INFORMATION LITERACY IN THE WORKPLACE: PERCEPTIONS AND PRACTICES IN ACADEMIA

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ABSTRACT

The research established the avalanche of studies in information literacy (IL). Also, it identified that there had been a few of such studies in workplace IL because the existing IL models had their seemingly limitations to understand how information literacy evolve in the workplace especially among academics. Such limitations prompted a re-conceptualisation of IL and a subsequent design of a conceptual model- Workplace Information Literacy Model **(WILM) –** used as the conceptual framework for the study. The main aim of this research is to understand the activities and co-participation of academics in the workplace in Nigeria by exploring how IL evolves in the practices they engage in. The research took a practice approach to see, listen and learn from the academics what practice they engage in to prepare their undergraduates for the workplace; upon graduation. As a practice study, it explores insight into how the academics perceive information literacy, how they co-participate to interact with information in executing their routine tasks, and how their undergraduate students are prepared through such workplace practices. This therefore necessitated the study design of a qualitative case study. The study case was a College of Education. Nine (9) Heads of departments (HoDs) were selected on 'purpose' and they constituted the research participants. Rich data were collected through audio-recorded semi-structured in-depth interviews and un-obstructive observations. Aligning with the principles of case study, the study was able to pay particular attention to each individual participant in order to gain insight into how IL evolves in his or her practice. The study fulfilled all research ethics considerations while the participants were assured of their anonymity. The theoretical lens of 'fit theory' was employed to examine the participants as people in the know, who possess tacit knowledge, and co-participate to share such experiences. The rich data were analysed by coding in-vivo, constantly comparing the codes for similarities within and across data and eventually created significant themes that

separated all insightful thoughts in the data. The findings show that the participants have different conceptions of information literacy while all the participants see IL as an ability to solve a problem. In addition, there were twenty-two practices which academics engage in as a response to a challenging information environment within which they work. The emergent themes of the study are: (1) Employee training and development, (2) Skill acquisition, (3) Assessment, (4) Information technology infrastructure, (5) Conceptions of information literacy, and (6) Administration. The research recommended that: (1) the domain of LIS should reconceptualise IL to look beyond the classroom for information literacy development, (2) governments in developing countries should improve information technology infrastructure to facilitate access to all media of information, and (3) IL skill developments efforts in the workplace should be encouraged by preparing undergraduates with industry-driven collaboration programmes. The research concluded that future research should: (1) Further test the conceptual model- WILM; and (2) Investigate how industry experts could share information literacy skills necessary for the novice employee.

ABSTRAK

Penyelidikan terdahulu telah menunjukkan kepentingan kajian dalam literasi maklumat (LM). Terdapat sedikit kajian berkaitan dengan literasi maklumat di tempat kerja, kerana kebanyakan model literasi maklumat yang sedia ada mempunyai batasan untuk memahami bagaimana konsep ini berlaku di tempat kerja terutamanya di kalangan ahli akademik. Kekurangan ini membolehkan konsep LM diperbaharui dan terhasil rekabentuk model konseptual – Literasi Maklumat di Tempat Kerja (WILM) – berpandukan kepada kajian di kalangan ahli akademik di negara membangun, Nigeria. Objektif utama kajian ini adalah untuk memahami bagaimana LM berkembang di tempat kerja dengan mengkaji amalan ahli akademik. Kajian ini mengambil pendekatan dengan melihat, mendengar dan belajar amalan /perilaku daripada ahli akademik tentang bagaimana perilaku mereka terlibat ketika menyediakan pelajar mereka untuk tempat kerja; selepas tamat pengajian. Ia meneroka bagaimana ahli akademik melihat literasi maklumat, bagaimana mereka bersama mengambil bahagian untuk berinteraksi dengan maklumat ketika melaksanakan tugas-tugas rutin mereka, dan bagaimana pelajar ijazah disediakan melalui amalan tempat kerja itu. Oleh itu, reka bentuk kajian kes kualitatif diperlukan. Kes kajian adalah dari Kolej Pendidikan. Sembilan (9) Ketua-ketua jabatan (Ketua Jabatan) telah dipilih untuk tujuan ini dan mereka merupakan peserta penyelidikan. Data yang dikumpulkan melalui wawancara audio yang dirakamkan separa berstruktur dan pemerhatian separa-obstruktif. Selaras dengan prinsip-prinsip kajian kes, kajian ini dapat memberi perhatian khusus kepada setiap peserta individu untuk mendapatkan maklumat tentang bagaimana LM berkembang berdasarkan kepada amalan/ perilaku masing-masing. Kajian ini memenuhi segala pertimbangan etika penyelidikan manakala peserta telah diberi jaminan bahawa segala maklumat mereka berikan adalah dirahsiakan. Kajian secara teori telah digunakan untuk menyelidik para peserta sebagai orang yang tahu, yang mempunyai pengetahuan

tersirat, dan bersama mengambil bahagian untuk berkongsi pengalaman itu. Data ini dianalisis dengan pengekodan secara in-vivo, pembandingan kod untuk persamaan data dan akhirnya mencipta kepada tema penting. Dapatan kajian menunjukkan bahawa peserta mempunyai konsep literasi maklumat yang berbeza manakala semua peserta melihat LM sebagai keupayaan untuk menyelesaikan masalah. Di samping itu, terdapat dua puluh dua amalan yang terlibat dalam bidang akademik sebagai tindak balas kepada persekitaran maklumat yang mencabar di mana mereka bekerja. Tema-tema yang timbul daripada kajian ini adalah: (1) Latihan dan Pembangunan Pekerja, (2) Pemerolehan Kemahiran, (3) Penilaian, (4) Infrastruktur Teknologi Maklumat, (5) Konsep Literasi Maklumat, dan (6) Pentadbiran. Kajian ini mencadangkan bahawa: (1) konsep LIS perlu diubah dengan melihat lebih luas iaitu “di luar bilik darjah” bagi pembangunan literasi maklumat, (2) kerajaan di negara-negara membangun perlu meningkatkan infrastruktur teknologi maklumat bagi memudahkan akses kepada semua media maklumat, dan (3) perkembangan kemahiran LM di tempat kerja perlu digalakkan melalui persediaan pelajar dengan program-program kerjasama industri. Kajian ini menyimpulkan bahawa kajian akan datang perlu: (1) menguji lanjut model – konsep WILM, (2) mengkaji bagaimana pakar-pakar industri boleh berkongsi kemahiran literasi maklumat perlu bagi pekerja yang baru.

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CHAPTER 1: INTRODUCTION

1.1 Introduction

The library as an information center is, from observations, always concerned about how much information is available (to patrons) and adequately managed in order to extend the frontiers of knowledge (Ranganathan, 1931). This concern is being challenged today by the limitless access to an inundation of information resources in "digital repositories, open source journals, and e-books" (Martin, 2013, p. 116). This turn of event is influenced by the invaluable support of information technologies which empower individuals to become creators and disseminators of information (Andretta, 2012).

This concern, yet again, precipitated the description of information literacy (IL) by the American Library Association (ALA) as a phenomenon that produces a literate person that is "able to recognise when information is needed and have ability to locate, evaluate, and use effectively the needed information", ALA (1989, p. 1). This description presupposes that there is a need to possess a skill to filter the volume of information that is available and that such abilities are not inborn hence have to be acquired (Shapiro & Hughes, 1996).

One of the roles of the library, and by extension, Library and Information Science (LIS) researchers or the Society is to see how users or citizens could benefit greatly from information literacy through the acquisition of a set of abilities requiring individuals to recognise when information is needed and have the ability to locate, evaluate and use effectively the needed information (ACRL, 2000). These abilities, required to identify information need and resources decades ago, may have changed from what is required to search through the avalanche of information in today's landscape of global information economy; meaning that, trend and society shall

continue to shape the degree or extent of information literacy (IL) that would be required for academic, professional, socio-economic, and sundry endeavours.

In an attempt to list what skills are referred to as 'information literacy skills' expected of information literate persons, Taylor (2007) submitted that merely identifying an information need or where to source the information may not be enough to justify information literacy. Rather, individuals should have 'transferable or generic skills such as critical thinking, creative thinking, problem solving, higher-order thinking, effective communication, and organisation skills'. The individuals in Taylor's mind could be persons who understand what information they need and how to choose it from a lot of alternatives in order to take the cutting-edge decision. Of course, there is no doubt that learning can take place in almost everywhere: in the school, home, playground, workplace, religious setting, or garden but what is very crucial is how much the learners are groomed to learn from any environment they find themselves; with or without a facilitator (teacher) or guide since the teacher would not be there forever.

This importance of learning from any environment prompted Bruce, Hughes and Somerville (2012, p. 524) to emphasise why learners should have to learn how to learn. They see information literacy from two perspectives:

> (1) [T]he skills associated with using information in an ever-expanding range of contexts, representing a functional view of information and information literacy and (2) the process of using information to learn, including communicating and creating in these contexts, representing transformative interpretations of information and information literacy.

Several studies (Behrens, 1994, Virkus, 2003, Singh, 2007, Cooke, 2010, Lange, Canuel, & Fitzgibbons, 2011) have affirmed that the Library has been teaching and working hard for a long time to engender appropriate and adequate literacy skills among pupils, students, and young adults but Dawes (2010) is bothered about how best to achieve sustained and relevant information literacy that fits into today's complex world

of fast-moving, intricate, information-based global economy. The information literacy skills required by today's students, in the opinion of Grassian and Kaplowitz (2009), should take them beyond the classroom. It should prepare them for the competitive world where information and how best to use it (information) determines the winner.

The workplace, whether in a provincial village or cosmopolitan city, wishes to benefit from information literate individuals thus requiring employees that translate information into knowledge to put the organisation in a vantage position and increase profit or improved service-delivery. The employer is more interested in what the employee is capable of doing and not who taught her or how much he or she (employee) was taught in school. To the employer, the employees should be people who could find and use information appropriately to take a decision that will take the organisation above competitors within the industry.

1.2 Background to the study

In the workplace, information literacy has become fundamental to daily routines so much that Swabey (2007) predicted that information literacy (IL) would rank second after information technology (IT) among the workforce and that this will continue until 2017. A workforce is the people, human resources or employees who make a living in an organisation, (Webster, 1988). The environment, system or organisation where such employees work is the workplace. In other words, a workplace is where an employee works for an employer (Encarta, 2009). However, the realities of information technology (IT) have extended the meaning of workplace to include any arrangement that identifies an employee, a task or service and an employer without necessarily identifying a place for transactions (Conley & Gil, 2011). So, a workplace can be of a physical location or virtual existence; workplace without boundaries. Every workplace has goals and dreams to achieve. To facilitate such goals and achievement, the workplace sets activities and duties expected of its workforce (Lloyd, 2010). The employees are expected to abide by

set rules and standards in order to execute tasks following required competencies, learning outcomes, delivery format and schedules, targets, justification for remunerations, emotional commitment, and performance evaluation (Brackett, Patti, Stern, Rivers, Elbertson, Chisholm, & Salovey, 2009). One of the critical skills that is required by the workforce today and for the future, as predicted by Swabey (2007), is information literacy (IL).

The employees join an organisation with a set of competencies, ideas, skills and experience, described by Lloyd (2014, p. 99) as 'non-normative' knowledge that is embodied in everyday activities. These skills may assist the employees in achieving the organisational goals. Furthermore, employers expect their workers to be in top shape to understand new developments in the industry and to possess skills to enable them edge out competing workplaces to maximise profit. Today, employees seem not to possess these skills and employers, who are in their world of making profit, are getting worried. This anxiety and growing concern in the world of competition for profit was observed by Bruce, Hughes and Somerville (2012) and reported that employers in recent times wonder if employees are adequately prepared for the demands of 21st century jobs.

Earlier in 1974, three decades before the observation of Bruce, et al (2012), Paul Zurkowski, the President of American Information Industry Association (AIIA) also observed this 'skill deficiency' among industry practitioners and had to send his observations in a report to the National Commission on Library and Information Science thus becoming the first person to coin and used the term 'information literacy' to describe the skills he observed were missing in employees (Zurkowski, 1974). Since then, there have been studies in information literacy (IL) but more of them focused on educational setting and how IL could be taught to learners (Rader, 2002). Expectedly, the information literacy models that guided most of such studies were designed along the line of

educational settings thus had little understanding of the realities in the workplace (Bond, 2012).

Employees, in a workplace, engage in practices to execute tasks in order to meet the organisational goals thus making 'practice' a critical component in the workplace. Practice, in the opinion of Gherardi (2009) is the interplay of accrued experiences and the social relationship amongst the employees; these are the elements that mark out the workplace. The interplay of experiences fosters learning and this stands the workplace out as a space of social elements. The ability, therefore, to relate with human and materials within the social site -workplace- identifies those with requisite competence as this co-participation breeds learning (Lloyd, 2010) and such learning, is that which helps employee to work well and better. That is, using information to learn, described by Bruce (2008) and Bruce, Hughes and Somerville (2012, p. 522) as 'informed learning'.

Nurses, teachers, educators, engineers, entertainers, students, researchers, and other members of the community could be informed learners if they use information to learn. The skills to use information to learn may be more than what was taught in the school, college or university. It thus means that the required skills to use information effectively in the workplace should be lifelong in nature; transferable and self-improved through work routines. In addition, the workplace is a setting where targets must be met promptly and success bothers on such skills earlier described by Dawes (2010) and Grassian and Kaplowitz (2009).

