovating. The academic staffs from University A, B, C, D and E explore as *sub-category 1.1*: a powerful tool, two way communication tool and systematic; *sub-category 1.2*: client centered, continuity of care and comprehensive; *sub-category 1.3*: can identify the patient's needs and problem; *sub-category 1.4*: provide appropriate care, better care and more effective; *sub-category 1.5*: evidence-based practices, very structured and clear.

However, concerning the kardex system (record/documentation system), and the time available to apply NPM are rather unfavorable which affect the successful application of NPM. Total 70% of academic staffs perceive kardex system (the record system) composed of very specific details and 60 % admit do not satisfy to the record/documentation. Total 33% of student nurses perceive kardex system (the record system) composed of very specific details and 64% do not know whether it is composed of many details or not. Total 86% admit do not satisfy to the record/documentation. Total 44% of academic staffs point out no enough time to apply and 64% admit a lot of paper work to do; however, 84% perceive applying NPM is not wasting time indeed. Total 36% of student nurses point out no enough time to apply and 43% admit a lot of paper work to do; however, 86% perceive applying NPM is not wasting time indeed.

The qualitative findings also showing their necessary concerns in the category 2: weaknesses while applying NPM from the main category: strengths vs. weaknesses. The student nurses from University A, B, C, D and E explore as *sub-category 2.1*: unfavorable working/learning climate (workload, time constraints, nurse patient ratio, non-professional nursing tasks, too much paper work, concerns of nurses and management in clinical) (University A); *Sub-category 2.1*: unfavorable working/learning climate (workload, time constraints, nurse patient ratio,

uncooperative teamwork, too much paper work, concern of nurses and patients) (University B); *sub-category 2.1*: unfavorable working/learning climate (time constraints, too much paperwork, over workload, concern of nurses and student nurses, nurse patient ratio and a gap, patient concern, resources) (University C); *sub-category 2.1*: unfavorable working/learning climate (time constraint and time consuming, too much paperwork, ratio of nurses, limited resources and support); *sub-category 2.4*: reality is beyond expectation (University D); and *sub-category 2.1*: unfavorable working/learning climate (time consuming and constraint, loss direction due to documentations besides NPM); *sub-category 2.3*: poor awareness of users (University E).

The academic staffs from University A, B, C, D and E also explore as sub-category 2.1: unfavorable working/learning climate (time consuming , time constraint, heavy workload, too much paper work/documentations/forms to complete, no proper guide or application to apply NPM, attitude and less critical thinking of staff nurses and inadequate administrative supportive system.

Conclusively, both quantitative and qualitative findings reveal the attitude towards NPM and its application, the respondents have more positive rather than negative towards the aim and applicability of NPM. However, in terms of application in real settings, the working environment does not favor to apply NPM due to inadequate knowledge about NPM, theory practice gap, time constraint, many paper works for documentation purpose which take much time to complete, imbalance nurse patient ratio which affect the workload and time available of staff nurses and student nurses for application of NPM.

Supporting factors as External motivation. The quantitative findings concerning supporting factors as external motivation, 83% of student nurses and 82% of academic staffs admit the hospital administrations support the application of NPM. In addition, 75% of student nurses and 82% of academic staffs admit that there has supportive learning environment. The qualitative findings of student nurses and academic staffs also reveal how much hospital administration support is important in the category 1: promoting factors that enhance in application of NPM. The student nurses from University A explore as *sub-category 1.1*: favorable learning climate: Encouragement from the ward staff and sister, collaborative patient; *sub-category 1.2*: the positive concerns and actions of educators, other health care providers and student nurses.

The student nurses from University B, C and D also explore as sub-category 1.2: supportive learning climate; *sub-category 1.3*: hospital administration support (University B); *sub-category 1.1*: positive learning climate such as motivation from supervisor, cooperative co-workers and patient, *sub-category 1.4*: focusing on nursing process in teaching and clinical (University C); and *sub-category 1.4*: intrinsic and extrinsic motivation, conducive learning environment (University D). The academic staff from University A, B, C, D and E also explore promoting factors having experts in teaching about NPM, Support of teaching sector and the nursing administration, Awareness and reinforcement from nursing management. Total 82% of academic staffs also admit they had proper training on application of NPM.

Concerning the allocation of resources for application of NPM, 61% of student nurses and 64% of academic staffs admit the allocated resources are adequate. Concerning the time allocated, only 58% of student nurses and 62% of academic staffs state the time allocated to apply NPM is adequate. Concerning the

nurse patient ratio, only 54% of student nurses and 46% of academic staffs reveal the current nurse patient ratio is favorable to apply NPM. Total 72% of student nurses and only 56% of academic staffs admit they have appreciative feedback for applying NPM. Total 73% of student nurses reveal that there has a monitoring and evaluation system as the academic staffs mentioned the summative and formative assessment for student nurses' theory knowledge and practical performances; however, only 58% of academic staff state there has a monitoring and evaluation system in implementation of NPM.

The qualitative findings also showing the factors hindering in the category 2: hindrances from the main category promoting factors vs. hindrances. The student nurses from University A explore hindrances as *sub-category 2.1*: need to improve the concern of management and other team members; *sub-category 2.2*: unfavorable climate for application; *sub-category 2.2.1*: nurse patient ratio and workload; *sub-category 2.2.2*: time constraint and consuming time; *sub-category 2.2.3*: too much writing for record/ documentation/paperwork; *sub-category 2.3*: the knowledge, concepts and perception of nurses and student nurses; *sub-category 2.4*: more focusing on functional rather than comprehensive nursing process.

The student nurses from University B and C also state as *sub-category 2.2*: unfavorable climate for application; *sub-category 2.2.1*: time constraint and many sheets for planning and intervention; *sub-category 2.2.2*: nurse patient ratio and workload; *sub-category 2.2.3*: theory practice mismatch; *sub-category 2.2.4*: concern of nurses in clinical (University B); and *sub-category 2.1*: unfavorable clinical learning climate for application; *sub-category 2.2*: inadequate management support; *sub-category 2.3*: inadequate time, imbalance nurse patient ratio and burden workload; *sub-category 2.4*: insufficient knowledge and practice, poor

empowerment; *sub-category 2.5*: mismatch of theory and practice, need more practice; *sub-category 2.6*: do not revising student's application; *sub-category 2.7*: concern and willingness of nurses and student nurses (University C).

The student nurses from University D also explore as *sub-category 2.1*: busy ward, insufficient time, imbalance nurse patient ratio and the student nurses from University E state as *sub-category 2.1*: cannot practice properly. In addition, the academic staffs from University A, B, C, D and E also explore some hindrances such as students perceived NPM as an evaluation tool for better marks; student nurses follow incorrect NPM which was suggested by in-charge staff nurse; not practicing critical thinking; Incomplete report/documentation due to busy; time constraint; time consuming; patient condition; too many paper work; burden in their work; do not understand basic concepts about NPM; lazy to upgrade; lousy ward routine; do it as a must and tick without proper assessing patient's condition; NPM can only success the support of nurses from the clinical service; difficult to manage and follow the correct structure of NPM in a complex practical setting.

Conclusively, the hospital administration support in terms of external motivation, both findings reveal adequate administration and management. Both the academic staffs and student nurses explore the promoting factors that support successful application of NPM such as motivation, cooperative co-workers and patients, having experts in NPM, collaborating teaching sector and hospital administration, awareness and reinforcement from nursing manage which all influence conducive learning and working environment for student nurses and staff nurses for successful application of NPM. However, in terms of hindrances as barriers which create unfavorable to apply NPM in real clinical settings is imbalance nurse patient ratio which creates heavy workload, inadequate time to apply which in

turn indirectly affect the will to apply. In addition, the management needs to pay more attention on monitoring and evaluates the implementation process and gives appropriate and appreciative feedback. Even though, 85% of student nurses state they are confident to apply nursing process proficiently in their future career.

Influence of Knowledge, Attitude and Supporting factors on Practice.

The multiple regression analysis reveal knowledge, attitude and impression towards supporting factors significantly influence their application of NPM (Knowledge, attitude and impression towards supporting factors as IV and practice of NPM as DV). The mediation analysis reveals there has indirect mediation effect existed while putting supporting factors as mediator in a relationship between knowledge to practice. The qualitative findings also reveal and support the influence of knowledge, attitude and the supporting factors. The qualitative findings of academic staffs and student nurses reveal and complement these quantitative findings as “highlights to move forward”.

The student nurses from University A and B explore in the category 1: highlights to move forward” as *sub-category 1.1*: standardize and latest materials for teaching and clinical setting; *sub-category 1.2*: make it short and simpler; *sub-category 1.3*: more lectures, guided hands-on practice, and more concentrate on holistic nursing care; *sub-category 1.4*: discussion, upgrade knowledge of staff, training and create adequate staffing; *sub-category 1.5*: inter-professional and intra-professional collaboration and management support; *sub-category 1.6*: need to conduct survey, audit, monitor and evaluate critically; *sub-category 1.7*: time for work out; *sub-category 1.8*: improving the performance in clinical setting (University A); *sub-category 1.1*: standardize, make clear, simple and

understandable; *sub-category 1.2*: improve teaching through teach orderly, systematically, close guidance, more time and practice; *sub-category 1.3*: improve knowledge and application in clinical setting; *sub-category 1.4*: add some more intervention for clinical setting ; *sub-category 1.5*:use technology to be more discipline (University B).

The student nurses from University C *sub-category 1.1*: revise to be more efficient, standardize and give a guide to follow; *sub-category 1.2*: make it simple to understand more; *sub-category 1.3*: appropriate nurse patient ratio and adequate time; *sub-category 1.4*: apply and practice more, make it reality; *sub-category 1.5*: computerize to become more efficient ; *sub-category 1.6*: improve application in clinical setting; *sub-category 1.7*: need to reinforce and monitor practices; *sub-category 1.8*: improve teaching in institution, match theory and practice; *sub-category 1.9*: provide a workshop, talk, educational program and support group for nurses; *sub-category 1.10*: improve as it is important and provide better quality care.

The student nurses from University D and E also explore as *sub-category 1.1*: make it simple; *sub-category 1.2*: give more practical based exercise, practice and make it real; *sub-category 1.3*: support needed resources from management, monitoring and evaluation; *sub-category 1.4*: balance ratio of nurses and patients, make user friendly and time efficient; *sub-category 1.5*: specific course, update latest illness and diseases; *sub-category 1.6*: adequate knowledge and encourage nurses; *sub-category 1.7*: digitalize documentation (University D); *sub-category 1.1*: standardized teaching; *sub-category 1.2*: make it real application; *sub-category 1.3*: provide adequate time (University E). The academic staffs from University A, B, C, D and E also explore as *sub-category 1.1*: raise knowledge, awareness, and change attitude; *sub-category 1.2*: realistic, practice based and hands-on; *sub-category 1.3*:

standard guidelines; *sub-category 1.4*: simplified integrated checklist and proper guidance; *sub-category 1.5*: training, Continuing Nursing Education (CNE) and refresher course; *sub-category 1.6*: inter- and intra-professional collaboration; *sub-category 1.7*: recognition, encouragement, empowerment and motivation; *sub-category 1.8*: close monitoring; *sub-category 1.9*: why it is fail and how to improve.