There has been a debate on whether the phrase 'information literacy' represents a set of skills that could be taught within the classroom setting (educational discourse) or a process of delivery to achieve standard practice and success that are better acquired through practice in a workplace (Snavely & Cooper, 1997, Lloyd, 2011). Information literacy skills, as conceptualised by librarians, do not accommodate the nuances and business practices that are important to the application and execution of information

literacy in work settings. Bevan (2003) concluded that it is not clear whether information literacy that is taught to support activities of information seeking, selection of information sources, and choice of information actually reflect the realities and demands of real life as they are enacted in the workplace by employees.

The employers are more interested and concerned about improved yield in order to maximise profit. The employees would have to go all out to acquire the skills that would enable them stay on top of their jobs, yet respecting standards and stipulated rules. So, in the workplace, emphasis is on ability to use information to carry out tasks and not the understanding of the principles guiding the skills. In other words, applying information literacy to get the work done effectively is the concern of employers. Moreover, workplace concepts of 'team work' and 'collective knowledge' do not find a place in educational discourse of information literacy which presents individuals as possessing information literacy skills to achieve individual information use (Lloyd, 2010, 2011).

What it takes to be information literate (identifying information need, identifying sources of information, retrieving information, synthesising the information retrieved, organising the information, evaluating and disseminating the information) are skills that can be taught in the classroom as explicated by the educational discourse (Cooke, 2010) and the need for policy makers to integrate information literacy into the curriculum; (De Jager & Nassimbeni, 2005) but this has little reflection of the practices in the workplace context. However, employers will only appreciate employees who can apply their classroom experience to industry routines of discovering when and how best to improve productivity in the workplace. Although Cheuk (1998) lauded the Secretary's Commission on Achieve Necessary Skills (SCANS) for identifying information literacy as one of the five essential competencies for solid job performance (SCANS, 1990), the peculiar nature of the workplace context prompted Lloyd (2011, p. 284) to observe that

"studies on the transfer of information literacy within and across a range of settings are still emerging".

Lloyd's concern for the young and emerging status of research in workplace information literacy was also shared by Bruce, Hughes, and Somerville (2012) who further emphasised that more research should emphasise information literacy as important to students who need to learn how to learn and to employees who need to use information to take decisions and improve productivity. However, what is more important is how to ensure that the skills bequeathed to students (whom later become employees or employers) are adequate to see them through into the workplace and sustain them therein.

This importance draws attention to the two recommendations made by SCANS as reported by Cheuk (1998) that researchers should identify ways to illustrate to business leaders the benefits of fostering an information literate workforce. The second recommendation is to carry out research on how information literacy is manifested in the work settings and the degree to which it enhances workplace productivity. In implementing the recommendations, since no known study has done so in Nigeria, this research will consider the possibility of identifying the information practices that are peculiar to employees in some communities (Dorner & Gorman, 2011) and workplaces (Lloyd, 2011) to assist in the understanding of how IL evolves in the workplace and further help appropriate agencies in creating context-specific intervention programmes to extend the frontiers of knowledge in the domain of LIS.

1.3 Statement of the Problem

In 1974, the observation of Paul Zurkowski about the inadequate workplace skills among the employees in the US prompted his report in which he described the 'missing skills' as 'information literacy' skills (Zurkowski, 1974, p. 9). The report was sent to the National Commission on Libraries and Information Science because it was intended to spur the inclusion of the teaching of such skills into 'library skills' which was strictly in the domain of the Library and by extension Library and Information Science (LIS). Zurkowski projected that by 1984 the National Commission on Library and Information Science would have designed a national program through which IL would be taught to all levels of learners in the US.

The workplace hosts employees who have left the tutelage of the teachers' world- primary, secondary and tertiary. Whatever they (students) are able to do or could not do may be traceable to, among other several factors, the academic interactions they had with their teachers in their days at school. In D'Angelo's (2012) case study, it was established that "attention and concern about the performance of … schools [tertiary] is attributed, in part, to the evolution of information and communication technologies and the perception that economic and workplace transformations require the teaching and learning of different or higher levels of skills than schools and colleges are [currently] delivering" (p. 637).

In addition, the call to improve the skills of employees was from the industry-workplace; American Information Industry Association (Zurkowski, 1974). Since this observation and the subsequent 'watershed' report, there have been a long list of studies on information literacy (Rader, 2002, Virkus, 2011) but they concentrated more on how IL could be taught in a classroom setting while a few, though not recent, paid little attention to how IL evolves in the workplace (Wang, Bruce & Hughes, 2011). The studies on how IL ought to be taught and assessed were framed by IL research models that were designed to pursue studies in classroom settings and not in workplace context

(Lloyd, 2010) thus beclouding other possible practices through which information literacy (IL) may evolve. In her call to researchers, Lloyd hinted that the environment of information interaction among employees is a critical factor in the workplace. She further suggested that research in workplace IL should be a "holistic practice where the focus is not [only] on the individual's experience of information but on the individual's experience of information in consort with others" (p. 76).

In 1990, the SCANS observed that there was low scientific production in workplace information literacy and recommended that a show of how information literacy evolves in the work setting would help the preparation of employees for the realities ahead (SCANS, 1990). Since this call, there have been few studies (Lloyd, 2010, Pinto, Escalona-Fernandez, & Pulgarin, 2013). While it is not impossible to conclude that the paucity in scientific production in workplace IL was because existing information literacy models have their limitations for the understandings of the workplace, it is clear from the few workplace studies that none of them used existing IL models. Existing definitions and models of information literacy (ALA, 1989, ACRL, 2000) seem not to consider workplaces in developing countries such as Nigeria where the information process is highly influenced by people, culture, and the environment. A person could be a 'database' or 'oral archive' through which information needs could be satisfied. In communities like this, the models of information literacy need to reflect this peculiarity. However, where there are challenges to access electronic information resources, Nigerians resort to their rich indigenous knowledge and socio-cultural heritage to fill a seemingly digital-gap.

Like Paul Zurkowski, Salau (2012 a, b) and Onwe and Ezekwe (2014) also observed that the skills to participate actively in the workplace are missing in the employees in Nigeria. However, the employees are products of tertiary education and since the society looks up to her tertiary institutions for supply of workforce for national

development (Lumande, Fidzani, and Oluka, 2013), there is the need to understand how academics, as employees, engage in practices that prepare their undergraduates (UGs) to become information literate persons who possess the required skills to actively participate in the twenty-first century workplace.

1.4 Objectives of the study

- The main aim of this research is to understand the activities and co-participation of academics in the workplace in Nigeria by exploring how IL evolves in the practices they engage in.
- **The specific objectives are:**

  -To examine the perception of Information Literacy among academics in Nigeria;

  -To explore the information environment within which the academics in Nigeria practice; and

  -To identify how academics in Nigeria engage in practices that may prepare undergraduates with information literacy skills for the workplace.

1.5 Research questions

- RQ1- What is the perception of academics about information literacy?
- RQ2- How is the information environment constituted for academics?
- RQ3- How do academics engage in practices that could prepare undergraduates with information literacy skills for the workplace?

1.6 Outline of the research

The outline of the chapters is presented below to give an idea of what is discussed in each and to whet the appetite to read the entire chapter. The chapters are presented below:

Chapter one

This chapter gave an introduction to the problem of study and justification to pursue the study. Key concepts and the two sides to the on-going debate of how best to impart information literacy skills were presented. This was done to establish a link between the studies of the phenomenon of IL in other parts of the world to establish the 'problem' under study as worthwhile even though the study is not anyway claiming generalisation across the world context.

Chapter two

Previous literatures that are related to the subject of information literacy in general and the workplace practices were critically reviewed to expose the gap which this current study is out to fill. The review covered some earlier studies dating back to 1974 in order to make the subject of information literacy in the workplace adequately clear. The chapter ended with a 'summary of the gaps in literature' to clearly situate the objectives of the study.

Chapter three

This chapter explained the research design, types of data required, choice of case-study site, selection of participants, the corresponding tools / protocols and mode of data analysis. In analysing the data, the researcher employed a line-by-line coding strategy, documenting and re-visiting decisions in the memo (memo writing) to constantly compare codes in and across data to identify categories. The justification for the choices of codes and emergent themes was also explained.

Chapter four

The findings from the semi structured interviews and un-obstructive non-participatory observations were presented in this chapter. In line with qualitative case study, each set of finding is explained in order to explicitly show how the conclusions were drawn from the narratives. Furthermore, the findings were adequately buttressed with the verbatim quotes of the participants.

Chapter five

The discussion of the data was done in this chapter. The discussion enables the research study to justify the objectives set out initially. The findings were discussed to show consistence and relevance of the phenomenon with what had earlier been reported in the literature of Library and Information Science (LIS). All the research questions were adequately answered; with extracts, references and direct quotes drawn from data collected and presented in chapter four; earlier.

Chapter six

Further to the earlier chapters, this chapter drew up a conclusion and made recommendations for implementation and for future researches. The chapter also considered the limitations, implications for the Nigerian workplace, and information literacy studies.

1.7 Significance of the study

This research fills a gap in the LIS literature by reconceptualising IL to reflect a workplace perspective. This research joins and builds on the few existing studies that have called for a broader conceptualisation of information literacy to enable researchers, librarians, students and other stake holders in the library and information science understand workplace IL and look beyond the classroom in imparting information literacy into persons and the society. There are several studies on how to teach, assess and incorporate IL across school curricula but this research departs from that

perspective thus provided a slice of reality of the opportunities inherent in the routine practices of academics through which IL may evolve. Furthermore, more of the existing IL models reflect the educational setting and do not reflect the peculiarity of the workplace that this research has presented from the point of view of the employees (academics) in the workplace.

Secondly, there was an observed and documented evidence of low scientific production before this research. Earlier researches in information literacy (IL) were more about students and learning of IL hence justifying the call for more research in workplace IL. This research answered to that call. Apart from being a workplace study, it has also provided insight into what goes on among academics in the workplace from the perspective of the academics themselves. This insight provides, among others, a tripod-stand of understanding upon which other future research would mount. As such, one may conclude that this study would propel an increase in the scientific production in workplace IL.

Another significance of this study is the situation analysis of how the information environment is constituted for the academics in Nigeria. As a practice study, the research explored the prospects and challenges inherent in developing countries; described as digital divide. Since this is a phenomenon that is dynamic, a current situation analysis, as provided by this research is most recent, first hand, and informative for researchers, practitioners and students in Library and Information Science (LIS).

Fourthly, the research has provided a 'bottom up' inventory of constructs that may well provoke broader future studies in the workplace IL. The terms and concepts identified between 1974 and 2014 are quite informative for researchers thus playing down on the seemingly haze around workplace IL. In addition, it is significant that the research showed how the terms grew with the chronological development of

information literacy (IL); probably provided by few earlier studies but may not be as recent as the list provided by this research.

Lastly and in conclusion, the research was conducted to, among other things, improve the society by providing baseline information for 'state' apparatuses to formulate, legislate and execute appropriate laws to effectively manage human and material resources for national development. In order to prepare information literates that would be effective in the 21st century workplace, this research has provided a policy direction of thought that there may be more than one route to success; the classroom, yes! But the workplace too is a veritable platform to culture and evolve information literacy. The study further informs that there should be a connect-driven synergy between the classroom and the workplace. While the government at different levels could rely on the research for understanding of the workplace, researchers, practitioners and other stakeholders who are proponents of faculty-librarian synergy in dispensing IL programmes could also rely on this research for appropriate guide.

1.8 Scope of the study

The study was on the perceptions and practices of academics in Nigeria within the official work-hours of being on campus. The study was neither assessing the appropriateness of the educational qualification of the participants nor is it evaluating their information searching skills. Also, the study was not to assess the performance of the academics or their students' learning outcomes (graduate attributes). Rather, the study was exploring what practices academics engage in, apart from teaching and research that may prepare their undergraduates to be information literate for the workplace.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The world started with events and till today, events continue to make life meaningful. What makes up the records for these events, how such records were and being organised and preserved, disseminated or shared, and the formats in which they are packaged have been the concern of the Library and Information Science (LIS); all along (Ranganathan, 1931, Kiran & Dilgit, 2011). The Library designed and taught bibliographic instruction to assist users in accessing information resources effectively (ALA, 1989). With the advent of information technology, Paul Zurkowski observed that employees, who perhaps benefitted from bibliographic instruction while they were students, lacked some skills to actively participate in the workplace.

In describing such skills, he coined the term, 'information literacy' (Zurkowski, 1974). At its debut, the term had many interpretations, definitions and descriptions; especially when there were no theoretical parameters to shape what constitute the term; possibly because the 'founder of the term' was from the 'business' world. Ever since, librarians, academics, scholars, information professionals, and researchers have been: conceptualising the term and designing models to foster research (Martin, 2013), stipulating standards and frameworks, theorising and defining IL to further the frontiers of knowledge in Library and Information Science (LIS).

One consensus definition of information literacy (UNESCO, 2003), however has been the American Library Association (ALA) definition of information literacy as a phenomenon that evolves a literate person that is "able to recognise when information is needed and have the ability to locate, evaluate, and use effectively the needed information" (ALA, 1989, p. 1). In this chapter, therefore, the review of literature on other existing definitions and models is presented to justify their limitations to pursue a

research in information literacy in the workplace hence the need for a more operational IL model.