While triangulating the student nurses' exploration concerning more practical based hands-on practices in the real clinical setting, the qualitative findings of academic staffs' way of teaching reveal that they are using case studies, self-directed learning, clinical simulation such as giving practice by case scenario in clinical laboratory, bed-side teaching and ward rounds, case study presentation and discussion with question and answer session. It indicates that the practical teaching strategies need to improve in terms of more in guided hands-on practice in the real clinical settings.

Conclusively, both findings reveal knowledge, attitude and supporting factors need to improve for the successful implementation of NPM. Among these three variables, supporting factors are indirectly mediating in a relationship between knowledge to practice which indicate supporting factors are needed to fulfill in terms of providing adequate resources, balancing nurse patient ratio which can solve the heavy workload, and give enough time to apply. In addition, harmonizing the knowledge of teaching staff and clinical staffs by conducting training, refresher courses, CNE, workshop and seminars concerning NPM, more practical based hands-on and touch to reality for student nurses, effective monitoring and evaluation system for implementation process, appreciative feedback, collaboration among nurses and other health care professionals, and effective documentation system/format.

CHAPTER 5

DISCUSSION

Introduction

This study is evaluating nursing education agenda from Nursing's Vision 2020 which is laid by the Ministry of Education (Department of Higher Education) based on the Vision 2020. The meaning of conducting this study is to outlook the current status on implementing professional nursing education and practice policy which is implementation on application of NPM in Malaysian nursing education context. The intended target for this agenda is “the inclusion of the Nursing Process Model into nursing practice by 2015, as a basis for building a strong background in critical thinking and problem solving in its effort to provide the highest quality care to clients” and “the fresh nursing graduates are expected to apply NPM in their practice by 2016”.

Therefore, the researcher is conducting this evaluation study to evaluate the current status on implementation of NPM application in Malaysian nursing education context by applying mixed methods survey. In this discussion, the researcher discusses based on the research questions and findings relating with change theories, public policy process and the factors influencing change process. Firstly, the researcher discusses why and what makes to start change in Malaysian nursing education context relating with the historical highlights and social change movement on the development of nursing practice and education in global context. Therefore, there are ten sessions in this discussion session as follow:

Historical Highlights: Time to start change (Unfreezing Status quo)

As mentioned by Walton (1986), to understand the reason on evolution of nursing process and its expectations, it is needed to acknowledge the historical, social and professional context. Therefore, the researcher reviews historical developments which are based on the educational change in nursing education and practice due to social change process. However, the researcher more focus on the time commencing from formal training started by Florence Nightingale and highlights the reason of setting the professional nursing education and practice agenda which is enforcing to practice professional nurse ideology (NPM) in Malaysian nursing education context.

As stated by Egenes (2014), the growth and evolution of nursing as a professional is significantly related with historical influences throughout ages in the world. Barrett, Sheffield and Richardson (1996), Wilson Barnett and Batehup (1988) also highlighted that nursing is rooted in the religious and military inheritance. Therefore, it is concern for order, rules and regulations, and focusing on infection control. This trend greatly influenced until the first half of twentieth century. The development and culture of hospitals were also alike militaristic, authoritarian, bureaucratic institutions. Therefore, it has been analyzed as disempowering and deprofessionalizing (cited by WHO, 1996).

According to the Nursing's Vision 2020 of Malaysia, Malaysian nursing also started 18th century and its development is also the same trend British nursing. Because of being rooted in British Nursing, the culture of Malaysian nursing training and practice was greatly concern on rules and order, following the authoritative style which is the culture of every bureaucratic institution. In addition, in Malaysian Nursing's Vision 2020, it was mentioned that "while British nursing has evolved

with time, the old British system is still within. For example, the position titles of nurses are still using in nursing service such as matrons, sisters and tutors and have not gained in autonomy and empowerment yet. It indicates that there is a weakness in empowerment for nurses and creating professionalism attributes in Malaysian nursing context.

When looking back to the nursing care practices, the most basic level started with the industrial revolution in the late 1800s. Diploma nursing which is also known as hospital nursing commenced during the latter part of 19th century which was developed in hospital. Training of hospital nurses at this time was focused on an apprenticeship model (King, 1987, cited by Scheckel, 2014). In spite the benefit of this model, the nursing education leaders criticized on apprenticeship model. Nursing practice in Malaysia also based on hospital nursing through applying apprenticeship model which is mentioned as functional nursing and functional nurses in Nursing's Vision 2020 (MOHE, 2010).

As mentioned by WHO (1996), starting from the middle of 19th century onwards, nursing practice changed due to rapid medical and technological advancement and the primary role of nurses' caring function deteriorate due to the changing needs of technical medical tasks and other health related professionals tasks. Therefore, the roles of nurses become unclear, under questioning and arguing in various countries in different scenario.

While reviewing professional nursing and application of nursing process, it is related with defining the term "professional". As mentioned by Fawcett (1980), a profession is demonstrating a unique body of knowledge which means to designate as a profession, it must have own distinct body of knowledge. Therefore, if the nursing wants to stand as a profession, it must have a unique impetus of knowledge

which must be in the form of a framework or model or theory (cited by cited by Mensik, 2011). Many organizations chose from currently existed nursing theories and invented professional nursing practice to get only one theory which fixes in any kind of settings. As stated by Sheehan (1989), the final version is called the Professional Nursing Practice and Development Framework (PNPDF) which composed of three interconnected circles; contribution to patient, profession and society. Closest to the patient-centric circle is known as nursing process which is the ANA Standards of Practice (ANA, 2010, cited by Mensik, 2011).

Concerning the qualities of nursing process, Yura and Walsh (1983) who published the books and training manuals of nursing process mentioned that it can apply in any setting and provides a based to proceed all action to be systematic (cited by Uys and Habermann, 2005). As mentioned by Mellanova (2005), the nursing process, 25 years later of its evolution, it has been spread all over the world. The generations of all levels of nurses in different fields were trying to implement it. It has also been adopted by important global organizations such as World Health Organization (WHO) and International Council of Nurses (ICN).

In addition, Mellanova (2005) stated that the national governments and nursing organizations based legal prescription of quality nursing on nursing process such as Sweden, Germany, UK, South Africa, State Practice Act in USA, the American Nurses Association (ANA) and the United Kingdom Central Council for Nursing, Midwifery and Health Visitors (UKCC). At the end of 20th century, Czech Republic recently followed this trend of implementing nursing process (Mellanova, 2005). According to Uys and Habermann (2005), the “blind spots” on the international map with regard to application of nursing process are quick to adopt it as soon as they join the global nursing discourse.

Concerning nursing education, according to Scheckel (2014), the National League for Nursing Education (NLNE) published standard curriculum to decrease diploma student nurses work time and increase their education in 1917, 1919, 1927 and 1937. Concerning upgrading towards higher education (university education) and application of nursing process, the American Nurses Association (ANA) published position paper in 1965 and mentioned that professional nurses should be prepared baccalaureate degree as a minimum and De la Cuesta (1983) mentioned that practicing nursing process was started since 1960s as a central core (cited by Salcedo, 2004). As mentioned by Salcedo (2004), the nursing process, from its development in the USA and its diffusion was through Europe and specifically through the UK.

According to Brigg's report, four European countries (Iceland, Turkey, Spain and UK) started undergraduate nursing program at university level at the end of 1970s and application of nursing process began. Salcedo (2004) mentioned that application of nursing process commence and the implementation was not easy and smooth because medical model was practicing previously, however, it was successfully implemented in 1980. In Australia, according to Daily Telegraph (1989), Sydney Morning Herald (1989), Rosenthal and Godden (1988), Australian nursing also began with hospital-based training and upgraded to university level for all pre-registration programmes in 1990 (cited by Godden, 2008).

According to Taylor and Game (2005), the nursing process in Australian nursing context has gone through phases of resistance, acceptance and institutionalization. The establishment of the first undergraduate program and the movement of nursing process from America to Australia happened together in 1974 and it took 5 to 6 years to accept. As mentioned by Yura and Walsh (1988), the

developments in nursing education increased nurses concern for their development as a profession and the nursing process was seen as an important means for that development.

As mentioned by MOHE (2010) and Nursing Colleges Malaysia (2014-2015), the formal training began with General Nursing Council's curriculum from UK in 1952. The tertiary education started at University of Malaya in 1993. Focus practicing on nursing process as the formal agenda through Nursing's Vision 2020 to upgrade currently practicing functional task-oriented towards professional nursing practice in 2010. Therefore, nursing in Malaysia is adopting and starting to practice with nursing process to become professional nurses and professional nursing.

In Malaysian nursing context, the nursing process is mentioning as Nursing Process Model in Nursing's Vision 2020 which composed of six steps. In addition, the Ministry mentioned that if NPM is not applied in practice, it cannot say that Key Performance Indicator (KPI) for nursing has been met. It indicates that nursing process is adopted to upgrade Malaysian nursing education and practice context to become a professional nursing. It is starting the change process in Malaysian nursing education and practice.

According to Kurt Lewin (1951), there are three stages of change, namely, unfreezing, moving and refreezing. Lewin proposed on meaningful structured change through supporting employees to get psychological readiness which is psychologically "unfreezing" with the current state (Mitchell, 2013). Therefore, setting the agenda to practice NPM is unfreezing the current status quo of practicing functional task-oriented nursing towards professional nursing practice. In the moving stage, the team members are encouraged to change their values and ideally grow the sense of belongingness towards change, explore the alternatives, define the solutions

and implement the solutions identified. The current status in Malaysian nursing education and practice context is unfreezing and moving change, and needy to identify the extent of succeed, the strengths and weaknesses of implementation process, need to explore the alternatives for the weakness and identifying the solutions.

From the policy process perspective, there are five stages in Howlett and Ramesh's model, namely, agenda setting, policy formulation, adoption (or decision making), implementation and evaluation (Schmithusen, 2003; NCHPP, 2013). Schmithusen (2003) also mentioned that the stage of agenda setting addresses the recognition of the problems before the solution can be found out and get attention of and onto the government agenda. As soon as the government has identified that there has an issue to address, the next step is policy formulation.

According to Schmithusen (2003), the acceptable proposals are building up in the policy formulation stage. Policy adoption stage is the choice of solutions to be approved formally by parliaments, governments, and public administrations together with outputs and determining objectives and instruments. The adopted laws, regulations and programmes are put into effect during the policy implementation stage. The actual policy outcome which is the real effects of the changes is depending on the willingness or resistance of intended target groups.