2.2 Concept of Information Literacy (IL)

The concept of information literacy (IL) was coined from the workplace report of Paul Zurkowski and has since borne various outlooks (Horton, 2007). While some scholars describes it as a skill necessary to excel in the classroom context as a learner (ALA, 1989, Breivik, 1999, ACRL, 2000, Rader, 2002), or a relational way of experiencing information (Bruce 1997, Andretta, 2012), others define IL as socio-cultural practice embedded in everyday activities (Bradley, 2003, Lloyd, 2007). These different interpretations have propelled and sustained the debate (Snavely & Cooper, 1997, Virkus, 2003, Owusu-Ansah, 2005) on how best to impart information literacy. These interpretations have also influenced the way the IL models are conceptualised. These shades of opinions and arguments make it imperative to discuss here, the conceptualisation of information literacy (IL).

2.2.1 Conceptualisation of Information literacy (IL)

Empirical researches and theoretical positions are often guided by established models or theories in order to reduce bias and rely on established direction to scholarly communication. Such models, after a clear definition and perception, are designed after a well thought-out trial. Although the framing of such definitions or frameworks are underpinned by the view-points, environment or disposition of their proponents, Martin (2013, p. 115) argues that "models in the form of standards, guidelines, and frameworks play an important role in the implementation and promotion of information literacy". The models should however understand the context in which the research would be situated in order to guide appropriately. In this section, literature on definitions and models of IL shall be reviewed to justify the need for re-conceptualising IL for the workplace (Lloyd, 2010).

2.2.2 Definitions of Information Literacy (IL)

Several definitions exist to justify the different ways that experts and organizations describe information literacy (ALA, 1989, Doyle, 1994, Bruce, 1997, ACRL, 2000, Bawdy, 2001, Bundy, 2004, Owusu-Ansah, 2005, Badke, 2010, Virkus, 2011). Depending on the focus, perspective or professional affiliation of such organisations or individuals, Bruce (1997, p. 29) catalogued the different ways through which information literacy is seen: (i) using information technology, (ii) library and computer literacy, (iii) acquiring mental models of information system, (iv) a combination of information and technology skills,(v) an amalgam of skills, attitudes and knowledge, (vi) actively engaging with information, (vii) the ability to learn, (viii) the first component in the continuum of critical thinking skills, and (ix) part of the literacy continuum. Of course, these views are signposts of an information society that was created by the information explosion. However, a cursory look informs that the descriptions that underpin the definition do not have the intention to be mutually exclusive. They were sheer exhibition of interest, historical background or professional affiliation.

Information literacy as a term is traceable to Paul Zurkowski, president of American Information Industry Association (AIIA), who first used the term in his 1974 report that bothered on the inadequate workforce skills in the US industrial sector (Doyle, 1994, Badke, 2010). The report confirmed that students and the workforce were unable to identify and retrieve information from resources to meet target purposes. This scenario prompted the American Library Association (ALA) to conclude that " to be information literate, a person must be able to recognise when information is needed and have the ability to locate, evaluate, and use effectively the needed information" (ALA 1989, p. 1); a definition which Kapitzke (2003) thought was created when the advocates of library science (including ALA) failed in attempts to establish bibliographic

instruction and library skills programs as a core component of college curricular in the US.

The ALA definition seems infallible but a critical look shows that the 'person' is a finished and polished product that is alien to the teaching-learning encounter. As such, the 'person' who may have some experiences from his or her immediate environment may bring such previous knowledge into the learning encounter. This may benefit the teacher, thus making the learning environment learner-centred. The definition ignores this process of becoming an information literate 'person' but emphasizes the end-product which is 'the abilities'.

This conceptual limitation was aptly captured by Kapitzke (2003) when she argued that "despite some variation in the wording of definitions, [information literacy] almost without exception information literacy is conceptualised as a neutral method with generic, universal outcomes" (p. 4). There is neither any doubt about the strength of information literacy especially in this century nor the recognition for students to be 'information literate', but there is no consensus on the processes and the products (learning outcomes). Thus time and society shall continue to shape the degree or extent of information literacy that would be required for existence (Pullen, 2010).

Another definition of information literacy by the Association of College and Research Libraries (ACRL) is "a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information" (ACRL, 2000). The definition assumes that any one ability may not be enough for an individual to learn unless "the set" is complete, thus making learning mechanical. In the opinion of Dorner and Gorman (2011), this definition is narrow in focus as it does not consider the environments in developing countries. The definition did not bring the 'individual' into the knowledge construction process thus,

"it tends to reduce the process to a group of skill sets, and more particularly reduces it to a functional technological skill" (p. 4).

In some developing countries, there are age grade systems, or youth communal efforts contributing to the growth of the community with indigenous, oral and non-transferable skills (Adepoju, 2012) that are not "a set" as described by ACRL definition. However, the indigenes have information with which they solve problems and assist the community (Ossai, 2010). So, the definitions discussed above seem to have bias towards communities (countries) where technology to access information is cheap, it is available, and it is a way of life. This is far from the realities in the developing countries where education is a luxury, internet access is a privilege, and the thought of daily living is far more important than technological advancements.

One definition which is context sensitive, though not specific for the workplace, is presented by Dorner and Gorman (2011). The definition considers the background of individuals from developing communities (countries) which is important in learning. The definition says an information literate person should be able:

- To be aware of why, how and by whom information is created, communicated and controlled, and how it contributes to the construction of knowledge;
- To understand when information can be used to improve their daily living or to contribute to the resolution of needs related to specific situations, such as at work or school;
- To know how to locate information and to critique its relevance and appropriateness to their context;
- To understand how to integrate relevant and appropriate information with what they already know to construct new knowledge that increases their capacity to improve their daily living or to resolve needs related to specific situations that have arisen (Dorner & Gorman, 2011, p. 4).

This definition accommodates the individuals in communities or countries where information resources are available in trickles and the access to the internet is a privilege. In such communities, the design and concept of information literacy should take such peculiarity into consideration in order to reap the benefits inherent in

information literacy. Indicating that the competencies and abilities expected of individuals in a developed country, such as the United States, where quality education and access to information is taken for granted, will be different from the competencies of an individual or student living in a community where even electricity is a ration!

One may argue that the definitions mean well for grooming learners but they are presented as linear steps which the complexities of life may not accommodate. In some situations, an individual knows what he or she wants but may not possess the adequate language to describe it to others due to the complex and interrelated nature of real life. This is the peculiarity that 'imported definitions' of information literacy should address in order to assist developing countries to reap the full benefits of information literacy. Walker, Huddlestone and Pullen (2010, p. 8) have stressed that "educational use of technology needs to meet the socio-cultural aspects and needs of the users".

2.2.3 Models of Information Literacy (IL)

There are several information literacy models evidence in the literature, mainly classified as 'information search and use' or 'information enquiry process'. Among the more well known are: the Big6 (Eisenberg & Berkowitz, 1996), it's simplified version, Super3, and Seven Pillars of IL, SNOCUL (2011), The 8Ws, (Lamb, Johnson & Smith, 1997), Information Search Process, ISP (Kulthau, 1994), Loertscher Information Literacy model, 3-Door Action model, among others. None of these models consider the workplace as a context of information inquiry.

2.2.4 A review of selected IL models

In order to confirm the findings in the literature, a few IL models were selected for in-depth analysis and appraisal. A key-word search was conducted in Library and Information Science Abstract (LISA) database using two time frames. The first was between 1989-1999. The year 1989 was chosen being the year that American Library Association (ALA) coined the popular definition of IL thus marking the watershed for

IL. In addition, the Prague Declaration (UNESCO, 2003) considers the 1989 ALA definition as a consensus and watershed of IL. The year 1999 was chosen as it marks a decade of scholarship on IL and would not be too short a period to do a fair assessment of how much has been written about IL as a subject.

The second phase was from 2000-2012. This was to examine how the models reviewed during the first time frame, had developed in the following decade and if there had been any new models developed. For the period of 1989-1999, ninety-five (95) articles were accessed, of which eighteen (18) IL models appeared in seventy-three (73) papers representing 76.8%. Of the 18, four (4) appeared more than once while others appeared only once. The ones that appeared more than once are: Big Six, PLUS, Seven Faces of Information Literacy, and SCONUL; respectively.

For the period of 2000- 2012, five hundred and twenty (520) articles were accessed, of which twenty-three (23) IL models appeared in four hundred and thirty-eight (438) papers representing 84.23%. Of the 23, no new model appeared more than once. The models that were discussed more than once are PLUS, SCONUL Seven Pillars, Big 6 and Seven Faces of IL; respectively.

From this miniature study, it was evident that the most discussed IL model since 1989 till 2012 are the ones itemised and discussed below:

Big 6

Big6, developed by Mike Eisenberg and Bob Berkowitz in 1996, (Eisenberg & Berkowitz, 1996) is a process model for problem solving. It is fashioned after Bloom's taxonomy of knowledge which described learning from cognitive (Learning that is transferring knowledge), affective (Learning that is developing attitudes) and psychomotor domains (Learning that is generating a skill) (Anderson & Krathwohl, 2001). The Big6 model expects a learner to follow a set of six-step skills (listed below) to achieve learning:

- task identification;
- information seeking strategies;
- location and access;
- use of information;
- synthesis; and
- evaluation.

The steps are presented as "hierarchy of skills" (Luke & Kapitzke, 1999, p. 9) which means that a step is mastered before moving to the next hierarchy. The hierarchy of skills of the Big6, in the opinion of Luke and Kapitzke could be "very useful in generating teachable instructional sequences for students" (p. 10) but this may not facilitate learning or performance in a workplace scenario. The model has the school setting in mind and Luke and Kapitzke confirmed that most "standard text quoted and used by many school librarians in the US and Australia is ... Big6 approach to problem solving" (p. 9).

This shows, once again, that the model is more suited for the school environment in developed countries than for the workplace. Also, the setting of the model is the developed information societies such as the US and not developing counties such as Nigeria where access to information is hindered by inadequate infrastructure, poverty, poor funding of education, environmental degradation and unemployment (Idiodi, 2005). The picture painted by Idiodi has not experienced any significant change as the Central Intelligent Agency's (CIA) World Fact Book (2011) affirms that 70% of the population in Nigeria lives below poverty level.

Seven Faces of Information Literacy

This model was developed by Christine Bruce in 1997 (Bruce, 1997). Her model is often referred to as the relational model of information literacy. Bruce tested the model in the workplace with academics as respondents in New England, Australia. The model was used to explore the different ways which academics experience

information literacy in their workplace. The different ways of experiencing information literacy were seven thus the title: Seven Faces of Information Literacy. The faces are:

- Using information technology;
- Finding information from appropriate sources;
- Executing a process;
- Controlling information;
- Building up a personal base in a new area of interest;
- Working with knowledge and personal perspectives adopted in such a way that novel insights are gained; and
- Using information wisely for the benefit of others.

In considering the introduction of information literacy (IL) into the curriculum, Aiyepeku, Atinmo and Aderinoye (2002) affirmed Bruce's relational model as being closest to the African reality. The situation in African countries has not changed and the model still has its limitation for developing countries. In Bruce's first face of IL, for example, information technology is assumed to be a crucial vehicle to access information resources but without a consideration for communities where most information are not documented. Some are in their oral form; embedded in cultures and traditions and the technology to access this information is almost unavailable.

This further calls attention to the need for a model that accommodates this peculiarity more so when 'control of information' (Bruce's fourth face of IL) in such communities is a social and communal property (Dorner & Gorman, 2011). Though Bruce attempted to improve this in her 'six frames of information literacy' (Bruce, Edwards & Lupton, 2006) where, in the 'social impact frame', learners are exposed to issues surrounding how the society can be improved.

Seven Pillars of Information Literacy

The Society of College, National and University Libraries (SCONUL) designed a set of standards that will guide information literacy education in higher education in the UK and Ireland (SCONUL, 1999). The standard skills are iterative and; from simple to complex. Each step is expected to be mastered before moving to the next skill to achieve the expected standard.

The skills are:

- recognizing information need,
- distinguishing ways of addressing gap,
- constructing strategies for locating,
- locating and accessing,
- comparing and evaluating,
- organizing, applying and communicating,
- synthesizing and creating.

The seven pillars of IL were designed with the UK environment in mind. The standards were to drive higher education to achieve effective information use among learners. Neither the developing countries nor the workplace is considered in the standard. The fourth pillar (locating and accessing) for instance, rely on large resources that are available in the digital form with very little attention to undocumented experiences of people as sources of information.

PLUS model

PLUS model was developed by James Herring in 1996 as information skills process model with particular attention to 'thinking skills and self evaluation' (Herring, 2006). PLUS is coined from the:

- **P**urpose of information;
- **L**ocation of where to get resources;
- **U**se of the information that is gathered; and
- **S**elf evaluation of the process to ascertain if the problem is solved.

In the Purpose stage, learners are expected to exhibit cognitive and thinking skills in order to draw up questions to justify the need for information. In the second stage, students are to exhibit Location skills to browse online resources, find information in library catalogues, or and CD-ROMs, books, or journals. Under the Use stage, the model expects the students to develop reading skills, interactive skills synthesising skills, and presentation skills in order to use and communicate information effectively.

The Self-evaluation stage is an appraisal stage to see whether the processes in the stages generate the desired information or fulfilled the information need set out at the Purpose stage. In his introduction to the model, Herring (1996) explained that the model is for the school setting when he informed that "PLUS model is not necessarily a linear model although some students may progress from Purpose to Self-evaluation without a problem" (p. 1). Like the earlier models, PLUS too was designed for the learners in UK, as such, the model may not support research in the workplace in developing countries.