Therefore, from the public policy process perspective, the Ministry of Education set the agenda based on National Education Blue Print to produce knowledgeable and competent graduates, who are innovative, possess high cognitive skills (analytical and critical, problem solving, and reasoning abilities) through adopting NPM in their learning process and practice context to contribute to the well-being of the society, nation and the global community in professional way.

Therefore, policy implementation is moving the change process which is enforcing to implement NPM to upgrade Malaysian nursing education and practice context towards professional nursing status. The next discussion session is focusing on the current status of change which is discussing the extent of success on implementing NPM application.

Current status of Change (Moving): evaluating extent of success

In this evaluation on current status on implementation of NPM application, the discussion is based on the structure of questionnaires. As mentioned in chapter 3, two sets of questionnaires were used to collect data; one for student nurses and the other one for academic staff. Firstly, the researcher discusses concerning the extent of student nurses' knowledge and practice. Then, the researcher discusses the student nurses and academic staffs' attitude towards NPM, its application and implementation process. After that, the researcher discusses the impression of student nurses and academic staff upon the factors that support in application of NPM.

Student nurses' extent of knowledge and academic staffs' teaching references concerning NPM. Evaluating the student nurses' extent of knowledge is based on assessing the aim and important concepts in the steps of NPM. There are 21 questions with multiple choice items with distractors in some questions. As mentioned in chapter 4, the meaning of including distractors is to assess whether the student nurses know and understand the concepts of NPM clearly or need to clarify which is their learning outcome of NPM. The researcher refers the summarize table 4.18, page 223-224 for this discussion.

Concerning the aim and steps of nursing process, the two questions are constructed one correct response with two distractors. Total of 96.5% of students understand the aim of NPM and 97.5% of students knows the steps of NPM. However, when the students respond to the distractors, less than 19% of students can only choose the correct answers. It means the students are not very clear about the aims and steps of NPM precisely.

Concerning the first step of NPM which is assessment phase, three questions included. The first question constructed without distractors and asking what kind of data should include in the assessment phase. According to ANA (2015), assessment data includes physiological data as well as psychological, socio-cultural, spiritual, economic, and life-style factors. More than 82% of students know what kind of data must be included in assessment phase. According to Seaback (2006 and 2012), the assessment phase is digging the client's data through collecting the subjective complaints of the clients and confirms its validity through obtaining objective data by the nurse. It is an important step as it is the foundation for identifying the client's needs and problems.

Therefore, the researcher set the two questions with distractors to assess whether the students can differentiate between subjective and objective data of clients. Total 88% of students can choose the correct answer of subjective data, and 90% of students can choose what objective data is. However, the responses for distractors, nearly 50% and 56% of students can only choose the correct answer. It means that the students know what the correct answer is if the distractors are not considered.

Concerning the second step of NPM, three questions included and two questions constructed with two distractors. According to nursingprocess.org (2015), based on the data gathered in the assessment phase, the nurse applied the nursing diagnosis defined by NANDA. Therefore, it is also an important step to name the relevant problem of client and need to choose the right nursing diagnosis and how to formulate it. Total 95% of students know what nursing diagnosis is, however, less than 42% of students can only choose the correct answers from the distractors. Concerning the process of nursing diagnosis, the answer constructed all 3 items are correct answers and more than 50% of students can choose the correct answer. Total 85% of student knows when the nursing diagnosis is complete, however, 40% and less than 40% of students can only choose the correct answers upon two distractors. It indicates that most of students know what the correct answer is when the distractors do not make them confuse.

According to ANA (2015), the nurse sets measurable and achievable short-term and long-term goals based on the assessment and diagnosis in the step 3 of NPM. There are four questions constructed with two distractors for each question. More than 62% of students can choose the correct answer; however, less than 35% of students can only choose the correct upon the distractors. Concerning the step 4 of NPM, there are three question and two questions constructed with two distractors. More than 70% of students can choose the correct answer; however, less than less than 22% can only choose the correct answers upon distractors. It means that the student understand step 3 and 4 of NPM, however, they get confuse upon distractors.

According to nursingprocess.org (2015), the implementation actions involve monitoring the client for signs of change or improvement, directly caring for the client or performing the needy medical tasks, educating and instructing the client

about further health management, and referring or contacting the client for follow-up. There are two questions to assess the students knowledge upon what nursing intervention is and what is not. Less than 40% of students know what the actions need to perform is in providing nursing intervention. Concerning collaborative nursing intervention with other health care professionals, 86% of students know that collaborative nursing intervention include multiple health care professionals; however, 26% and 7% of students can only choose the correct answer for the distractors for this question. It indicates that the students' understanding upon step 5 is also not well.

As mentioned by ANA (2015), the step 6 of NPM is performing evaluation. In this step, the nurses evaluate the patient's status and the effectiveness of the nursing care. Based on the evaluation results, the care plan may need to modify if needed. There are four questions and two are constructed with distractors. Total 91% and 74% of students understand what they suppose to evaluate. Total 80%, 62%, and 63% of students know what suppose to ask during performing evaluation. Total 92% of understand what suppose to do when the nursing care plan is not working, and goal and diagnosis are still relevant. Total 96% know what action needed to do when the goals are not met. However, 56% and less than 26% can only choose the correct answers from distractors.

Therefore, the extent of knowledge shown by quantitative inquiry indicates that most of students know and understand the aim and the important concepts on the steps of NPM if the distractors are extracted. It means that the students are needed to improve knowledge to get clear understanding about the nursing process framework. While triangulate with qualitative findings (table 4.44, page- 404, 405), the academic staff from five institutions admit "Raise knowledge, awareness, and change attitude

(sub-category 1.1)” and “standard guidelines (sub-category 1.3)”. The students from University A are mentioning as “Standardize and latest materials for teaching and clinical setting (sub-category 1.1)” and “More lectures, guided hands-on practice, and more concentrate on holistic nursing care (sub-category 1.3)”.

In addition, the students from University B are also admitting to currently teaching learning about NPM as “standardize, make clear, simple and understandable (sub-category 1.1) and “Improve teaching: Teach orderly, systematically, close guidance, more time and practice (sub-category 1.2)”. The students from University C mentioning as “revise to be more efficient, standardize and give a guide to follow (sub-category 1.1)” and “make it simple to understand more (sub-category 1.2)”. The University D students also admitting as “make it simple (sub-category 1.1)” and “specific course, update latest illness and diseases (sub-category 1.5)”. The University E students mentioning as “standardized teaching (sub-category 1.1)”.

The academic staff and student nurses are admitting the same concern about to standardize, make it simple and specific, and to update teaching. Concerning the current teaching references for NPM mentioned by the academic staff are “Fundamental of Nursing books, Nursing process books, Critical thinking book, Acronyms of nursing process; Assessment, Diagnosis, Planning, Intervention, Evaluation (ADPIE), Text book and theories model, Callista Roy Nursing theorist and Dorothea Orem, Fundamental of Nursing books, NANDA, Nursing diagnosis handbook, Medical Surgical Nursing books, Nursing Care Plan books, Textbooks and Scientific Journals (sub-category 1.1: books)” and “Online E-books and Journals, YouTube Video, Online database, American Nurses Association (ANA) Web (sub-category 1.2: online sources)” (Table 4.35, page- 266).

The teaching references mentioned by academic staff are related teaching references for implementing NPM. As mentioned by Salcedo (2004), and Murphy, William and Pridmore (2010), the various models and theories are needed to apply for assessment phase of NPM such as Activity of Daily Living model developed by Roper, Logan and Tierney (1990), and Orem's self-care model which are widely used in British Nursing, Henderson model of 14 basic needs or Roy's Adaptation model, and adopted Gordon's (1996) model recently.

The three academic staffs from University B only mentioned about what theories and models are currently using for the first step of NPM as "Callista Roy nursing theorist and Dorothea E. Orem (T-32, University, B)", "current nursing assessment form is Virginia Henderson 14, Activity of Daily Living (T-41, University B)" and "use some of nursing theory such as Henderson 14 ADL and Gordon nursing theory. Both of this nursing theory can be applied to all patient care in any unit (T-9, University B)". It indicates that the academic staffs from University B are using three models and two theories currently to teach for the assessment step of NPM. The academic staffs from other universities were not mentioning details about the theory/model used for assessment phase of NPM.

According to Seaback (2006 and 2012), the assessment phase is identifying the client's data through collecting the subjective complaints of the clients and confirms its validity through obtaining objective data by the nurse. It is an important step as it is the foundation for identifying the client's needs and problems by using the above mentioned models/theories to gather data from patients. Therefore, proper focusing upon step 1 of NPM is a vital starting point before proceeding to the other steps of NPM. Without carrying out assessing client practically in real practice context, the student nurses/nurses cannot identify the correct problem of the clients.

If the starting point of step 1 could not perform, preceding the second step which is diagnosing the clients' problem is meaningless while applying NPM in real practical context.

ANA (2015) mentioned that after gathering data in the step 1 assessment phase, the nurse applies the nursing diagnosis defined by NANDA. The academic staffs from all universities are applying NANDA as a teaching reference. In addition, they are using Nursing Care Plan books, Fundamental of Nursing, and Medical Surgical Nursing textbook as a teaching reference for how to construct nursing care plans which the combination of all steps of NPM. However, without standardize theory/model to carry out step 1 of NPM, the next steps are difficult to proceed in the right track. In addition, the sub-categories came out from the academic staff and students' answers of open-ended questions, they are admitting about the standard specific format for application of NPM and to improve teaching and practice as well.

As mentioned by NICE (2007), there are five types of barriers that are influencing change, namely, awareness and knowledge, motivation, acceptance and beliefs, skills, and practicability. Awareness and knowledge are the vital first step in enabling change to occur. The evidence shows that the health care professionals are often do not aware the latest evidence-based guidance and lack of familiarity with it. As mentioned by Wildavsky (1977) cited in Ali (2006), lack of reliable present knowledge contributes poor policy outcomes. Therefore, standardize theory is needed for knowledge and hands on practice is important in any practical based professionals.

However, the student nurses extent of knowledge is not showing lack of knowledge about NPM; however, need to improve with standard teaching learning materials and their practice must be clinical based. Concerning how much important

is knowledge while implementing NPM, Aseratie, Murugan and Molla (2014) study showed that highly knowledgeable nurses were 27% times more likely to carry out nursing process than nurses group who had low knowledge level. In this study, combining and triangulating the findings of quantitative and qualitative shown that it is needed to improve to make clear understanding through standardizing and specifying the teaching learning materials about NPM and teach more clearly about it because theory knowledge is the basic foundation concepts that improve practice. The next session is discussing on how the academic staffs translate NPM theory to practice while teaching student nurses, their ways of evaluating the student nurses' application of NPM and the student nurses' impression towards their practice of NPM.