2.2.5 Developing countries and IL models

The society, to a large extent, determines how much would be expected from the learner. This informs why there has been so much debate (Andreae & Anderson, 2012) about what the parameters of information literacy should be and how much of it should be taught to what category of learners in what society. This is not to discredit the popular definitions and models of information literacy, nevertheless importing these models into variant communities may not serve the interest of the communities (Dorner & Gorman, 2011). The communities need to be put in perspective. For instance, it may be a waste of time and resources if learners in a village in Nigeria (a developing country in West Africa) are taken through the rudiments of accessing, retrieving and managing information from the Web when more of the needed information around them is still in paper, oral tradition or indigenous knowledge.

At the World Conference at Prague in 2003, the developing countries and their challenges were the concern of UNESCO's Shigeri Aoyagi when he cautioned, "the conference participants to remember the information have-nots, those to whom basic literacy and access to computers is still a dream" (UNESCO, 2003, p. 7). The situation depicted by Aoyagi has not changed substantially and the existing information literacy models do not reflect this. It is this absence of an IL model that considers the workplace in developing countries such as Nigeria that prompted this call to researchers and organisations to begin deliberations on how to develop such a model.

2.2.6 Efforts in developing IL model in Sri Lanka

This gap was also noticed by IFLA-ALP and in collaboration with the National Institute of Library and Information Science (NILIS) of Sri Lanka organised a regional workshop to develop a model that meets the peculiarity of developing countries (Wijentunge & Alahakoon, 2005). It was this workshop that developed the '**Empowering 8 model'** to problem solving. The eight (8) steps that would 'empower' the learner are:

- Identify
- Explore
- Select
- Organise
- Create
- Present
- Assess
- Apply

One outstanding feature of the model is the second step, 'Explore'. The step provides opportunities for the learners to go outside the classroom environment to interview people who may possess useful information. It also encourages the students to engage in field trips and other outside research to gather information because, in developing countries, more information are not documented; information lies with people, artefacts, and events. The model understands this and emphasised it. However,

it is important to mention that the model was not designed for information literacy in the workplace where participants possess the features of Person-Job fit (Li & Hung, 2010). Rather it was designed to facilitate information literacy education in Sri Lanka (Edzan, 2008) and other developing countries in Asia thus leaving a part of the gap still open.

2.2.7 Summary of the review of IL models.

One theme that runs through the models is the involvement of the teacher or librarian in supporting the learner. From Empowering 8 of Sri Lanka to SCONUL of the UK, none of the models are based on the workplace environment in which teachers and librarians are not present. The information literacy parameters, drawing from the models: Big6, Eisenberg and Berkowitz (1996), SCONUL (1999), Seven Faces of Information Literacy (Bruce, 1997), and the Six Frames of Information Literacy (Bruce et al, 2006) lay emphasis on the position of the learner or citizen within a given society. The Seven Faces of Information Literacy, being a relational model, presented different ways that individuals may understand and experience information literacy. In a workplace, this view comes rather secondary as an employee is expected to display an expertise which justifies his remuneration; even if he or she differs in the ways he or she experiences information literacy. Learning in the workplace is through practice and interrelationship with other co-workers (Lloyd, 2007). SCONUL (2011) identified the limitation in the 'original' Seven Pillars of IL:

> we live in a very different information world and while the basic principles underpinning the original Seven Pillars model remain valid, it was felt that the model needed to be updated and expanded to reflect more clearly the range of different terminologies and concepts which we now understand as "Information Literacy- SCONUL (2011, p. 2)

The Seven Pillars of Information Literacy, despite a broadened scope, did not accommodate the distinctiveness of the workplace. Though the model was revamped with the UK in mind; as mentioned in the introduction to the model, it did not consider developing countries where opportunity to 'Identify' [the first Pillar] information need

is hazy due to the challenges of the learning environments (Idiodi, 2005). It thus explains that a literate citizen should be able to conquer his or her immediate environment in order to conquer the 'global village'. Though the prescriptions of the various models are instructive, it is pertinent to assess students and workers within the framework of their immediate environment to justify how close or farther they are from the 'standard' expectations of the world view of information literacy. This position runs tandem to the view of Walker, Huddlestone, and Pullen (2010, p. 8) that argue that 'the educational use of technology needs to meet the socio-cultural aspects and needs of the users'.

2.2.8 The employee and the existing IL models

Li and Hung (2010) explain that a person is employed because he possesses the Person-Job fit features which are described as the compatibility between personal characteristics and job characteristics in the workplace. An employee is employed as a person to meet already-set target that are measured in terms of performance, organisational goal, profit, or customer satisfaction (Usluel, 2007). The organisation, except where stated, does not expect her workforce to be "learners" as enacted by the classroom setting; rather they should be seasoned professionals who share knowledge through co-participation (Lloyd, 2010). While Goad (2002) recognises 'on-the-job' learning by employees as organisational learning, the structure remains different from the teaching-learning process in the classroom. As such, information literacy models for the workplace would have to consider this peculiarity. Most existing models were developed within the teaching-learning scenario, thus giving so much attention to steps to follow to learn how to use information rather than the workplace scenario where employee must "effectively use information to construct knowledge for others to learn through experience" (Lloyd 2007, p. 6). Even though Perez-Studdard (2010) has argued that students learn at different rates (low and high achievers), the workplace frowns at

low achievers but celebrates high fliers, goal-getters and the 'first among equals'. This is the peculiar demands of the workplace to win in the competitive market.

This is not to say that there are no novices in the workplace since experienced workplace practitioners play a powerful role in the transition of novices (Lloyd, 2007). The models see the student or person as one who will have to go through some linear steps to learn or pass through an experience to learn. Although this is also possible in the workplace, it is not the norm. The workplace is a complex place to exhibit prowess that the organisation and other employees could learn and benefit from in order to improve the society (Katz, Haras & Blaszczynski, 2010). Students could have the opportunity of a remedial class but an employee may be reprimanded for not completing a task on target. This peculiarity is not accommodated in the existing models thus justifying the need for an information literacy model for the workplace.

2.2.9 Chronological evolvement of the concept of information literacy -1974-2014

IL as a research domain has evolved over the past four decades (1974-2014). There has been some appreciable development of IL in the school and educational setting than in the workplace as discussed earlier. Here, this trend is presented in a chronological order to showcase new concepts or terms that evolved along, and also justifies the dearth of research in workplace IL. However, it is note-worthy that there have been some previous chronological categorisation of how IL evolved (Rader (2002, Hughes, Middleton, Bruce, & McAllister, 2005, Pinto, Escalona-Fernandez & Pulgarin (2013). The studies did the assessment for 1974-2002, 2000-2005, and 1974-2011; all respectively. However, what these studies left out, which will be presented in this section, is that they did not identify the 'concepts' or 'terms' that grew with information literacy (IL) as it evolves over the years. These terms become relevant as they are reflections of time and context (geographical affiliation of authors) of IL development.

Furthermore, since no study has done such chronological development of IL up till 2014, this table below presents how IL has evolved between 1974 and 2014:

Table 2.1: Chronological Development of IL- 1974- 2014

1974 -1984				
Citation	**Contribution**	**Country**	**Researcher's comment**	**concept/term**
Zurkowski (1974)	LIS should improve workplace skills.	USA	Need for more studies on how to improve workplace skills	Information literacy
1985-1994				
ALA (1989, 1)	IL skills should be taught to learners.	USA	It was a model to be implemented in USA.	Ability to: 'Identify information need, locate & evaluate information source, synthesise, ethical use'.
SCANS (1990)	The report recommended research in workplace IL	USA	Researchers should show interest in workplace IL	(1)Necessary skills. (2)Workplace skills.
Doyle (1994, 40)	Teaching information skills to acquire IL	USA	Suggested increased efforts in educational setting in line with ALA (1989)	'Information skills'
Kuhlthau (1994)	Developed Information search process model	AUS.	Process approach to library search for information.	Information search process
1995-2004				
Herring (1996)	Developed PLUS model	UK	Conceptualised for the educational setting in the UK	Self evaluation
Eisenberg & Berkowitz (1996)	Developed Big6 as problem-solving approach to learning	USA	Six steps to problem solving in the educational setting.	(1)Problem-solving. (2)Task identification.
Bruce (1997, 29)	Developed relational mode of IL (Seven faces of IL)	AUS	Almost the first study on the different ways of experiencing IL in the workplace.	(1) 'Library and computer literacy'. (2)'an amalgam of skills, attitudes and knowledge' (3) Control of information (4th face)
Cheuk (1998)	Developed the information seeking and use processes model among professionals (auditors)	AUS	The study was among auditors. This is one of the early workplace studies.	(1) Real life practice. (2) Information seeking.
Luke & Kapitzke (1999, 10)	"Big6 is useful in generating teachable instructional sequences"	AUS	Luke & Kapitzke justified the limitation of Big6 for workplace IL. It is good for educational setting.	Teachable instructional sequences
SCONUL (1999)	Seven Pillars of IL	UK	Developed as the initial response to address IL in the UK.	'constructing strategies for locating'(3rd pillar)
ACRL (2000) ACRL (2003)	Developed the Standard for best practices in Higher Education.	USA	Other countries modified to suit their context. It has its limitations for developing countries.	'best practices in IL'

Table 2.1 (continued)

Citation	Contribution	Country	Researcher's comment	concept/term
UNESCO (2003)	Prague Declaration to harness efforts and consider developing countries in the drive to enhance IL.	World summit on IL, Prague.	Paid attention to the challenges of digital divide in developing countries.	(1)'Information have not' (2) Educator preparation and professional development.
Johnston & Webber (2003, p. 336)	"IL should involve information behaviour (IB) to obtain information through whatever channel"	UK	A workplace model should bound the employee to information from whatever channel	Information behaviour
Kapitzke (2003)	IL in the workplace is about people who possess knowledge and sharing it through collaboration.	AUS	A model should acknowledge that the employee has knowledge and can share in team-work/collaboration	(1) Information sharing (2) Collaboration
Kirk (2004)	IL is discursively situated and manifests in the connections between employee and the environment.	AUS	IL is embedded in activities/practices in the workplace	Situated in people's environment
2005-2014				
Kirton & Barham (2005, 2)	Workplace involves "networking", "formal and informal working relationships", and "client orientation".	UK	Workplace IL model should reflect formal and non-formal information practices.	(1)Networking. (2)information relationships
Winterton, Delamare - Le Deist, and Stringfellow (2005)	Employee has the 'know-how and know-what' to share with colleagues to execute task.	UK	Employee has experience and knowledge to share with workplace colleagues.	(1)know-how and know what' (2)Share information
Dorner & Gorman (2011)	Existing definitions of IL do not reflect the situations in developing countries. A different definition was proposed and reflected the indigenous knowledge of people.	LAOS, ASIA.	A model should be concerned about how information is constituted in developing countries.	(1)Digital divide. (2)Indigenous knowledge (local knowledge).

Table 2.1 (Continued)

Citation	Contribution	Country	Researcher's comment	concept/term
Taylor (2007)	Individuals should have 'transferable or generic skills such as critical thinking, creative thinking, problem solving, higher-order thinking, effective communication, and organisation skills'	USA	Taylor explains the skills embedded in IL.	Critical thinking, creative thinking, problem solving, higher-order thinking, effective communication, and organisation skills'
Veinot (2007)	The sociocultural influence of the work environment is as important as the practices and outcomes	AUS	A workplace model cannot be individual in nature; it has to accommodate the sociocultural setting.	A workplace model should accommodate the sociocultural setting.
Lloyd (2007)	Conceptualisation of IL is predominantly from librarians' perspective of information skills to search and attain learning in educational setting	AUS	There is a need to develop an IL model that understands and reflects the realities of the workplace.	(1)Librarians' perspective (2)Information skills.
Hepworth & Smith (2008, 226)	(1) "People's experience of IL may not echo LIS conceptions of IL". (2) "Information need may not be identified by the employee to execute a task".	UK	Conception of IL in education is difference from the experiences of IL in the workplace; employee may not have to identify information need.	People's experience.
Crawford & Irving (2009, 36)	IL in the workplace is "implicit and based on qualifications, experience and networking activities"	UK	There is the need to explore what goes on in the workplace in order to shape how students would be prepared. It may not be all about teaching; as usual. There is need for a broadened understanding of the workplace.	(1) Qualification. (2) Experience. (3) Networking.
Whitworth (2014, 40)	(1) "Control within a society [is sustained] … through the channels of hegemony" (2) "Hegemony is the 'spontaneous' consent given by the great masses of the population [to the State]".	UK	IL transcends the concerns of technology use and pedagogic practices. IL also involves citizenship and governance. People who respect the law, pay tax, avoid crime, obey workplace rules, respect organisation/community norms, to mention but a few are information literates.	(1) State control (2) Hegemony (3) Citizenship

Table 2.1 (Continued)

Citation	Contribution	Country	Researcher's comment	concept/term
Lloyd (2010)	(1) Existing models of IL are incongruent with the realities of the workplace. (2) "to date there is little literature that relates to information literacy as it is experienced through collaborative practice that occurs within the workplace" (Lloyd 2010, 72).	AUS	A suggested workplace model should reflect an understanding of practices in the workplace	(1) Workplace. (2) Incongruence of existing IL models. (3) Workplace collaboration.
Bruce, Hughes & Somerville (2012) Bruce (2008)	Learners should be able to use information to learn. They re-emphasised 'informed learning' as learning how to learn.	AUS	With particular attention on learners in the educational setting. A little for workplace learning, though.	(1) Effective communication (2) Informed and self learning (3) Learning how to learn.
D'Angelo (2012, 639)	"Writing and communication of information are components of IL"	USA	Learning should be framed with the workplace in focus.	(1) Writing and communication. (2) Effective communication.
Raju (2013, 108)	"Information Literacy Education (ILE) in Africa requires a model that is different from the "western model of ILE"	SA	A workplace model should pay attention to the relationship between workers and colleagues, artefacts, other experiences without losing sight of the issues of 'digital divide'.	(1) Africa requires a model that reflects its environment. (2) Digital-divide.
Lloyd (2014, 101)	"information literacy is therefore represented as a constellation of purposeful activities (i.e., information sharing, information seeking, collecting, observing, narrating, etc) that together reflect the inherent cohesive social order, arrangements, and knowledge domains of a particular site and are represented through ways of doing, saying and relatings "	AUS	IL is conceptualised to reflect the routine of interacting with information in different contexts in order to evolve IL. Il is not static; it changes with time, people, and environment.	(1) Constellation of activities. (2) IL Skills are embedded and exhibited in activities. (3) Ways of doing, saying, and relatings-local knowledge. (4) Negotiating knowledge
KEY- AUS- Australia. SA- South Africa. UK- United Kingdom. US- United States of America.				