Academic staffs' ways of translating, evaluating about NPM application and Student nurses' impression upon the extent of practice. Before discussing the student nurses' impression towards their practice, the researcher discusses the academic staffs' way of matching on NPM theory to practice followed by their evaluation methods on student nurses' knowledge and application of NPM. Concerning the ways of translating NPM theory to practice, the academic staffs from all universities used case study method. They instruct the students to choose the patient for their case study based on the NPM steps.

The lecturer from University A stated as:

“Tell the students to select the case/patient in ward, interview to gather data and formulate nursing diagnosis, planning nursing intervention and evaluation (L-2, University A)”. (Table 4.39, page-284)

In addition, the tutor from University B also mentioned as:

“Using the student nursing assessment form which contains patient’s particulars, mode of admission, current complaint, past medical and surgical history. Physical assessment from head to toe, mobility, hygiene, elimination, diet and sleeping pattern. Based on data find out, actual and potential problems. Set objectives and plan intervention. Followed up evaluation (T-13, University B)”. (Table 4.38, page-278)

The lecturer from University C also stated as:

“Use NPM in case study, relate the pathophysiology of a disease and management to incorporate into NPM (L-2, University C)”. (Table 4.38, page-278)

The Associate Professor from University D also mentioned as:

“Ask students to do their care based on NPM. Assessment based on NPM (AP/L, University D)”. (Table 4.38, page-279)

The lecturer from University E stated as:

“Case study assignment according to designated system, students required to provide all actual and potential nursing diagnosis, and then prioritize, select at least two and develop a nursing care plan according to the framework (L-2, University E)”. (Table 4.38, page-280)

In addition, some other ways of translating NPM theory to practice mentioned by the academic staff are self-directed learning through asking student nurses to do nursing care based on NPM, clinical simulation such as giving practice by case scenario in the clinical laboratory, virtual reality by conducting bed-side teaching and ward rounds, discussion and conferencing through conducting case study presentation, bed-side teaching and raising questions to relate NPM theory into practice (Table 4.39, page-284).

According to Gaberson and Oermann (2010), there have six clinical teaching strategies; 1) clinical learning assignments, 2) self-directed learning activities, 3) clinical simulations, 4) virtual reality and game-based clinical education, 5) case method, case study and grand rounds, and, 6) discussion and clinical conference. Therefore, based on the answers of academic staff, they are practicing all kinds of clinical teaching strategies while translating theory to practice.

Concerning the evaluation system for the student nurses' application of NPM, the academic staffs are carrying out summative and formative evaluation. According to Just Now Science (2005-2016), assessment and learning are two sides of the same coin and it is process to improve student learning through giving effective feedback. It is an effective tool bridging the educational expectations and progress towards accomplishing those expectations. Because of the nature of process, assessment is ongoing through collecting and interpreting data to improve understanding and adjust teaching. There are three types of assessment namely diagnostic, formative, and summative.

In this study, the question is focusing on formative and summative. The researcher categorized the excerpts into the formative and summative assessment based on the answers of the academic staff. The researcher decided not to include diagnostic assessment because the nature of diagnostic assessment is assessing the students' prior knowledge to identify the gaps or misconceptions in prior learning. The essence of formative assessment is performing ongoing assessment to know whether the students need to improve or any other needed adjustments. Giving feedback is an important element while carrying out formative assessment. Some examples of formative assessment mentioned by Just Now Science (2005-2016) include conferences, observations, questions and answers sessions, first drafts/quizzes and journals. Summative assessment is an end point that sums up the performance or learning level of achievement. Some examples of summative assessment include chapter/unit tests, projects, performances and final copies.

As mentioned in summarize findings of academic staffs' evaluation system for student nurses (table 4.37, page-276), the summative assessment applied by the academic staffs are case study presentation, group and/or pair discussion, written

test, presentation and performance in clinical posting, conducting role play, giving case scenario, bed-side teaching and asking student to present by applying NPM. As a formative, they are practicing chapter/unit tests by using MEQ, SAQ, MCQs through examination to assess theory, evaluating their application by using case scenario, evaluating performances through students' bed-side presentation, physical assessment and ward rounds and final copies such as assessing their case report and case studies.

While relating and reflecting the student nurses' impression towards their practice of NPM, their quantitative findings show that more than 75% of student nurses either strongly agree or agree upon their practice (table 4.19, page-225, 226). It indicates that most of students believe they are practicing NPM. However, while relating with the qualitative findings from open ended question no.1 which is identifying the weaknesses/constraints while implementing NPM application, the main categories and sub-categories from their answer excerpts reveal that it is needed to improve (table 4.41, page-398, 399).

The academic staffs mentioned the current constraints in application of NPM as “unfavorable working/learning climate such as time consuming, time constraint, workload, too much paper work/documentations/forms to complete, no proper guide or application to apply NPM and attitude and less critical thinking of staff nurses and inadequate administrative supportive system (sub-category 2.1)” and “very broad concepts for the students and theory practice gap (sub-category 2.2)”. While reflecting with their ways of translation and methods of evaluation, they are practicing all kinds of clinical teaching strategies, and carrying out summative and formative assessment. However, according to the above mentioned sub-categories, they could not carry out translating theory to practice and practical evaluation

properly due to unfavorable teaching learning climate and inadequate administrative support in the real clinical context.

Concerning the students' opinion upon application of NPM, the University A students are admitted as "Unfavorable working/learning climate such as workload, time constraints, nurse patient ratio, non-professional nursing tasks, too much paper work, concerns of nurses and management in clinical (sub-category 2.1)", and "unclear understandings on application (sub-category 2.2)". The students of University B mentioned as "unfavorable working/learning climate such as workload, time constraints, nurse patient ratio, uncooperative teamwork, too much paper work, concern of nurses and patients (sub-category 2.1)", "theory practice gap and Standardize format (sub-category 2.2)" and "vague understanding on application (sub-category 2.3)". The University C students also admitting their opinion towards the weaknesses while applying NPM as "Unfavorable working/learning climate such as time constraints, too much paperwork, over workload, concern of nurses and student nurses, nurse patient ratio and a gap, patient concern and resources (sub-category 2.1)". (Table 4.41, page-398, 399)

The University D students also mentioning their opinion towards the weaknesses while applying NPM as "unfavorable working/learning climate such as time constraint and time consuming, too much paperwork, ratio of nurses, limited resources and support (sub-category 2.1)", "confuse on how to apply and relate (sub-category 2.2)", "hard to recall relevant nursing diagnosis sometime (sub-category 2.3)" and "reality is beyond expectation (sub-category 2.4)". The University E students also admitting their opinion towards the weaknesses while applying NPM as "unfavorable working/learning climate such as time consuming and constraint, and loss direction due to documentations besides NPM (Sub-category 2.1)", "different

teaching format and materials (sub-category 2.2)” and “poor awareness of users (sub-category 2.3)”. (Table 4.41, page-398, 399)

Therefore, based on quantitative findings of students, most of students admit that they are practicing well. In qualitative findings of academic staff and student nurses, they stated as “unfavorable practical learning climate, the student nurses’ understanding of NPM, and do not have standardize format” that are affecting the practice of NPM which in turn creating theory practice gap. According to NICE (2007), the barriers in practicability involve a lack of resources or personnel or difficulties in establishing in delivery of service and difficulty in maintaining change in long term. Among these barriers, unfavorable learning climate, knowledge and do not having simply set standardize format which all are contributing difficulties in practicing NPM for the student nurses.

When looking into the cause of unfavorable learning climate, the main affect is the workload of nurses which in turn influence the insufficient time to provide patient centered nursing care by using NPM. O’Driscoll et al (2010) highlighted that there are many barriers that prevent them to provide required support to supervise students such as organizational constraints, increased workload and perceived negative experiences which lead mentor to choose patient care first over the student learning (cited by Emanuel and Pryce-Miller, 2013).

Furthermore, while looking into the nurse patient ratio which influence the workload of nurses and student nurses in Malaysian health care delivery system, the finding index of document from Malaysian Ministry of Higher Education (MOHE) (2010) showed that the nurses’ workload in the practical setting show that the nurse-patient ratio was 1:375 where the target by 2015 should be at 1:200 to meet the WHO set standards. In addition, the nurses and midwives ratio mentioned by World

Health Organization's Global Health Workforce Statistics 2015, the nurse midwives ratio per 1000 population in Malaysia is 3.3. It was shown by OECD and the data were supplemented by country data. This imbalance nurse patient ratio creates the workload of nurses which create insufficient time to provide professional nursing care which in turn influence the professional status of nursing in Malaysia. The next session is discussing the findings on attitude of academic staff and student nurses towards NPM, its application and implementation process referring to table 4.30, page-239.

Academic staff and student nurses' attitude towards NPM, its application and implementation process. Fullan (2006) explained that change theory or change knowledge can be very influential while providing information about education reform strategies which is the way to get intended results. Concerning the importance of the person's internal motivation which is the belief and attitude, NICE (2007) stated as the internal factors such as individual's self-motivation derive and desire to improve are influencing the motivation and change behavior. In addition, the personal beliefs and attitudes impact significantly which influence on a change can be implemented successfully or not.

In this study, the researcher investigated the academic staff and student nurses' attitude towards the aim and application of NPM, the practicality and practicability of NPM, kardex system (medical and nursing record/documentation system), time constraint, and practice of NPM in clinical settings. All academic staff and 97% of student nurses admit that they like the aim of NPM. It means they accept and convince that NPM is a systematic, organized and comprehensive approach to meet the needs of clients. Their answer excerpts for open ended questions (Table

4.40, page-396, 397) which show the strength of NPM with three sub-categories as “Sub-category 1.1: A powerful tool, two way communication tool and systematic”, “Sub- category 1.2: Client centered, continuity of care and comprehensive” and “Sub- category 1.5: Evidence-based practices, very structured and clear”. It indicates their positive attitude towards application of NPM through mentioning as strengths of NPM and they convince that NPM is a critical thinking model. This is the driving force as positive internal factors of the implementers.

The students from University A also admit as “Sub- category 1.1: A good framework, holistic and best model”, “Sub- category 1.3: Efficient, systematic, standardized, organized and clear documentation”, and “Sub- category 1.5: Rationalize, Stimulate and enhance critical thinking”. The University B students also state as “Sub- category 1.1: Act as a Good Guide” and “Sub- category 1.5: Good and Systematic”. The students of University C also affirm as “Sub- category 1.1: Valuable guide, best/excellent model, good framework, organized, systematic, holistic”, and “Sub- category 1.7: More creative, innovative and critical thinking”. The University D students also admit as “Sub- category 1.1: A Guideline, Good and useful, best way, systematic and organized, holistic” and “Sub- category 1.4: Critical thinking”. The students from University E also mention as “Sub- category 1.1: Systematic guidelines, systematic and organized” and “Sub- category 1.5: Critical thinking and innovating” (Table 4.40, page-396, 397). It also indicates that the student nurses’ has positive attitude towards NPM which is internal driving force for implementation of NPM application.

While relating to the student nurses’ knowledge on asking about the aim of NPM, 96.5% of students understands the aim of NPM. However, the students’ correct response to the distracters is less than 19%. The attitude towards aim of

NPM, 97% of student nurses admit that they like the aim of NPM and their qualitative findings reveal positive impression upon the aim of NPM. Therefore, based on these three findings, the student nurses only need to improve clear understanding upon their knowledge. They have positive attitude towards the aim of NPM which is their internal driving force that increases their will to practice it. This driving force enforces them to move forwards professional nursing practice.

Concerning the attitude towards practice of NPM at all level of nurses, 82% of academic staff and 49% of student nurses admit that NPM is not only for BSc and above level. One of the strategies mentioning in Nursing's Vision 2020 is "the Nursing Division of all healthcare organizations, in particular the Ministry of Health Nursing Division, to enforce standards for clinical nursing practice to constitute the Nursing Process Model which outlines six important steps in its standard of care to clients (MOHE, 2010)". In addition, one of recommendations in Salcedo (2004) study is "Nursing education on the nursing process should start in nursing basic education. The teaching of the nursing process should be accompanied by the recognition of the independent and collaborative aspects of the nursing role." Therefore, NPM is needed to learn nurses at all levels. Therefore, their response indicate that most of academic staff accept and have the same attitude towards the strategy of Nursing's Vision 2020, however, only half of students aware about it. It indicates the respondents' lessen awareness on the public policy and the application of NPM in global nursing context.

Concerning readiness to apply NPM, 88% of academic staff and 86% of student nurses reveal that they are ready to apply NPM. In addition, the willingness to apply NPM, 92% of academic staff and 84% of student nurses admit that they are willing to apply it. More than half of academic staffs and student nurses have good

coping attitude while applying NPM because 76% of academic staff and 71% of student nurses stated they do not fed up in hearing about NPM. According to NICE (2007), the individual's ability, interpersonal skills and coping strategies will also influence on how easy or difficult for those individuals to learn new skills. All these good results indicate both academic staff and student nurses have good coping skills for the change process which is the driving force to complement the successful change process.

Concerning the attitude towards the practicality which means how much extent NPM is functioning well in clinical setting, 64% of academic staff and 90% of student nurses indicate that NP is working well in providing nursing care in real clinical setting. It indicates that most of students accept NPM is working well in practice; however, 46% of academic staffs do not. Concerning, whether NPM can use any kind of conditions of clients, 78% of academic staff and 82% of student nurses accept that NP can use any setting. It means that most of them perceive that this model is fit and can use in any kind of setting which is the main reason about evolution of NPM because Sheehan (1989) mentioned that the final version to fit any kind of condition regardless of the type of patient or nursing practice is nursing process. The response of them reveals that they have positive attitude which the driving force of change process.

Concerning the attitude towards practicability of NPM, 94% of academic staff and 91% of student nurses perceive that patients' need can easily identify by NP; 96% of academic staff and 94% of student nurses admit priority of care can easily identify by NP; 82% of academic staff and 89.5% of student nurses point out NP can give quality nursing care; 96% of academic staff and 95% of student nurses convince NP will work if apply in caring patient. It indicates that almost all academic

staff and student nurses perceive that NPM is really help them while caring patients. The qualitative data of academic staff and student nurses also support to their quantitative findings.

Academic staffs from five universities mention the qualities of NPM as “Sub- category 1.3: Can identify the patient’s needs and problems” and “Sub- category 1.4: provide appropriate care, better care and more effective”. Students from University A state as “Sub- category 1.2: Problem solving, reliable, and better management of work” and “Sub- category 1.4: Identify patient’s needs, better care and outcome, reduce hospital stay”. University B students also admit as “Sub- category 1.2: Helps in identifying patient’s needs, problem and at risks”, “Sub- category 1.3: Can do planning in proper way”, “Sub- category 1.4: Can do evaluation and documentation of care”, “Sub- category 1.6: Best quality nursing care and make quality professional nurses” and “Sub- category 1.7: Good progress and discharge earlier.” (Table 4.40, page-396, 397)

In addition, University C students also mention as “Sub- category 1.2: Can detect patient’s problems and needs, improve skills, make easier”, “Sub- category 1.3: Can plan and proof”, “Sub- category 1.4: A Good and efficient nurse, mutual benefits for nurse and patient, better quality service and best treatment”, “Sub- category 1.5: Increase awareness and alert, rapid recovery of patients” and “Sub- category 1.6: Can evaluate”. (Table 4.40, page-396, 397)

Students from University D also mentioning as “Sub- category 1.2: Improve understanding on nursing, decision making, patient’s need and problem”, “Sub- category 1.3: Provide relevant treatment, better care, can monitor and patient improve faster”, and “Sub- category 1.5: Improve image and provide sense of responsibility”. University E students stating as “Sub- category 1.2: Provide relevant

and quality care efficiently”, “Sub- category 1.3: Good planning and provide rationalize plan” and “Sub- category 1.4: Better nursing care, achieving goal and nurses feeling motivated” (Table 4.40, page-396, 397).

Therefore, the quantitative and qualitative findings of both the academic staffs and student nurses’ reveal that they have the positive attitude towards the aims of NPM, its practicality, applicability which is the internal driving forces of the implementer which support the change process moving forward.

Concerning the record/documentation system which is called kardex system, the quantitative findings shown that 70% of academic staffs respond that it is composed of very specific details and 40% admit satisfy to the record/documentation. The quantitative findings of students shown that 33% perceive kardex system composed of very specific details and 64% do not know about it. Total 14% of student nurses admit satisfy to the record/documentation and 67% do not know about it. It indicates that the academic staff perceived kardex system is including specific details and most of them do not satisfy on documentation.

For the student nurses, most of them respond do not know about it. However, 64% of academic staff and 43% of student nurses admit about a lot of paper work. Their qualitative findings of them shown in (Table 4.41, page- 398) reveal that one of the weaknesses related with kardex system is too much paperwork and documentation. In addition, the academic staffs mentioned in (Table 4.44, page-404, 405) mentioned that incomplete report/documentation due to busy and Do it as a must and tick without proper assessing patient’s condition as a hindering factors.

Concerning the documentation about nursing process, White, Duncan, and Baumle (2011) cited in Ali, stated that nursing documentation based on the nursing process make easy while considering about effective care because the needs of client can trace the data from assessment, the problems identified for the care plan, implementation, and evaluation. In addition, according to the citations of Bjorvell (2002), Carpenito (1997) stated the main advantage of documentation is improving the structured communication between health care professionals to ensure the continuity of individually planned care. Nursing care tends to become fragmented without it. Therefore, effective documentation/kardex system is crucial in implementation of NPM application. However, in this study, both the academic staff and student nurses admit that there is no enough time to document because of too much paper work and heavy workload of nurses. Therefore, based on their quantitative and qualitative findings, the systematic documentation system is not present in the real clinical setting even though they know how much important of documentation is.

As shown in table 4.40, page-396 and 397, the academic staffs admit that nursing practices are more evidence through showing the evidence documentation as “sub-category 1.5: Evidence-based practices, very structured and clear”, the student nurses from University A mentioned as “sub-category 1.3: Efficient, systematic, standardized, organized and clear documentation”, University B students also mentioned as “Sub-category 1.4: Can do evaluation and documentation of care” and University C students stated as “Sub-category 1.3: Can plan and proof”. It indicates that they convinced the documentation through applying NPM is systematic and evidence-base and as a proof for the work they done and the patients’ condition.

However, in the real context, systematic documentation process could not carry out due to time constraints and heavy workload of nurses and student nurses.

Concerning the time constraints to apply NPM, 44% of academic staff and 36% of student nurses point out that there is no enough time to apply. Therefore, more than half of them admit that they have enough time to apply NPM. In their qualitative findings, their open answers concerning time constraint is described under unfavorable learning climate as time constraints and consuming time on application of NPM steps in table 4.41, page-398, 399. However, 84% of academic staff and 86% of student nurses perceive applying NP is not wasting time. It indicates that they perceive that application of NPM is not wasting the time; however, the time available in the clinical setting is not enough to apply it. However, more than half of respondents do not mention about time constraint. It indicate that the respondents has positive and negative attitude towards the time available to apply NPM which means the driving and restraining forces existed together in the time matter.

Concerning the practice in the clinical setting, 72% of academic staff and 68% of student nurses say cannot cause problem in introducing NP. Concerning the patient's acceptance upon providing care with NPM, 86% of academic staffs admit that the patient will like, however, only 58% of student nurses convince patient will like to provide care by applying NP. The patient's level of understanding and collaboration, and the patient's conditions are the crucial factors that enhance the student nurses' chance to apply it because without their collaboration and acceptance, the students cannot proceed. One of the student nurses from University C mentioned as

“Patient's collaboration helps a lot (BSN-17, University C)”.

In addition, one of the student from University A also mention as

“Environment in the ward, condition of patient trigger nurses to do work based on nursing process (BSN-7, University A)”.

Concerning the impression of academic staff and student nurses upon the staff nurses’ will to apply NPM, 42% of academic staff and 43% of student nurses suppose staff nurses do not have the will to apply. It indicates that nearly half of the respondents admit that the staff nurses do not have the will to apply NPM, however, more than half of them do not mean that the staff nurses do not have the will. Even though they have opposite impression towards the staff nurses’ willingness, only 14% of academic staff and 13% of student nurses pointing that staff nurses will never accept NP. It indicates most of the respondents do not mean that the staff nurses will never accept which means the staff nurses will accept later.

Their qualitative findings concerning the staff nurses’ attitude which is presented in table 4.41, page 398, 399 (weaknesses while applying NPM in clinical setting), the academic staffs mentioned the weakness as “attitude and less critical thinking of staff nurses” which is shown under sub-category 2.1: unfavorable working/learning climate. The students from University A and B also mentioned as “concern of nurses”, and University C students also pointed as “concern of nurses and student nurses” under the sub-category 2.1: unfavorable working/learning climate. One of the academic staff mentioned concerning the factor that hinder successful implementation of NPM as;

“Did not understand the basic concepts of nursing process. Lazy to read and upgrade the knowledge about nursing process. Too lousy with the ward routine. Only apply and tick (✓) the checklist prepared by organization without thinking while they do. Do it as must, not as the patient need (T-37, University B)”.

However, the following two statements mentioned by two students have different meaning upon the above statement.