Table 2.1 above shows that the concept of IL was 'educationally' driven to address information skills improvement to support library information searching of users -learners- to maximise library information resources. This thinking, that underpinned the conceptualisation, changed when more researchers began to identify the limitations in existing definitions and IL models. This turn of events also gave reasons for developing IL models that may reflect how IL evolves in the workplace; and not in the educational settings. Also of interest in the table is the spread of the geographical affiliations of the researchers and organisations. More efforts have been in the developed and industrialised nations such as the US, UK and Australia while very little is done in developing countries such as Nigeria**.**

In addition to the various terms that have evolved with IL over the years, IL has also been described with several labels. Such descriptions include: 'soft or generic skills' (Yates, 2005) which describe the personal skills that are required to achieve success on the job; 'workplace skills' (Longworth, 2014) defined as skills necessary to execute and excel in task performance; 'lifelong learning skills' (Evers, Rush & Berdrow, 1998) presented as the ability to apply earlier knowledge of theory and philosophy to real-life economic and socio-political situations throughout life; 'problem-solving skills' (Chen, Chen & Ma, 2014) described as the ability to break down a problem in order to identify an informed solution; and 'employability skills' (Ministry of Higher Education Malaysia, 2012), the skills that make job-seekers indispensable to be hired. Also, 'business skills' (Fishleigh, 2013) and 'The Four Cs' (National Education Association, 2014) refer to the ability to think critically and effectively communicate such thoughts to gain competitive advantage in business. Taking a look at the definitions and descriptions of IL, it may not be out of order to conclude that all these terms are accommodated under IL; perhaps on a continuum. As such, once individuals are bequeathed with IL, they equally possess the earlier

mentioned skills even though they are identified with different labels or terms. O'Sullivan (2002) argues that there have several terms because librarians and non-librarians do not speak the same language to describe the same phenomenon.

2.3 IL in the workplace

The workplace is a social site, factory or office where employees participate collectively in a social setting with the understanding of division of labour to bring about a practice through which information literacy can be identified (Collins, 2009, Lloyd, 2012) . At the workplace, employees are employed on the basis of Person-job fit to work with other stake holders such as co-workers, share holders, management, customers, policy makers and the community (Wertsch & Bivens, 1992).

An employee possesses adequate information and is aware of where and how to source for more. He also has accumulated knowledge that enables him to perform a task that is unique to the setting, thus qualifying for the Person-Job fit. This employee will participate in the construction of knowledge by sharing what he knows with co-workers in order to gain experience and develop skills to address similar tasks in future; workplaces that encourage this are described by Goad (2002) as learning organisations. This is the learning that the workplace encourages.

Learning in the context of students' environment where students identify an information need, justify an appropriate source [...] and communicate the information ethically is quite different from the workplace landscape where the learning is viewed from the onsite activities exhibited by workers and shared through experiences; this is the social scenario described by Lloyd (2012, p. 773) as "person-in-practice perspective". In her earlier work, Lloyd (2007) captured the workplace "as a complex, sociocultural practice that is discursively situated and constituted through the connections and networks that exist between people, artefacts, texts and bodily

experiences" (p. 2). This is unlike the school setting where students and teachers are bound by linear learning steps and pedagogical approaches.

Information and knowledge forms the continuum along which the newcomers and seasoned employees participate socially in agreed terms. The value that ensued is the intellectual power which separates the worth of a worker from the other (Goad, 2002). As such, at the point of entry into the workplace, the extent of information literacy proficiency has been determined by the employer as suitable to accomplish spelt out tasks. The interplay between such workers on site described by Lloyd (2012, p. 775) as "co-located and co-participatory" will engender learning outcomes; measured in the workplace as performance (Katz, Haras, & Blaszczynski, 2010). It does not mean that the employee will not seek and synthesise information, rather the process will not be as typically presented in the teaching-learning discourses. Such exercises are better displayed in the participatory activities of the workplace where one worker, no matter how brilliant and energetic, cannot start and end the production or communication chain; he would only execute a part of the whole known in workplace parlance as division of labour.

The social interaction that underpins information literacy (IL) in the workplace is better depicted in the description of Kirton and Barham (2005) with terms such as "networking", "formal and informal working relationships", and "client orientation" (p. 2). This further underscores the fact that employees will not be asked to write essays or assignment on specific issues to earn personal marks; rather they are to go through a complex information analysis to execute a complex task that is appreciated by co-workers, clients, management, and the society. Kirton and Barham reported that "complex tasks are non-routine, unanalysable and involve different approaches" (p. 2) and must be delivered in time-bound specificity.

The competition amongst organisations push them to hire the best employee who understands how best to source for information and manage such information effectively. As such, the issue of information management in the workplace may be viewed as an extension that is accommodated by information literacy (IL) in the workplace. This relevance prompted Kirton and Barham (2005) to suggest that workplaces should establish special libraries in the workplace to assist employees in information sourcing to improve performance (Li & Hung, 2010). However, it is important to mention here that the information need of employees at various workplaces may vary since their hierarchy, tasks, focus, and products/services also vary.

2.3.1 Research on IL in the workplace

Researches in information literacy in the workplace are just emerging (Wang, Li, Bruce, & Hughes, 2011) and like any new field of study it has to experience some limitations. This explains why there have been few notable researches on IL in the workplace: (i) Bruce (1997) among higher education professionals including academics in Australia, (ii) Cheuk (1998) among auditors in Singapore, (iii) Kirk (2004) among senior managers, (iv) Lloyd (2007) among fire fighters and ambulance officers in Australia, and (v) Boon, Johnston and Webber (2007) among academics in the UK. The insufficiency of research in information literacy in the workplace was noticed by the Secretary's Commission on Achieve Necessary Skills (SCANS) and this prompted her recommendation that researches should focus on how information literacy is manifested in the work settings and the degree to which it enhances workplace productivity Cheuk (1998). Some of the studies in workplace IL are discussed below:

2.3.1.1 Bruce (1997)

The study was a pioneer workplace research conducted among higher educators; lecturers, librarians, counsellors and staff developers in Australia (Bruce, 1997, p. 93). At a time when almost every researcher was addressing IL as a teacher-librarian 'property', Bruce took up the challenge of looking at IL in the workplace. Owusu-Ansa (2005) affirms that Bruce's study "alerted information literacy instructors and facilitators to the need for a diversified approach to their instructional activities and clients" (p. 369). Adopting Phenomenography as a research method, at the time, was also a departure from the 'tick the box' orientation of existing studies of IL. Her findings of the seven ways through which different people in the workplace experience information were later codified as the relational model of information literacy explained in the Seven Faces of Information Literacy (Bruce, 1997, p. 154). In her later works (Bruce, 2008), Bruce has emphasised the position of information in effective decision making.

In her "research recommendation six: That similar studies be conducted in a range of workplaces, the workplace being a key context within which information literacy is considered important" (p. 183), Bruce invited researchers to conduct more studies to understand workplace IL. In response to this call, D'Angelo (2012, p. 639) reported that Cheuk (2008) adapted Bruce's Seven Faces of IL to integrate IL as a component of a knowledge management program to address information overload within an environmental consulting firm. More discussion about Bruce's Seven Faces of Information Literacy was earlier presented in this chapter.

2.3.1.2 Cheuk (1998)

The information seeking and use processes of auditors in Singapore was what Cheuk (1998) explored in order to understand the workplace information literacy of professionals in an auditing firm. Her study in the workplace of auditing professionals reported that the auditors rely on information supplied in folios, inventory and by employees before they could carry out their tasks effectively. Another highlight of her research was that Cheuk reported that the SCANS' (1990) call on researchers to investigate workplace IL was one of her motivations to conduct a qualitative case study through which she developed her two-stage model of information consumption and information supply (Cheuk, 1998). About two years later, Cheuk had further appraised the diverse activities of the workplace, especially in relation to information seeking, and clearly separated the real life context of the workplace from the classroom context where information seeking is a priority.

In contrast, information seeking is not a priority in the workplace. Her further study, Cheuk (2000, pp. 183-184) summed up the reality in the workplace as:

- information seeking is not always necessary;
- information seeking is by trial and error;
- getting information is not equal to getting the answer;
- information seeking is not linear;
- information seeking is not a one-man job; and
- information relevance criteria change.

In an appraisal of workplace researches, Lloyd (2010) summed up Cheuk's findings as a contrast to the "systemic and prescriptive skills-based approach identified in the library literature, in that it illustrates that the information seeking process and experience within the workplace may be viewed as an unstructured, cyclical and repetitive process of information seeking" (p. 75).

2.3.1.3 Boon, Johnston and Webber (2007)

The trio are all affiliated to university institutions in the UK. Their collaborative research investigated the English faculty's conceptions of information literacy in the UK. The study was not about how they teach or access IL; it investigated the faculty's conceptions of information literacy and compared the ensued conceptions with those conceptions that already existed in the information literacy standards and frameworks (Boon, Johnston and Webber, 2007).

The researchers identified the strategic positions of academics in national development as they deal with the "day-to-day, "real-world" pressures of teaching and learning … [making them] potentially vital agents for information literacy" (Boon, et al., 2007, p. 205). Following Bruce's Phenomenography approach, Boon et al (2007) employed Phenomenography and they reported that "the UK English academics' conceptions of information literacy were both similar to and significantly different from conceptions described in previous research and librarian-generated frameworks and standards"(p. 204). This finding further underscores the point that there would continue to be various conceptions of information literacy owing to difference in: academic or professional discipline, geographical context, experience with information, workplace tasks and goals, and individual's 'real world'.

As an everyday practice- teaching and researching- the English faculty did not know that IL permeates almost everything they do thus explaining why Boon et al recommended that "The challenge first and foremost is in increasing English academics' awareness of information literacy as something that they already do as scholarly researchers and educators, and as something they can more explicitly convey to their students" (p. 225).

2.3.1.4 Veinot (2007)

One study that branched away from higher education setting of employees who had university education (Bruce, 1997, Boon, et al., 2007) is Veinot's study of a vault inspector. She reported that the vault inspector is in a blue-collar job and needed to master the geographical terrains leading to her clients, be aware of map reading skills, process documents and write reports, and be able to detect a faulty vault in order to take prompt necessary action (Veinot, 2007).

Her qualitative case study was conducted in an electricity distribution company in Canada by using a "social practice theory to understand the social organisation of the workplace" and she reported that "information needs, seeking, and use are generally treated as processes undertaken by individuals, as influenced by their tasks, social contexts, or situations" (p. 159). With the practice theory, Veinot was able to understand how Kelly was able to interpret documents, rules and codes in order to take on-the-spot decision.

Kelly also had to weigh several options to justify if a team of expert should be sent to the field to repair a faulty transformer. Going by these tasks and the corresponding need for information to execute them, Veinot concluded that information practices are embedded in all practices in the workplace. Also, Kelly relied on experience to execute her field tasks; this finding further underscores the value of implicit and tacit knowledge of employees at the workplace as evidenced in her last line when she recommended thus: "I suggest that a social practice perspective holds much promise for exploring information practices in their materially mediated and local contexts" (p. 173).

2.3.1.5 Lloyd (2007)

Lloyd's study of the fire fighters in Australia was well reported in Lloyd (2010) and has remained one of the few large scale studies of IL in the workplace which established that " activities of sharing and interpreting information is just as important as the activities that enable access" (Lloyd, 2010, p. 76). Her study called the attention of researchers to the environment of the information interaction as a critical factor in the workplace thus addressing IL as a "holistic practice where the focus is not on the individual's experience of information but on the individual's experience of information in 'consort' with others" (p. 76). By this approach, apart from presenting IL as a socio-cultural practice, Lloyd also introduced collectivism which was not existing in the classroom setting where an individual student could complete all her tasks and emerge top without 'consort' to other individuals.

It was also new and a departure from Bruce's relational model developed through Phenomenography to explain the different ways that individuals experience information but gave little attention to how individuals (employees) work together to execute tasks. Lloyd's study was a reflection of the realities of co-participation among employees in the workplace. One outstanding finding of Lloyd's study was that the novice fire fighters were able to engage with organisationally provided information in order to learn the rules, regulation, procedures and sanctioned practices of their service organisation; which involves interacting with other members of the organisation (Lloyd, 2010). Since her study in 2007, Lloyd has intensified the call for a re-conceptualisation of IL to reflect the inter-subjective nature of the workplace while exploring also IL as a holistic workplace endeavour through which employees could learn and share knowledge with themselves and all other individuals that are co-located in the work site (Lloyd, 2007, Lloyd, 2010, Lloyd, 2012, 2014).

These studies heralded and sustained the conceptualisation of workplace IL to define the employees as people of deep awareness who interact with the information environment through embodied social, procedural and physical co-participation in day-to-day doings. In relation to IL being embedded in day-to-day practices, Lloyd (2014) in her suggestion of a research model, 'Interview-to-the-double' (ITTD), was of the opinion that some information practices become so fused with the 'normal routines' to the extent that it requires specific attention and particular method of investigation to identify how much of IL is integrated in such practices.

2.3.1.6 Last line on workplace IL

Taking a look at the workplace studies, presented above, the theme of 'social interaction' which is exhibited in them is further explained through the person-in-practice perspective of Lloyd (2012) who presented the workplace as a social site where people (employees) interact to execute a task thus learning through experience. Wang, et al., (2011, p. 3) further describes this social interaction in the workplace from the perspective of Vygotsky's Socio-cultural Theory which assumes that "human cognition is formed through engagement in social activities" (p. 3). The socio-cultural theory is said to have four aspects: 'mind', 'tools', 'zone of proximal development' and 'community of practice' (Wang, et al., 2011). The position of Wang, et al supports an earlier work by Gheradi (2009) which affirms that knowing is a practical activity thus drawing attention to the fact that the workplace is a platform for practice, interaction, socio-cultural affinity with the environment, and context-related.

Therefore, in planning and reaping maximum benefits from information literacy programmes, the context and socio-cultural influences should be considered as crucial factors to determine success (Dorner & Gorman, 2011). The volume and access to information resources in some information societies are better, cheaper and easier than in some developing countries. One strength that the developing countries rely upon to

bridge the gap of inadequate access to information is indigenous knowledge, improvisation, and socio-cultural heritage. As such, information literacy programmes, curriculum development or workplace assessment should consider these as deciding factors.

2.4 Information literacy (IL) practices

Seeking and using information have been long standing practices of man which time and context have influenced tremendously. More of the literatures on IL (Abrizah, 1999, Rader, 2002, Smith & Hepworth, 2005, Birdsong & Freitas, 2012) have given more attention to IL practices in the classroom setting that would engender effective information use amidst several information products occasioned by the information age. While some justified integration of IL across curricula (Bruce, 2000) some tell the success stories of collaboration between librarians and faculty in implementing IL programs in their institutions (Hunt & Birks, 2004). Though researches in workplace IL are just emerging (Wang, et al., 2011), there have been prescriptions and suggestions of best practices by scholars (Kirk, 2004) and organisations.

The 1989 ALA definition of IL and the subsequent IL model by the Association of College and Research Libraries (ACRL) were the building blocks to design and evaluate information literacy practices and programs. The ACRL stipulates the "Characteristics of Programs of Information Literacy that Illustrate Best Practices: A Guideline" expected to be carried out and also set out the expected learning outcomes (ACRL 2003) intended to make the learners become information literate upon completion of the program. As indicated in one of the goals, the objective to "reflect the desired outcomes of preparing students for their academic pursuits and for effective lifelong learning" emphasis more of information literacy practices for academic endeavours than for the workplace. So, it could be argued therefore that the model has

its limitations for IL in the workplace. The ACRL model for best practices has ten (10) standards:

1: Mission
2: Goals and Objectives
3: Planning
4: Administrative and Institutional Support
5: Articulation with the Curriculum
6: Collaboration
7: Pedagogy
8: Staffing
9: Outreach
10: Assessment/Evaluation

Best practices in information literacy, according to ACRL, shall be evaluated based on the document. There have been institutions, librarians and organisations that have used the ACRL document to gauge IL practices (Hunt & Birks, 2004). However, Koster, Brekelmans, Korthagen and Wubbels (2005) who investigated the pedagogy of teacher educators by studying the quality expected of teacher educators do not think that the 'Pedagogy standard' of the ACRL document was adequate. Also, Smith (2005) who wondered if the expertise of teacher educators was adequate, preferred to use the Association of Teacher Educators (ATE), Standard 1 (ATE 2002) for his study. The ATE standard evaluates the competence of teacher educators in order to determine their over-all performance in delivering the tasks associated with the role of teacher educators.

Upon studying the ACRL document, The Council of Australian Librarians (CAUL) 'Best Practice Characteristics for Developing Information Literacy in Australian Universities: a guideline' was developed in 2004. In the same vein, The Council of New Zealand University Librarians (CONZUL) adapted the CAUL document and affirmed in its opening page that "minor changes were made to the CAUL guideline to suit the New Zealand University sector". This adaptation further establishes that IL is context sensitive and a standard or model may not fit appropriately in other environments; a situation which explained why institutions, organisations and

researchers have chosen different models or standards as platform for their IL practice or research.

Information practices in the workplace are determined by the role of the employee. The role of the employee is played out by executing the tasks demanded of each role. An employee could play more than one role in an organisation (Bystrom & Lloyd, 2012). As such, the role of an engineer would determine specify tasks to the role. An academic, for example, has the role of a lecturer, the role of Head of department, or indeed the role of an editor of the faculty peer-review journal. All these roles are separated by the various tasks carried out to perform each role. Bitso and Fourie (2012) posits that work roles lead to tasks that trigger information need and, depending on the nature of the information need, information seeking then occurs.

The information need determines the information source to choose or use. Following the relationship between work role and tasks, Bitso and Fourie broke teachers' roles into: academic, administrative, and non-academic. All these roles have their specific tasks. Also working in the area of employee role and tasks, Koster et al, (2005) compiled a professional profile of teacher educators under where the expected tasks (practices) were categorised into five: (i) professionalism and well-being, (ii) providing a teacher education programme, (iii) taking part in policy development and development in teacher education, (iv) organising activities for and with teachers, and (v) selecting future teachers (p. 168). A look at these tasks suggests that the teacher educator in the opinion of Koster et al has more than one role. In another similar investigation, Smith (2005) categorised the tasks (practices) expected of teacher educator into eight: (i) facilitator of the learning process of the student teacher, (ii) encourager of reflective skills, (iii) developer of new curricula, (iv) gatekeeper, (v) researcher, (vi) stimulator of professional development for school teachers, (vii) team-member and (viii) collaborator (external contact) (p. 178). Smith's tasks, in comparison

with other tasks from the literatures, are similar and a few difference in terms of semantics.

Drawing from the Standards, models and earlier works in the literature, discussed in the earlier paragraphs, one could sum the information literacy practices that could be expected within the executions of the workplace tasks as follows:

- Task identification (Eisenberg & Berkowitz, 1996, Bystrom & Lloyd, 2012);
- Information need (ALA, 1989, Kuhlthau, 1994);
- Information access and retrieval (Bruce, Hughes & Somerville, 2012);
- Information refining; synthesising and creating (ACRL, 2003, SCONUL, 2011);
- Information dissemination and knowledge sharing (Kirk, 2004, Lloyd, 2014);
- Team management (Kirton & Barham, 2005, Taylor, 2007);
- Career development and future practice (Gheradi, 2009, Lloyd, 2010); and
- Research and community development, (Smith, 2005, Koster, et al. 2005)

2.5 Information Infrastructure

The domain of LIS seem to have ceded academic discourse on 'Information infrastructure' to fields of knowledge such as systems engineering, computer science or computer architecture. This development has only reduced the concepts to technical engineering terms with more focus on 'designing and standardization' of information infrastructure with little or no library and information science inclination, whatsoever. However, the need for LIS to forage into 'information infrastructure' to achieve effective service delivery for library and information consumers is emerging. This emerging need is precipitated by the various converging technologies that underpin access to digital resources to locate information, including the internet and online databases (Mutula, 2013).

Today's library user wants to watch a video of how an experiment is carried out synchronously, or simply read an e-book from the Online Library database or better still 'bury' himself in the carrels while 'working' with archived digital resources. This kind of library patron can only be served adequately when libraries are concerned, committed and discussing the technologies that guarantee such access to information.

The term ‘information infrastructure’ was traced by Mutula and Moahi (2008, p. 182) to have originated, since 1970s, in literatures that were about or related to information society. The terms were part of the elements that characterise, shape and support an information society. They concluded that:

> The revolution in PC technology of 1970s and 1980s and the internet and the Web revolution of the 1990s and beyond must have given great impetus to the evolution of the concept of the information society, as it is now known today.

One may infer from the duo that the technologies that make information society work as expected is the information infrastructure and that one cannot discuss information infrastructure without discussing the information society. Put differently, a broad discussion of information society would have taken care of issues surrounding information infrastructure. In describing the requirements to participate in an information society, Lor and Britz (2007) argue that access to relevant information can only be achieved within an environment of well-developed and well-maintained information infrastructure. This position, reiterated also by Lor and Britz (2010), further calls attention of researchers to examine what makes a viable information society.

Information society, knowledge society or information environment have been concepts describing the same experience in today’s life where every aspect of human endeavours have been revolutionised with ICT thus very little consensus on definitions has been achieved (Rohrbach, 2007). Every facet of human endeavour: aviation, weather forecasting, medical diagnosis, agriculture, education, transports management, sports and entertainment administration to mention but a few has felt the ‘new dawn’. Many of the existing definitions are deficient in their conceptualisation and, without a clear re-conceptualisation, it may be difficult to decide whether countries have become information societies or they are still moving towards the status (Hamid & Zaman,

2008). One of such somewhat narrow descriptions of the information society was by McKenzie (cited in Omekwu, 2006) which describes an information society as:

> Seamless, transparent, a virtual reality: global network or matrix of digital data, information and knowledge banks, warehouses, refineries, archives and repositories; broadband expressway for transporting multimedia in bit bytes to end users in distributed environments; artificial intelligence, expert systems, hyper text, gophers, client servers, WAIS servers, knot bots to navigate cyber space in time delivery to universal scholarly workstation: independent from time and space constraints; gateways, windows and intelligent switches and links (p. 247).

Fifteen years after Mckenzie's description, Holmner (2008, cited in Holmner, 2011) observed that the criteria underpinning the description were in favour of developed countries and wondered when developing countries would achieve the information society status going by its prevailing circumstances. Holmner (2011) further suggested a more appropriate description that accommodates the challenges in developing countries. In Holmner's suggestion, an information and knowledge society should be:

> A society that is reliant on a sophisticated physical and ICT infrastructure for the improvement of everyday living and working conditions. A society that values the importance of information as a key to economic wealth and prosperity and where there is an increase in information-related activities, as well as an enhancement of human intellectual capability. The information and knowledge society ensures the freedom of information through the use of information and communication technologies. In such a society, modern information and communication technologies are utilised to achieve the interaction and exchange between their local knowledge systems (tacit knowledge and explicit knowledge) and the global knowledge system (explicit knowledge) to create usable, relevant contextualised content and knowledge. This interaction and exchange of data, information and knowledge will, in turn, ensure the respect of other people's beliefs, values, norms and religions due to the increase, and availability, of information regarding these aspects (pp. 141-142).

Some of the high points of Holmner's description have been 'everyday living', 'ICT physical infrastructure' and 'people's local knowledge systems' which are the bane of the challenges in developing countries. Considering these challenges, Holmner (2011)

put it succinctly that "developing countries are still in the grip of a digital divide and are faced with numerous barriers such as extreme poverty, inadequate physical infrastructure, and shortage in human intellectual capacity, to mention a few" (p. 140).

Long before Holmner's observation, these challenges were also noticed by the whole world; a development which prompted a world summit to create a space for dialogue on issues such as: infrastructure, access, capacity building, trust and security, enabling environment, ICT applications, cultural and linguistic diversity, and ethical dimensions of the information society, with all their implications and challenges (WSIS, 2003). The agenda of the summit was pursued and a Declaration of Principles (WSIS, 2005) was to make every place in the world an information society by 2015 through the ICT targets: commitment to connect all local communities with ICTs and establish adequate access points; connect institutions of formal and informal learning such as universities, colleges, secondary schools and primary schools with ICTs; connect health centres and hospitals with ICTs.

Other ICT targets were: connect all local and central government departments and establish websites and emails addresses; adapt all primary and secondary curricular to meet the challenges of information society; ensure that all of the world's population have access to television and radio services; encourage the development of content and put in place technical conditions, in order to facilitate the presence and use of all languages on the internet; ensure that more than half of the world's inhabitants have access to ICTs within their reach and to improve collaboration in science, technology and higher education (WSIS 2005).

Placing the Mckenzie's conception of information society against the background of the Declaration of Principles at WSIS and coupled with the insight that was shared by Holmner, one is tempted to conclude that most developing countries cannot be considered to be of information society status yet because the reality in some communities is that few months to the expiration of the target year of 2015, some of

them do not have regular electricity (Onwe & Ezekwe, 2014) which is a critical ingredient in the realisation of the information society. Even where an alternative to electricity such as diesel-powered electricity generators have been acquired, most universities and colleges, the epitome of research and development (R&D) are minimally connected with ICTs or internet to support scholarship (ASUU, 2013). What about the human capital development? All these issues, as identified in the Declaration of Principles, are critical to the realisation of an information society where libraries and information centres are expected to bridge the gap between knowledge and ignorance.

In some communities, as reported by Omobowale, Omobowale and Akinade (2013),

> [N]ewspaper stands provides readers an avenue to interact and create meaningful values which engender social consciousness. It is indeed an alternative avenue, which has come forth due to the deplorable socio-economic conditions in the country. As readers find it difficult to afford the purchase of newspapers daily, they opt for the alternative of renting at a minimal cost in order to gain access to current news reported in newspapers (p. 86).