“Not enough time in patient care, lack of staff, no time for interview, planning and documentation with clients (M-6, University A)”.

“The staff does not have interest to fill the nursing process form because don’t have time to record and too busy in apply the procedure to patient (D-107, University B)”.

Therefore, the different impressions are existed between the attitude of academic staff and student nurses towards the staff nurses’ concern and the climate of clinical setting in application of NPM. It indicates that the positive (driving force) and negative (restraining force) are existed in the real clinical application of NPM in the clinical settings. However, the findings of mediation analysis on their attitude towards NPM, its application and implementation process as predictor to their practice reveals that their attitude is not mediating their practice of NPM. If so, which factor is affecting their ability and capacity to practice of NPM. The next session is discussion on the findings of academic staff and student nurses’ impression towards the factors that support on implementation of NPM application.

Academic staff and student nurses’ impression towards supporting factors. As mentioned by NICE (2007), there have external factors such as providing incentives or penalties imposed as a part of regulatory checks in the change process. Motivation is an essential part of nearly everything to carry out successfully. In addition, the health care professionals may need training, the time to learn, support from peers or mentoring while engaging the new skills and practice. Concerning teamwork and collaboration, Fullan (2005) stated the knowledge of change at work is being used intentionally with self reflective and group-reflective which means some academic colleagues and key practitioners at all levels of the systems who are actively leading the use of change knowledge (cited in Fullan, 2006).

Therefore, the researcher included external factors as supporting vs. hindering factors in this study such as hospital administration support, the allocated resources, the allocated time, nurse patient ratio, appreciative feedback, monitoring and evaluation system, favorable learning environment which means nurses are applying NPM in their daily practices, supportive learning climate for student nurses and their confident upon application of NPM. The researcher include the impression of academic staff upon whether they had proper training concerning NPM application and investigating the student nurses' confident upon application of NPM.

Concerning the academic staff and student nurses' impression towards supporting factors, referring to table 4.33 (page -246), 82% of academic staff and 83% of student nurses admit the hospital administrations support the application of NPM. Their open answers also support their responses to the closed ended questions. Referring to table 4.43, page-403, the academic staffs mentioned about the administration support in main category 1: promoting factors as "support of teaching sector and the nursing administration", and "awareness and reinforcement from nursing management". Student nurses from University B also mention as "sub-category 1.3: hospital administration support". It indicates most of them perceive that the hospital administration is providing support for implementation of NPM which is the driving force in the change process.

However, referring to table 4.41, page-398, 399, the academic staffs admit the weaknesses while implementing NPM as "inadequate administrative supportive system", the student from University A also mentioned as "Concerns of nurses and management in clinical" under the sub-category 2.1: unfavorable working/learning climate. The academic staff from University C stated as;

“Factors that hinder to apply NPM in clinical setting are attitude of staff, management and leadership style of leaders, policy and regulation (HOD-2, University C)”.

In addition, the academic staff from University B mentioned as;

“Need more support from the higher organization level to improve the NPM application to enhance our patient care system (T-33, University B)”.

The student from University C also mentioned as;

“Management did not support the application of nursing process; it only documented but not technically applies to the patient (MSN-8, University C)”.

Concerning the needed resources to apply NPM, 64% of academic staff and 61% of student nurses indicate the allocated resources are adequate to apply NP. It indicates that more than half of them perceive the resources allocated to apply NPM is enough; however, nearly half of them perceive that it was not. It is also a difference which is driving vs. restraining forces in their impression towards the available resources. Students from University C and University D mentioned as “limited resources and support” under the sub-category 2.1: unfavorable working/learning climate in table 4.41, page-398, 399.

Concerning the allocated time to apply NPM, 62% of academic staff and 58% of student nurses mention the time allocated to apply NPM is adequate which also indicates that more than half of them perceive that the allocated time is enough; on the other hand nearly half of them do not mean that. Referring to the table 4.41, page-398, 399, the academic staffs and the student nurses from five different institutions mentioned about time constraints as a weakness while implementing NPM. In addition, referring to table 4.44, page-404, 405, the academic staffs and student nurses are mentioning about time constraints as a hindering factor to get successful implementation of NPM.

Concerning the nurse patient ratio which is affecting the workload of nurses, 46% of academic staff and 54% of student nurses indicate current nurse patient ratio is favorable to apply NPM (table 4.33, page-246). Referring to table 4.44, page-404, student nurses are mentioning about nurse patient ratio as a hindering factor to get successful implementation of NPM. University A students mentioned as “sub-category 2.2.1: Nurse patient ratio and Workload”, University B students also expressed as “sub- category 2.2.2: Nurse patient ratio and workload”, University C students also admit as “sub- category 2.3: Inadequate time, imbalance nurse patient ratio and burden workload” and University D student mentioned as “sub- category 2.1: Busy ward, insufficient time, imbalance nurse patient ratio”. Some excerpts that reveal the imbalance nurse patient ratio as:

“There are few factors and limitations for example; the time limitation and workload are the major constraints. Furthermore, the nurse patient ratio is not balance (M-11, University A)”.

“The time allocated and the number of patients that we need to nurse is 1:11. So it is really hard to practice (D-31, University B)”.

“Everyone nurse should take care not more than 5 clients, so that they can give fully attention to their client and prepare a complete nursing process to them (BSN-42, University C)”.

“The ratio of nurses to patients is not balance. Thus, this will lead to poor nursing care given by the nurse to the patient (BSN-11, University D)”.

Concerning having appreciative feedback as motivation for application of NPM, 56% of academic staff and 72% of student nurses admit they have appreciative feedback for applying NPM. It also indicates different impression upon having or not having appreciative feedback among academic staffs. For student nurses, most of them indicate they are appreciated. Concerning qualitative findings from the student nurses open answers, the students from University A mentioned promoting factors

for application of NPM as “sub-category 1.1: Favorable learning climate: Encouragement from the ward staff and sister, collaborative patient”, University C students also admitted as “sub-category 1.1: Positive learning climate: Motivation from supervisor, cooperative co-workers and patient”, and the students from University D mentioned as “sub-category 1.4: Intrinsic and extrinsic motivation, conducive learning environment” (table 4.43, page-403).

Concerning the monitoring and evaluation system for application of NPM, 58% of academic staff and 73% of student nurses indicate there has a monitoring and evaluation system. For the student nurses, they are monitored and evaluated their theory and practice by formative and summative assessment of their academic staffs. Therefore, most of them indicate that they have monitoring and evaluation system. However, student nurses from University C mentioned as “Sub-category 2.6: Do not revising student’s application (table 4.44, page-404, 405)”. Concerning monitoring and evaluation system for application of NPM, one of the academic staff mentioning the monitoring and evaluation system in the clinical setting as;

“It has to be improved in application process, especially in clinical setting. The hospital management is the responsible person for it. They have to closely monitor the staff nurses whether they are utilizing the nursing process in their daily care to patients (L-4, University C).”

“To have a body to monitor the application of this nursing process continuously to maintain its standard and uniformity (L-3, University E)”

Concerning the nurses’ application of NPM, 56% of academic staff and 52% of student nurses mention they had ever seen the nurses are applying NPM. It also contradict between nurses are always applying NPM or not. The same result showing in the attitude session that some are practicing and some are not because of not only the time constraint and imbalance nurse patient ratio but also the attitude of nurses.

Even though nearly half of the academic staff and student nurses are mentioning that the practice of nurses in the clinical setting and unfavorable working/learning climate such as time constraint, nurse patient ratio, too much paperwork, over workload, 82% of academic staff and 75% of student nurses indicate there has supportive learning environment. However, the mediation analysis showing that supporting factors are indirectly mediated in relationship between knowledge to practice. It indicates that supporting factors play the main role in implementation of NPM application in Malaysian nursing context.

Concerning training about NPM, 82% of academic staffs admit they had proper training on application of NPM. It indicates that most of them had proper training on how to teach and apply NPM. Only 18% of academic staffs are mentioning that they are not having proper training. From the academic staffs' open answers, they admit concerning training as "Sub-category 1.5: Training, Continuing Nursing Education and Refresher course" (table 4.42, page-401). For example, the academic staff from University E mentioned as;

"To have refresher course for all nurses yearly or 2 yearly to update on latest nursing diagnoses and its interventions as the old time nurse may have lost touch (L-3, University E)".

Concerning the student nurses' confidence and concern whether they can apply NPM proficiently in their future career, 85% confidently admit that they can apply nursing process proficiently in their future career which is indicating the driving force that impact the agenda for upgrading Malaysian nursing towards professional status.

To conclude the impression of academic staff and student nurses upon supporting factors, they admitted both supportive (driving force) and hindering factors (restraining force) within the system. Based on their answers the main

barriers are; teaching learning materials and methods as a matter, the allocated time as a matter, the management and administration support as a matter and systematic monitoring and evaluation system as a matter in real practice context. The barriers to change mentioned by NICE (2007), it is needed to remember that there is no one method to overcome all different barriers and different approaches will be effective for different people and situations. Therefore, combining methods may have a bigger impact on change such as using educational materials, educational meetings, educational outreach visits, opinion leaders, clinical audit and feedback, and reminder system. The following session is discussing about the factors influencing implementation of NPM application in Malaysian nursing education context.

Factors Influencing: Driving Vs. Restraining forces within changing context

This discussion is based on the findings of demographic characteristics (gender and current position of academic staff; student nurses' gender and mode of study) as predictors and variables. Firstly, the researcher predicts whether the academic staffs' gender and current position on their attitude and impression towards supporting factors. The results indicate that there is no significant difference between the impression of male academic staff towards supporting factors ($Mdn = 34$) and the impression of female academic staff ($Mdn = 33$), $z = -.197$, $p > .05$. In addition, analysis of variance showed the impression towards the factors that support implementation of NPM application $F(3, 46) = .65$, $p = .587$ and their attitude towards NPM, its application and implementation process $F(3, 46) = 1.33$, $p = .275$ which indicated did not differ significantly between the different positions of academic staffs. It indicates that no matter the academic staffs are male or female, whether they are HOD or lecturer or tutor or clinical instructor, they have the same

attitude towards NPM, its application and implementation process and the same impression towards supporting factors.

When identifying the student nurses' demographic characteristics (gender and mode of study), their attitude, and impression towards supporting factors as predictors to their practice, the different gender did not significantly predict the practice of NPM ($\text{Beta} = .01$, $t(19) = .25$, $p > .05$) and mode of study also did not significantly predict the student nurses' practice of NPM ($\text{Beta} = .07$, $t(19) = 1.47$, $p > .05$). However, knowledge ($\text{Beta} = .16$, $t(19) = 3.59$, $p < .05$), attitude ($\text{Beta} = .10$, $t(19) = 2.24$, $p < .05$) and impression towards supporting factors ($\text{Beta} = .43$, $t(19) = 9.32$, $p < .05$) did significantly predict the student nurses' practice of NPM.