This community, painted by Omobowale et al, cannot be said to be an information society envisaged by WSIS and would further underscore the fact that the digital divide observed and described by Sam (2005) is still a barrier to effective information access in developing countries such as Nigeria, which according to Baro and Asaba (2010, p. 14), "is not yet an ICT country in Africa". Though the ITU (2013) report showed an increase in mobile telephony in Nigeria, this has not translated to specific ICT applications in daily academic transactions as 28% of Nigerians use internet while a country like the US has 78% internet users (ITU, 2013). In a recent study of three elementary schools, Rafalow (2014) pointed out that children who were taught and allowed to operate interactive whiteboards on one hand and children who do not have access to such classroom technology is also an example of digital divide in the US. If that is also digital divide, this researcher wonders how to describe situations in tertiary institutions in Nigeria where there are no such interactive whiteboards (ASUU, 2013). One hopes

that efforts would be made to close this 'divide' in order to become an information society. This way, the physical infrastructure to deploy and facilitate adequate access to information would not continue to be a dream for developing countries where everyday living, poverty and education have remain critical issues of concern.

2.6 Fit Theory

Fit theory is grounded in personnel psychology or industrial psychology domain of knowledge. The theory is traced to Taylor's (1911) principles of scientific management and had since been employed in several researches (Pervin, 1968, Osterman, 1988, Chatman, 1989, Kristof, 1996, Kristof-Brown, Zimmerman & Johnson, 2005) to study the relationship between the employee, their roles or tasks, the organisation and the environment on one hand and performance on the order.

In 1951, Lewin championed a movement of researchers who proposed that behaviour is a function of the person and the environment (Lewin, 1951). Those who agreed with this perspective formed the interactionist group (Chatman, 1989, Muchinsky & Monahan, 1987) that holds that neither personal characteristics nor situation alone could adequately explain behaviour or attitude. Rather, personal characteristics and contextual variables determine behaviour variant. According to Sekiguchi (2003, p. 8), there are:

> *Different types of fit.* The concept of P-E fit has been conceptualized as an overarching construct that subsumes several other types of fit. Person-Organization (PO) fit and Person-Job (P-J) fit are among the most researched concepts in the P-E fit domain (Edwards, 1991; Kristof, 1996).

2.6.1 Studies relating to fit theory

There had been several studies in the area of 'fit' which, depending on the focus of the researcher, investigated performance of employees, productivity in relation to employee satisfaction, task-employee match, employee recruitment, employee job satisfaction, and to mention but a few. The various aspects of 'fit' and the corresponding research works are presented below:

2.6.1.1 Person-Environment (P-E) fit

P-E fit has been described as the extent to which contextual variables and employee personal attributes influence significant task outcomes (performance) in the workplace (Muchinsky & Monahan, 1987). This means the relationship between the environment and the abilities of the employees has an influence on performance. Sekiguchi (2003) reported that P-E fit is the broader concept under which studies (Edwards, 1991, Cable & Judge, 1996) have been carried out. Other aspects of P-E fit such as: (i) Perceived fit, (ii) Actual fit, (iii) Supplementary fit, (iv) Complementary fit, (v) Needs-Supplies fit and (vi) Demand-Abilities fit have been researched to establish the relationship between employee variables and their work environment.

2.6.1.2 Person - Organisation (P-O) fit

The match between the norms and values of the organisation and the values of employee is explained by Chatman (1989) as Person-Organisation fit. He observed in his study that employee performance would increase if they feel satisfied as result of the consistency between their values and the organisational values.

2.6.1.3 Person- Job (PJ) fit

When the Knowledge, Skills and Abilities (KSA) of the employee match the job demand of the organisation, the employee is said to be Person-Job fit (Bradford, 2009). Hence, employees would be satisfied and put in their best once the organisational structures, policies and job demands could satisfy their preferences (Kristof, 1996). Of all the forms of fit, PJ fit has been the most researched in management literature because every task in the workplace is expected to be executed by an employee (Sekiguchi, 2003). It is important to note that mismatch between the personnel KSA and job demand will lead to misfit which can result in: dissatisfaction, strain, anxiety, failure, low outcomes, low inputs, withdrawal from employment, depression; depending on the degree of misfit (Edwards, Caplan, & Harrison, 1998).

Considering the work of Edwards et al., one could infer that a workplace where P-E fit, that is, P-J fit and P-O fit, is balanced will experience personnel enthusiasm and high commitment to the organisation. As such, it is possible to see an inclusion workplace of task-driven interactive collaboration, effective mentoring, target-coaching and refresher training programs to improve the human resources of the organisation (Boon, Den Hartog, Boselie & Paauwe, 2011).

2.6.2 Person -Job fit and information literacy

Those who can determine their information need, identify where to get the information, possess the ability to synthesise the information, and communicate the information ethically (ALA, 1989) within the understanding of the economics of information would be said to possess the knowledge, skills and abilities (KSA) required for lifelong learning. A person with such KSA is information literate and was noted by Robert (2009) to excel in the twentieth century competitive workplace because he or she possesses the Person-Job fit. The workplace is a site which enables employees co-participate in some ways "thus enabling individuals to become drawn into its collective practices" (Lloyd, 2012, p. 775). The collective practices will further the goals and aspirations of the organisation; explained by Edwards, et al as the P-E fit. In discussing the relationship between Person-Job (PJ) fit and information literacy (IL), Li and Hung (2010, p. 307) reported that:

> Edwards (1991) outlined two basic conceptualisations of PJ fit. The first is the demands-abilities (DA) fit, in which employees' knowledge, skills, and abilities are commensurate with what the job requires. The second is the needs-supply (NS) fit which occurs when employees' needs, desires, or preferences are met by the job that they perform. These two different components of PJ fit are now generally combined into the overall conceptualisation of PJ fit.

The knowledge, skills and abilities which all the information literacy models - Big 6, ACRL, SCONUL- envisaged and recommended across curricula, are the same 'demands-abilities' (DA) and 'needs-supplies' (NS) prevalent in the entire fit theory with particular reference to Person-Job (PJ) fit reported by Li and Hung (2010). The

employee who do not possess the KSA that matches the job requirements may not be fit to put in the required contribution thus leading the organisation or indeed the society to experience: inadequacy in task execution, low output, loss of profit, loss of trust in service delivery, loss of jobs, loss of market share, reduced or low patronage, unemployment and possibly winding-up of organisations. Given this importance, therefore, the process of imparting this knowledge in undergraduates, who later become employees, is as important as the academics involved in the process. PJ fit helps to understand the job demands for the process of preparing undergraduates to be information literate.

2.7 Emerging Literacies

Conducting a literature review on information literacy, there were other 'literacies' that were competing for attention in the literatures. Their proponents claim they are more important and different from IL while some other experts argue that they (literacies) are on the information literacy continuum. These 'literacies' are discussed to share how close or variant they are to information literacy. However, the list is not exclusive as time and context shall continue to shape how information literacy would evolve (Pullen et al., 2010). As technology re-invents itself, other 'literacies' may emerge. Today, the ones that are noted in literatures are: Traditional literacy, Digital literacy, Data literacy, Computer literacy, Media literacy, Techno literacy, and Internet literacy.

2.7.1 Traditional literacy

The four communication language skills -reading, writing, listening, and speaking- are what constitute traditional literacy (Schrock, 2014). That is, ability to effectively read, write, listen, and speak. They are basic to all forms of human interactions. These skills earned their title 'traditional' because they are as old as man and have been with man irrespective of geographical locale. However, the mastery of

the four skills has to be relevant to the language of the environment in order to communicate effectively in such language.

Making meaning from a document of audio-visual file, for instance, will depend on the traditional literacy skills of such individual. For example, a text document will demand a reading skill to understand, assess, and use such document. With more information written in English language on the internet (Internet World Statistics (IWS), 2013), as a common information resource, accessing, evaluating, and effectively using information will depend largely on the reading skill in English language thus making the traditional skill quite relevant in modern times. In relation to information literacy, the ability to synthesise, critically think, and ethically communicate information -text and multimedia- is a factor of the traditional literacy of the person. For the 'literate person' described by ALA (1989, 1) therefore, the traditional literacy is taken for granted.

2.7.2 Digital literacy

This term has been defined to accommodate a variety of perspectives that came and continue to evolve with the new media; internet and all its services. Gilser (1997) defined digital literacy *as "*the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers' (Gilster, 1997, p. 1). Apart from edging out the information resources that are not stored and share via computer, the definition pre-dates Smart phones, Kindle and Portable Digital Appliances (PDAs) through which information could be accessed nowadays. In a broader and more recent definition of the term, though in relation to learning by students, Hague and Williamson (2009) defines digital literacy as:

> Knowing how technology and media affect the ways in which we go about finding things out, communicating with one another, and gaining knowledge and understanding. And it also means understanding how technologies and media can shape and influence the ways in which school subjects can be taught and learnt. (Hague & Williamson, 2009, p. 5)

Placing the descriptions of digital literacy beside that already discussed of information literacy, the attention of digital literacy is more about the ability to access and use information with the aid of technologies. While for information literacy, it goes beyond access, it involves what information, why access it, what are other alternatives, who created the information and why, what is the economics behind its use, and various other parameters to be undertaken. As such, the relationship of both terms is that digital literacy could be a valuable arm of information literacy; especially at the point of accessing the information of choice.

2.7.3 Data literacy

The abilities and competencies to access and effectively use data are described as data literacy. Defining the term, Prado and Marzal (2013, p. 126), affirm that "data literacy enables individuals to access, interpret, critically assess, manage, handle and ethically use data". With the introduction of 'Big data' (The White House, 2012), Data literacy has become prominent with large volume of data available in the open source generated by activities of organisations and from high impact researches funded by government and donor agencies.

There is a claim that data literacy is not enough to understand available data because they contain more of statistics. This claim underpinned the argument of the International Statistical Institute (ISI) that the volume of data in modern times requires statistical literacy to be able to access and use them effectively (International Statistical Institute (ISI), 2013). In contrast to this claim, Statistical literacy, in the argument of Prado and Marzal (2013, p. 125), is embedded in Data literacy which can be viewed as

an "integrated assemblage of other competencies, such as data collection, generation and management in research projects or organisations". However, some authors such as Merrill (2011, p. 146) argue that the term is different from Statistical literacy and information literacy hence implore "academic libraries to invest in the data literacy programs" to prepare undergraduates to effectively use data. To further show that data literacy has its bounds and that Statistical literacy should be considered a critical skill for the emerging information society, the Australian Bureau of Statistics (ABS, 2010) concludes that:

> Statistical literacy is essentially the ability to find, access, utilise, understand and communicate the story contained within the data. Sound understanding, interpretation and critical evaluation of statistical information can then contribute to decision making. The importance of statistical literacy in our information-rich society means that it has now become a core competency like reading and writing (para. 4).

Considering the conclusion of ABS and putting Data literacy in the perspective of information literacy discussion, since the need to identify, source and critically use data is the whole essence of data and statistical literacy, one expects that information literacy which is broader in scope and coverage has accommodated the competencies envisaged in both literacies. Perhaps they are better considered as being in the information literacy continuum; rather than have literacies to focus on each component in the Knowledge Pyramid: data literacy, information literacy, knowledge literacy, and wisdom literacy.

2.7.4 Computer literacy

In 1974, when the term, information literacy, was first used, the whole idea about literacy was confused for the ability and "understanding of what computer hardware and software can do" (Kuhlthau, 1990, p. 16) because computer technology was the trend in communities that were similar to Zurkowski's. As, such, in her early study of information literacy, Bruce (1997, p. 22) presented how some experts (Trauth, 1986) describe computer literacy (CL) by arguing that anyone is information literate by:

- being able to program computers;
- knowing how to use software packages;
- understanding about the structure and operation of the computer;
- knowing about the history of computers;
- understanding the economic, social, and psychological impact of computers;
- developing literacy in a personal computer environment; and
- being able to turn naturally to computer for problem solving

Trauth (1986, cited in Bruce, 1997, p. 22).

Considering the time lag in Trauth's position, one notes that information literacy today is better understood and differentiated from computer literacy because there are lots of information that may not be stored in computer memories. Also, there are other information activities that can be done on Smart phones and PDAs, not necessarily Personal Computers (PCs). In addition, one does not need to be a programmer to access and use information effectively. With more research and projects by the International Association for the Evaluation of Educational Achievement (IEA), computer literacy and information literacy have been described as critical skills for daily life as "Computer and information literacy refers to an individual's ability to use computers to investigate, create, and communicate in order to participate effectively at home, at school, in the workplace, and in society" (IEA, 2013, p. 17). In the information society of today, adequately interacting with information requires computer competency, no doubt, but it (CL) does not make it an end in itself. It is a means to being information literate and this is also captured thus:

> Computer literacy is an understanding of the concepts, terminology and operations that relate to general computer use. It is the essential knowledge needed to function independently with a computer. This functionality includes being able to solve and avoid problems, adapt to new situations, keep information organised and communicate effectively with other literate people- Online Oxford dictionary.

Considering the definition of computer literacy by Poynton (2005, p. 861) as "the basic knowledge, skills, and attitudes needed by all citizens to be able to deal with computer technology in their daily life", one sees computer literacy standing out as a requisite to being information literate in the information society. Information literacy is therefore an overarching skill for everyday and lifelong engagement at home, school, workplace and community. IL has accommodated computer literacy even though it is necessary to possess computer literacy to be able to interact effectively with information in the electronic environment.