It indicates that no matter they are male or female, whether they are studying diploma or bachelor or master or PhD, they are practicing the same way. However, the student nurses' knowledge, attitude and impression towards supporting factors are significant predictors. Therefore, their knowledge, attitude and impression towards supporting factors are influencing their practice.

Concerning the attitude and impression towards supporting factors as mediating factors between knowledge to practice, mediation analysis was conducted attitude and supporting factors as mediators in a relationship between knowledge to practice. The result reveals that attitude as a mediator has not been met at the bivariate level. However, supporting factors significantly predict the relationship between knowledge and practice through showing indirect mediation effect. It indicates that the attitude does not influence while translating knowledge to practice whereas supporting factors is indirectly influencing application of NPM in clinical learning context. It shows that the factors that support on implementation of NPM

application is the important concern while the student nurses are practicing their knowledge into their daily practices.

Conclusively, while evaluating the current status on implementation of NPM in Malaysian nursing education context, application of NPM in both teaching and practice setting are ongoing process which is the moving stage of change in Lewin's change theory. However, the student nurses' knowledge, attitude and supporting factors are needed to improve in their practices which are the forces in the change process that impact the successful implementation of public nursing education and practice agenda. In addition, the quantitative findings on knowledge of NPM show that it is needed to improve to make more clear understanding about NPM and the qualitative findings from their open answers also support and match with the quantitative findings.

While highlighting back to the weaknesses and hindrances in implementation of NPM application, the academic staffs and student nurses are mentioning about the causes that affect application of NPM as "no proper/standard guide or application to apply NPM, different teaching format and materials, very broad concepts for the students and theory practice gap, hard to recall relevant nursing diagnosis sometime, poor awareness of users, insufficient knowledge and practice, confuse on how to apply and relate (loss of translation), reality is beyond expectation."

The academic staff and student nurses mentioned the student nurses and nurses' attitude is one of the factors influenced to practice as "attitude and less critical thinking of student nurses and nurses, concerns of nurses, student nurses, patients and management in clinical, and uncooperative teamwork". In addition, they stated supporting as a factor as "time constraint, workload, too much paper work/documentation, nurse patient ratio, non-professional nursing tasks limited

resources and support, difficult to manage and follow the correct structure of NPM in a complex practical setting, focusing on functional rather than comprehensive nursing process, poor empowerment and inadequate administrative supportive system.”

When reviewing the five Swedish studies concerning the barriers in applying nursing process which were cited in Bjorvell (2002) are; Ehnfors (1993) study shown that lacking of crucial content, knowledge, interest, time and resources, uniform documentation structure, and short care episode; Jerlock and Segesten (1994) study identified lack of knowledge of nursing process, a negative attitude toward change, inability to see benefit of nursing documentation and difficult in formulating thoughts and what to write; Larsen et al. (1995) study shown lack of knowledge, time, consistent record systems, continuity and motivation to write which were described in open answer questions; Tornkvist et al. (1997) reported lack of a consistent record system and routines, time, knowledge about what should be documented, environmentally related conditions such as do not have enough computers, interruptions and lack of supervisors and colleagues; Ehrenberg (2001) study also shown the barriers as lack of time and knowledge, organizational obstacles, difficult to write up and the forms are inappropriate.

The study of Tapp (1990) shown the barrier that inhibit in doing documentation involve lack of time, space and place and, the facilitating factors involve usage of theoretical framework, positive reinforcement from supervisors and the changes of the patient condition. Howse and Bailey (1992) conducted qualitative study among four registered nurses. Their study showed the barriers to perform documentation such as inadequate charting system, lack of value and use for record entries, environmental disruption, inaccessibility of the records, lack of time for

documentation, a workgroup norm (a negative attitude to document), and the perceived difficulty in phrasing in correct way.

Allen (1998) conducted ethnographic approach to investigate the registered nurses' attitude towards nursing process is contradictory in the sense that the value nursing process as a means of professionalism, however, it is difficult to bring it to terms with their work in the wards. She argued that the nursing process is based on a model of one-to-one nurse-patient relationship, whereas the realities in the hospital, the registered nurses have multiple patient assignments.

Serrano and et al (1994) concentrated on the importance of education programmes and the attitude of nurses (cited by Salcedo, 2004). Foroozan and Tahereh (2011) study focused on the personal-managerial factor which includes awareness, attitude and skill of the person involved, and human resources, reinforcement and punishment, suitable tools and conditions, cooperation, and supervision at the managerial levels. Some of the problematic factors that do not support on application of NPM mentioned by Sheehan (1989) are staff shortage, lack of time, extra paper work and a rapid turnover of patients.

According to the findings shown by Aseratie, Murugan, and Molla (2014), among the factors which affect the nursing process were high patient flow, patient load of nurses cared for more than 15 patients in a day, and early discharge 78. They stated that nurses working in a stressful environment were 0.357 times less likely to carry out nursing process than those nurses working in a disorganized environment.

Therefore, the above mentioned previous studies' findings reveal that the implementers' attitude which is the internal factor, and the factors that support from management, balance nurse patient ratio, standardized format to apply NPM are the important external factors that are influencing the successful application of NPM.

From an example on application nursing process model in Australian nursing context, the application started at 1978 and it took 5 to 6 years to apply nursing process for tertiary based nurses in hospitals. The profession slowly to accept and established nursing process. The present-day status of nursing process in clinical setting is that nursing process is being applied in most clinical areas such as medical and surgical ward. However, in the settings where there is emphasize on getting the work done within the available resource allocations, and because of lack of staff, it has been reduced to practical checklists that require little more than a tick in a column as tokenistic problem solving within minimal practice requirements (Taylor and Game, 2005). It indicates even though nurses have sound background knowledge and practice about NPM, they could not follow step by step process of NPM if the time available and resources are not enough and nurse patient ratio is imbalance.

In Malaysian nursing education and practice context, all the findings prove knowledge, attitude towards NPM, its application and implementation process, and the supporting factors that are influencing and contributing the practice of NPM. Not only internal factors but also external factors mentioned by NHS (2007) are affecting together in the implementation of NPM application which is not only in Malaysian nursing education context but also affecting as a global context.

Implications based on Academic Staff and Student Nurses' opinions, comments and suggestions

The findings of quantitative and qualitative reveal the factors influencing upon application of NPM are the student nurses' knowledge, attitude and supporting factors. Among these three factors, the supporting factor is mediating in translation of knowledge to practice of student nurses. The implications in this session are based

the academic staff and student nurses suggestions to improve on application of NPM (referring to table 4.42, page 400-402).

As mentioned in the study conducted by Aseratie, Murugan and Molla (2014), nurses who had high knowledgeable level were 27% times more likely to carry out nursing process than low knowledge level group nurses. It indicates knowledge is important to carry out practice. In addition, there are five types of barriers mentioned by NICE (2007), namely, awareness and knowledge, motivation, acceptance and beliefs, skills, and practicability. Awareness and knowledge are the vital first step in enabling change to occur. There have external factors such as providing incentives or penalties as a part of regulatory checks and internal factors such self-motivation derive and desire to improve of each individual which influence the motivation and change behavior.

In Malaysian nursing education context, the implications are based on the suggestions of academic staffs which are to raise knowledge and awareness among nurses, standard guidelines to follow, simplified integrated checklist and proper guidance, changing attitude, make it realistic, practice based and hands-on, provide training, Continuing Nursing Education program and refresher courses for NPM, collaboration among nurses and other health care professionals, providing recognition, encouragement, empowerment from management, and close monitoring on implementation of NPM application process.

Concerning teaching learning materials, the implications based on the suggestions of student nurses to improve application of NPM which are provide standardized, specific and latest materials for theory and practical, give a standard guide to follow, make it short, clear, simpler and understandable way, make it user friendly and time efficient, and to include update illness and diseases. Concerning

teaching learning practices, the implications based on the student nurses' suggestions are need to standardize teaching among academic staffs, give more lectures and guided hands-on practice, teach orderly and systematically, close guidance, giving more time to practice and practice more, give more practical based exercise, make it real and concentrate more on holistic nursing care rather than functional task-oriented.

Concerning the practical working/learning climate, the implications based on the suggestions of student nurses to improve application of NPM are; to upgrade knowledge of staff, provide training and create adequate staffing, need to improve application in clinical setting, provide a workshop, talk, educational program and support group for nurses, appropriate nurse patient ratio and adequate time, encouraging nurses and improve more on teamwork, collaboration and management support.

Concerning monitoring and evaluation on the implementation process, the implications based on the suggestions of student nurses to improve application of NPM are; need to conduct survey, audit, monitor and evaluate critically, to reinforce and monitor practice, support needed resources from management. Concerning effective documentation, the implications based on the suggestion of student nurses are to apply technology to be more discipline, computerize to become more efficient and digitalize documentation.

Implications/Recommendations for current policy implementation process

The process of implementing education policy successfully is very depending on how those policies are implemented effectively. The achievement of the plan depends not only on effective implementation but also prompt monitoring and

evaluation system. Hoy and Miskel (1978:215) stated that policies are not only formulated but also it is needed to be programmed, communicated, monitored and evaluated (cited by Okoroma, 2006).

In the implementation of nursing education and practice policy implementation in Malaysian nursing context, effective monitoring and evaluation system is needed to identify whether the implementing agenda and strategies are met with the intended target or need to improve in which aspects in implementing program. To trace the achievement of the implementing public policy/agenda, the policy makers and strategic planners need to conduct survey, audit, and monitor and evaluate critically before, during and after implementation process.

In addition it is needed to support needed resources from management and creating balance nurse patient ratio is critical concern while carrying out implementation of NPM application especially in real clinical context. The climate and culture of real clinical setting is reflecting and affecting the learning process of student nurses which are the fresh graduate who are intended to be a professional practice nurses targeted by the higher education sector.

In addition, the important role of strategic planner/policy makers in implementation of education policy includes designing the policy which is relevant with the existing conditions. Currently, the nurse patient ratio in Malaysian health care system is not balance and trying to upgrade the current imbalance nurse patient ratio to reach the standard nurse and patient ratio. Based on the findings of quantitative and qualitative reveals that the supporting factors (hospital administration support, adequate resources to apply NPM, sufficient allocated time, optimal nurse patient ratio, appreciative feedback, monitoring and evaluation,

applying NPM in real setting and proper training program) is mediating while applying NPM.

The statistic mentioned by MOHE (2010) also confirmed the imbalance ratio of nurse patient and heavy workload. Therefore, the policy maker/health care planner planned to improve nurse patient ratio, degree and diploma nurses ratio to upgrade the status of nursing in Malaysia. According to the believe of Lindblom (1959) which is a wise policy maker cannot expect that there may have a hundred percent success in all their policies because the policy implementation may bring in some element of imperfection despite how good a policy may be (Okoroma, 2006). Therefore, because of the constraints in supporting factors, it cannot expect a complete success among these barriers. However, when the imbalances become balance, the policy can implement more effectively.

Implications/Recommendations for findings

Based on the needed implications to improve implementation of NPM application mentioned by the academic staff and student nurses, the recommendation/implication points for this evaluation study are as follow;

- Education and training programme concerning NPM with special attention to increasing knowledge, changing attitudes and developing skills for all levels of nurses is needed.
- Improve and upgrade harmoniously concerning application of NPM in both academic staffs and clinical nurses' knowledge and practice about NPM through conducting workshops, seminars, training and refresher courses in order to reduce theory practice gap.

- Improve knowledge and practice of student nurses through practicing the current teaching learning practices mentioned by academic staff more promptly.
- Standardize teaching learning materials and specific guidelines for nurses and student nurses for their learning and reference harmoniously.
- Motivation of academic staff, student nurses including all levels of nurses in clinical setting that would further promote consistency in the process.
- Pay more attention on effective monitoring and evaluation system in both teaching and clinical settings.
- Create favourable working/learning climate through adequate staffing and resources.
- Improve recognition and collaboration among nurses as well as with other health care professionals.

Contribution of study

It is showing what suppose to improve from the implementers' point of view which helps the policy makers to understand what is needed to improve in current implementing process.

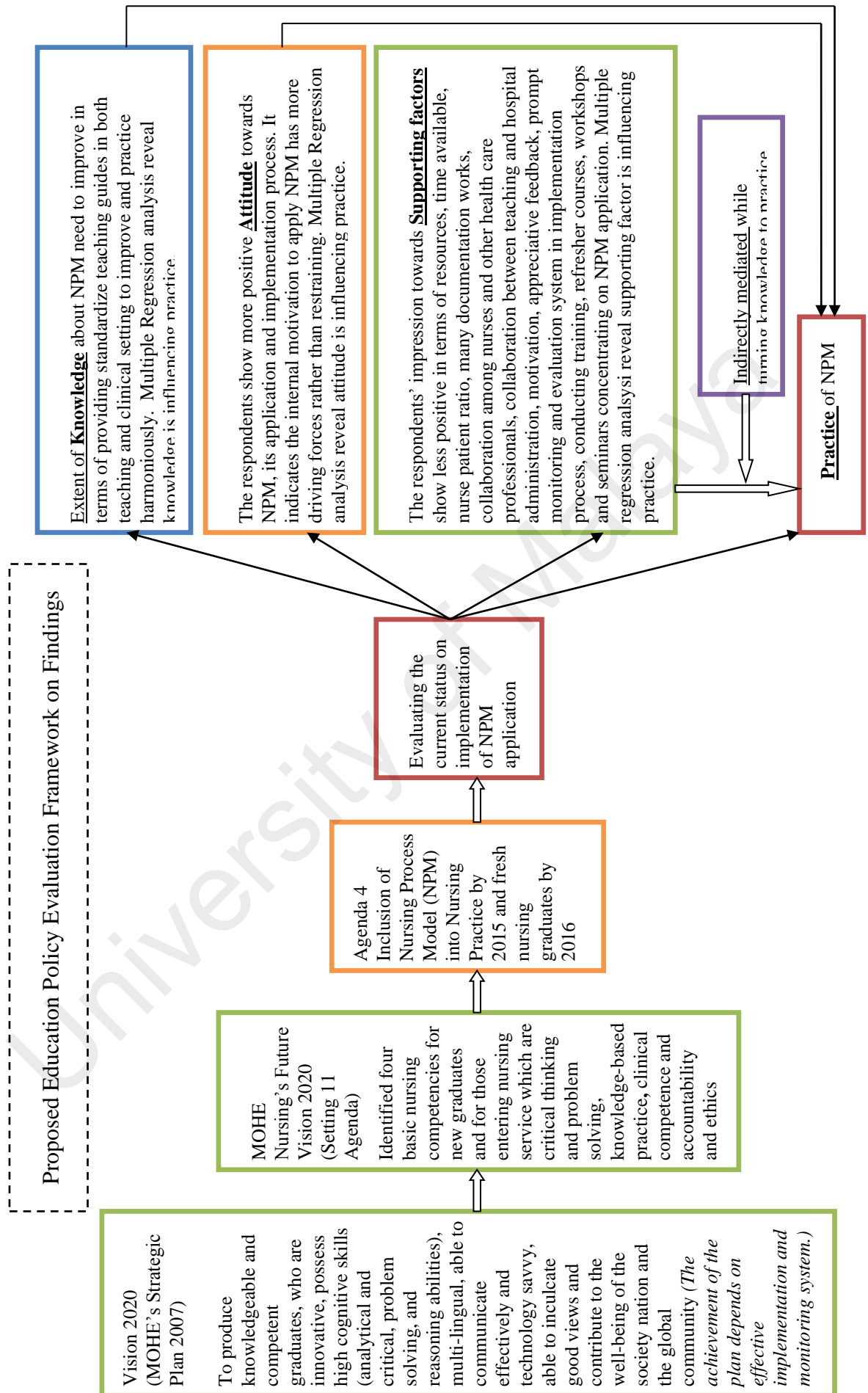
From this study, the results contribute the important issues such as the practicing policy (implementation of NPM) is whether satisfactory or need to improve through presenting the factors that need to improve successful application of nursing process in producing professional nursing graduates in Malaysian nursing context which reflect the success of vision 2020 of Malaysia which is to produce knowledgeable and competent graduates to contribute to the well-being of the society, nation and the global community.

The results of this study can be used as a baseline data for further related studies and will provide important points to the policy implementers, nursing researchers, policy makers, health care and education planners.

Propose Education Policy Evaluation Framework based on Findings

Based on the the theories, concepts and finding from this study, the researcher contribute the following proposed evaluation framework for education policy implementation study.

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Strengths and Limitations of study

Strengths. This study is perhaps the first investigation amongst the pioneer's research concerning nursing process in Malaysian Nursing Education context. It will give insights and can be helpful as baseline information for future researchers. In addition, concerning the strengths of research design, both the strengths of quantitative and qualitative methods were applied in this study. Even though the study is focusing on Malaysian nursing education context, the findings reflect the practice context of NPM in real clinical setting indirectly through qualitative findings. The study can generalize Malaysian nursing education context because the public and private universities from East and West Malaysia are involving and all level of education programmes are included.

Limitations. Even though the mixed methods research is combining the strengths of quantitative and qualitative methods, the qualitative findings in this study are based on the subjective answers of the respondents. The researcher could not carry out observation in their classroom and real clinical settings and face to face interview with the respondents because of targeted timeframe.

Conclusion

Education policy is soaring agenda of governments across the world and the focus progressively more attention on the policy outcome. In Malaysia, based on National Education Blue Print, the Ministry of Education sets the Vision 2020 which is intended to produce knowledgeable and competent graduates. To implement the MOHE's vision, the Nursing Task Force Committee, under the guidance of MOHE has identified the eleven agenda to produce professional nurses with four basic

nursing competencies for new graduates and for those entering nursing service which are practicing critical thinking and problem solving, knowledge-based practice, clinical competence and accountability, and ethics through implementing NPM in nursing education and practice context.

In educational planning, the policy process is an important component and involves a variety of process such as analyzing the current situation, generating and assessing policy options, preparing and monitoring of policy implementation carefully, which can eventually lead to redefine a new policy cycle. Therefore, significant amount of planning and real policy formulation can be happened even during real implementation phase due to possible appearance of certain issues such as the circumstances related to implementation constraints, feedback obtained during implementation which is leading to reassess the policy decision aspects and need subsequent adjustments by policymakers, and the simple translations of the intended policy from abstract into concrete implementation which causes re-assessment and re-design during implementation process.

Assessing the policy impact is distinctively important to determine whether the policy should maintain, modify, or reject. Interpreting the assessment results have a very strong influence on what comes next. There have three possibilities while evaluating implementing the policy. First, the policy is in the right track and should maintain. Second, lack of policy outcome due to implementation problems and should modify. Third, the poor policy outcome because of the nature of policy itself, and it should decline (Haddad, 1995).

Therefore, effective evaluation system is critical concern throughout the implementation process of NPM and evaluation is a crucial issue to identify and explore concerning whether the implementing model is functioning well or not and

what are the factors that hinder or promote the ongoing process of implementing the nursing education policy. The main purpose of this study is to evaluate the current status on implementation of NPM application and its affecting factors in Malaysian Nursing Education context in terms of the extent of success, the factors affecting and to interpret the nurses' (Head of Department, lecturers, tutors, clinical instructors and student nurses) opinions on NPM and the factors that promote or hinder on implementation of NPM application in learning theory and performing practice by applying mixed methods approach.

The findings of this study highlight that the student nurses' level of knowledge is need to improve in terms of providing standardized and updated teaching learning references related to NPM, more practical based and creating conducive learning environment in the real clinical setting to apply NPM, simple and effective documentation system to reduce too many paper work for documentation. Therefore, in terms of knowledge of student nurses who are becoming fresh graduates in Malaysian nursing context need further improvement in their knowledge context about NPM. However, in terms of attitude as internal factors, most of the academic staff and student nurses have positive attitude towards NPM, its application and implementation process which indicates that they accept this nursing education policy and implementation process which is the driving force in upgrading the status of functional nursing to professional status.

Concerning the findings of supporting as external factor, the response among academic staff and student nurses are not the same. They have different opinion upon the factors that support in the implementation process such as administration support, resources available, time available, appreciative feedback and conducive environment to apply NPM. Both quantitative and qualitative findings concerning

supporting factors reveal that external support is playing the main role while applying NPM theory to practice. Based on the findings, it is not because of the weakness of implementing policy, but because of external support system to implement it.

Therefore, it can conclude that attitude in terms of internal factors show more driving forces rather than resisting, whereas the external supporting factors are needed to improve in terms of management support, adequate resources, to create balance nurse patient ratio which affect the workload and time available of nurses, to upgrade the documentation system to reduce much paper work, to aware of teamwork and collaboration, to aware about motivation, to aware effective monitoring and evaluation system within the implementation context, aware to conduct workshops, seminars, and continuing nursing education program especially paying attention to NPM application. Furthermore, interprofessional awareness and collaboration is also needed to make other health care professionals to aware about this change process and implementing policy which is the application of NPM.

As mentioned above, it cannot expect the policy to achieve a hundred percent success because the policy implementation may introduce some element of imperfection despite how good a policy may be. In Malaysian nursing context, because of the constraints mentioned by the academic staff and student nurses concerning supporting factors, it cannot expect a complete success among these barriers. However, when the imbalances become balance, the policy will be implemented more effectively.

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