2.7.5 Media literacy

Long before the advent of electronic media, the print media such as books, newspapers or journals were in vogue and whoever could effectively read them was said to be a literate person. At the dawn of the internet and social media, the concept of media literacy became an expanded version of traditional literacy practices. This is because there are now the new media in the form of the internet, digital TV and Smart phones where the media messages are not only in written language (Lin & Wang, 2013). Unlike in the traditional literacy, it requires a combination of skills to be able to analyse, synthesise and make sense from visual images, audio-visuals, audio and written information resources (Buckingham, 2003).

Media literacy therefore is the 'skillset [that] includes the ability to question, analyze, evaluate, and create media messages' (Schrock, 2014) which are quite similar with the skills expected of an information literate person. However, in an earlier study, Chen, Wu, and Wang, (2011) attempted to describe media literacy by arguing that it has two major components: one is reading media messages and the other is writing or producing media content; although this descriptions can still be accommodated within the definition/description of information literacy.

2.7.6 Techno literacy

The term was a creation from technology hence could also be seen as technology literacy. Technology, especially information technology (IT), changed the ways communities and school conduct learning and other activities. Almost every facet of human endeavours felt the impact of the new media and there is the need to gain mastery of being able to use the technology. Thus Pullen, Gitsaki and Baguley (2010, p. 2) describes techno literacy as:

> The advancement of the Internet in the early 1990s resulted in the concept of the global village and subsequently new ways of teaching and learning involving hypertext, multimodality and virtual classrooms. This rapid rise in fast, mass communication has reached the point that in order to live, learn and work successfully we must learn to use technology efficiently and effectively. This has lead to a new term called technoliteracy which in effect refers to how literate one is with technology and how they use the technology to communicate.

In discussing information literacy, there is the temptation to confuse technoliteracy for computer literacy that was earlier discussed because the competency to use technology cannot be discussed without the role of the computer systems. Ability to access information via the internet will require technoliteracy, part of which is to possess computer literacy. A definition that draws on a similarity to information literacy is offered by the Colorado Department of Education (CDE) as the ability to be able to use technology to:

- Communicate;
- Solve problems;
- Access, manage, integrate, evaluate, design and create information to improve learning in all subject areas; and
- Acquire lifelong knowledge and skills in the 21st century.

(The Colorado Department of Education, 2014).

Techno literacy was popularised in the advent of sophisticated technologies that emerged and influenced how activities in school and work are conducted. It was a convergence of the mastery of technologies and the ability to manoeuvre such new technologies. Kimber, Pillay and Richards (2007) argue that technoliteracy is a convergence of "operational, cultural and critical dimensions of both literacy and technology" in order to acquire marketable skills for the twenty-first century because "the three dimensions are requisite for critical thinking" (p. 61). Taken together, information literacy and technoliteracy are terms for consideration to make the learner or employee information literate.

2.7.7 Internet literacy

Internet is a route between information networks of resources. It provides an access means to information resources. However, the access is continually evolving and there has been tremendous technologies converging to achieve this (Nicholas, 2014). Anybody can create and publish an idea on the internet thus making it a common place to fertilise any idea; even if it is a personal opinion or against the 'norm'. Taking a 'walk' on such superhighway requires a skill in order to navigate successfully, sift facts from fallacies, and ethically use the subsequent information. In other words, there should be "the right skills for those who work for libraries" (Morris, 2014, p. 15) and also for those who use the internet. The ability to engage in these is embedded in internet literacy.

It is beyond the understanding of how the computer works and how to use the computer to solve problems (computer literacy), internet literacy is about the abilities and understanding of how: to navigate and discover where the appropriate information is hosted. Or be able to answer questions such as: how are audio or video files produced and hosted and what are the economies behind the resources, what and how to maintain

security (virus, phishing, malware), how to download, share or purchase on the internet, to mention but a few are what constitute internet literacy.

In relation to information literacy (IL) therefore, internet literacy is the vehicle to achieve information literacy. Put differently, IL is a beautiful house of treasures while internet literacy is the key to open the house to adore the marvellous jewels of information resources. However, internet literacy becomes a requisite for resources that can be accessed via the internet but not all information resources require the internet to access; but all information resources, depending on formats and source, require a justification for effective use. In addition, using information effectively and ethically transcends technology although Hepworth and Walton (2013, p. 3), underscores "the importance of information literacy as a set of skills needed by students [people] to operate effectively in the digital world … to search, authenticate and critically evaluate materials".

In concluding this section, it is important to mention that several terms and concepts are used synonymously (Bawden, 2001) with information literacy. It further explains the broad and overarching influence of information literacy in information processing for routines at home, school and work.

2.8 Summary of gaps in the literature

The literature review has identified some gaps and they are summarised thus:

- **More IL models are about school/educational settings**

More of the existing IL models (Big6, SCONUL, ACRL) do not provide the understanding of how information literacy evolves in the workplace because more attention was directed towards information searching for academic purposes in the school or educational setting. Furthermore, "to date there is little literature that relates to information literacy as it is experienced through collaborative practice that occurs

within the workplace" (Lloyd 2010, p. 72) and for researchers to extend IL research into the workplace, there should be a workplace IL model that provides a guide to understanding how IL evolves in the workplace.

- **Existing conceptualisation of information literacy (IL)**

In 1974 when the term 'information literacy' was first used, the librarians were then teaching bibliographic instruction in schools. When Paul Zurkowski submitted the report to the Commission of Library and Information Science, it was with the intention that the 'missing skills' will be included in the curriculum of bibliographic instruction. As bibliographic instruction has changed in name and content, the focus has remained how to teach and assess information literacy; this conceptual focus has permeated almost all existing definitions and models. There is the need to reconceptualise how IL evolves in the workplace where everybody is a co-participant in the work site; not the existing 'teacher-learner' scenario. Rather IL should be reconceptualised to reflect a community of practice where employees have the 'know-how and know-what' to share with colleagues to execute task (Winterton, Delamare-Le Deist & Stringfellow, 2005) thus evolving information literacy. Furthermore, it is important to note that it was the need for workplace skills that predicated the term 'information literacy', but one major concern today, as evident in the literature, is that most definitions of information literacy do not reflect the peculiarity of the workplace; a gap that researchers and all stake holders should strive to fill.

- **Seemingly low scientific production in Workplace information literacy**

Scientific production in workplace information literacy is noticeably sparse. Earlier researchers (SCANS, 1990, Lloyd, 2007, 2010) noted and recommended more studies to identify how IL evolves outside the classroom. People in the communities may have some practices that could impact IL skills among themselves or to people

with whom they interact in the socio-cultural collaborations. Studies could understudy such community or workplace to understand how IL evolves 'without the teacher'.

- **Few studies consider the information environment in the workplace as a critical factor**

In becoming information literate, some researchers have established that the information environment in the workplace is a critical factor (Muchinsky & Monahan, 1987, Veinot, 2007). This is because tasks in the workplace are executed by employees through interaction with themselves, the information environment, artefacts and ways of doings. These are better understood when studying workplace IL as a socio-cultural practice (Lloyd, 2014). Few of the existing literature, though not recent, provide little of such relationship between people and their information environment in evolving information literacy skills. Considering these gaps in the literature, this research was conducted to feel the gaps and extend the frontiers of knowledge.

2.9 Proposing a Workplace Information Literacy Model.

The conceptualisation and chronological development of information literacy have provided a background to understand the peculiarities of the workplace to provoke the need for reconceptualising IL for the workplace. Also, the earlier discussed workplace studies have identified the limitations which subsequent workplace IL models should improve upon for better understanding of workplace practices. Given this understanding therefore, it may be necessary to propose a workplace IL model that would enable researchers to further understand the information landscape of the workplace and extend the frontiers of research in workplace IL.

Brief introduction of the proposed model

Relying on the background of the theoretical position of Lloyd's (2012) 'person-in-practice perspective', this model will support empirical studies to explore information literacy among employees in Nigeria based on their levels of task. The proposed model which is not intended to be in its perfect form recognizes that the employee in a developing country like Nigeria is a worker who is in the workplace as 'Person-Job fit'. The worker is therefore expected to 'know' what to do due to the information he had accessed through non-documented resources (oral evidences, indigenous knowledge, and protected information resources) and documented resources (print and electronic). The interplay of the worker and the resources makes him an experienced, knowledgeable, and competent employee. This wealth of knowledge of the worker and his access to information are graphically presented below:

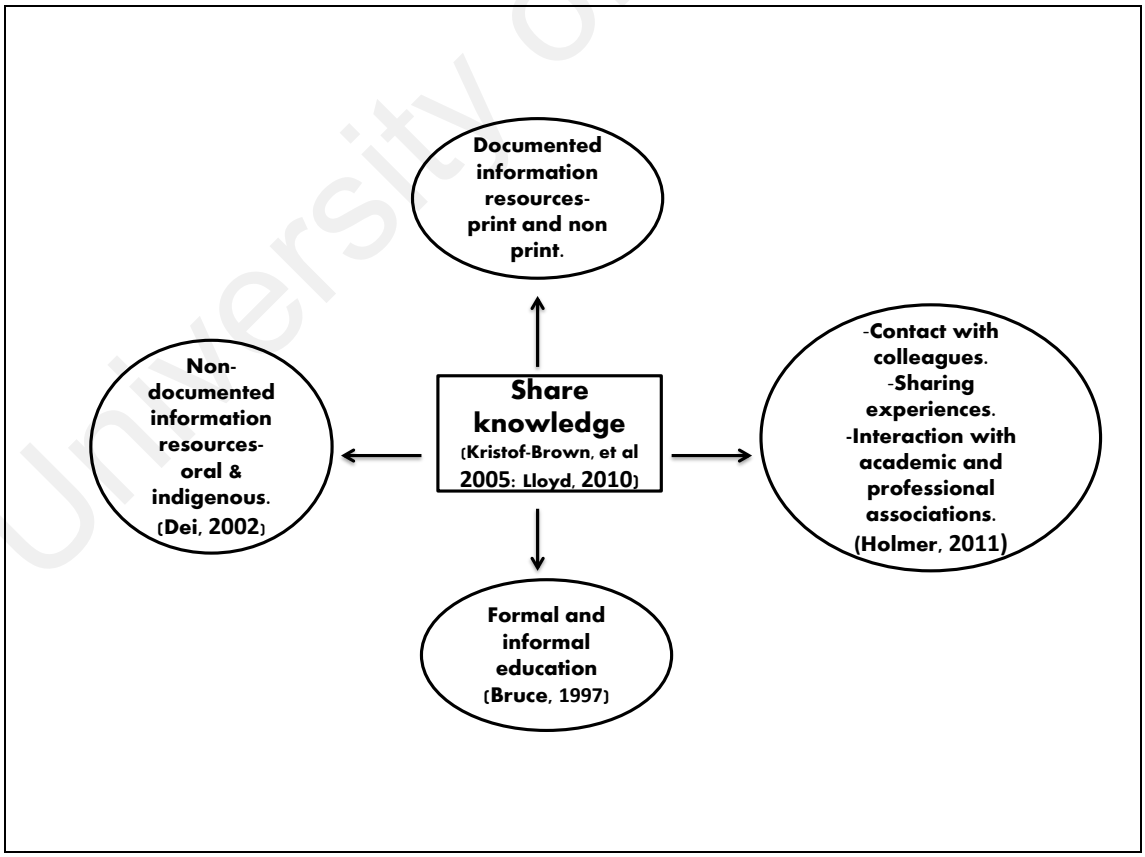

Figure 2.1: Employee in Share knowledge stage

Share knowledge

This stage presents the employee as one who has accumulated experience and knowledge which describes him as the 'Person-Job fit' (Li & Hung, 2010). He also understands the information landscape in a social setting where "information literacy makes learning possible by connecting users to various modalities of information that are situated within a social site" (Lloyd, 2010, p. 15). This employee collaborates with on-site and off-site colleagues and resources to acquire and share knowledge to improve the community as stipulated in the working definition of Dorner & Gorman (2011) earlier cited. This category of employee is part of Lloyd's description of the 'gatekeepers' who nurture new members in the organisation. The employee at this stage is not a novice worker; he is a seasoned professional who knows what to do (Lloyd, 2007), where to seek additional information, and how to manage such information for the benefit of the organisation or community. This employee requires little or no supervision to execute the task specified. This is a category of employee prevalent in a workplace because each employee is employed having possessed some requisite skills. However, it is important to mention here that a novice (fresh from College) could be employed, perhaps as trainee employee and would have to learn in the organisation through practice.

Analyse task

An employee, first and foremost, is employed to execute a task. 'Knowing' what to do, in the opinion of Gherardi (2009) is a practical activity. His accumulated knowledge should guide in the analysis of the task at hand in order to decide what information is required and where to source such information. Therefore, how effective, timely, and his ability to manage resources depend on his dexterity, experience and access to appropriate information; as explained in the first stage. The employee at this stage has studied the specific task before him. Based on the access to information and counting on his previous experience, he is able to analyse the task with maximum

benefit: time, profit, user satisfaction, and organisational goal. He asks questions such as what resources are required, who is he to work with or communicate report, and how does the available infrastructure support his chosen strategy? Being a social enterprise, the employee at this stage relies on verbal and non-verbal cues (Csibra, & Gergely, 2011) to determine when to adjust his parameters for analysis. The employee at this stage is graphically presented below:

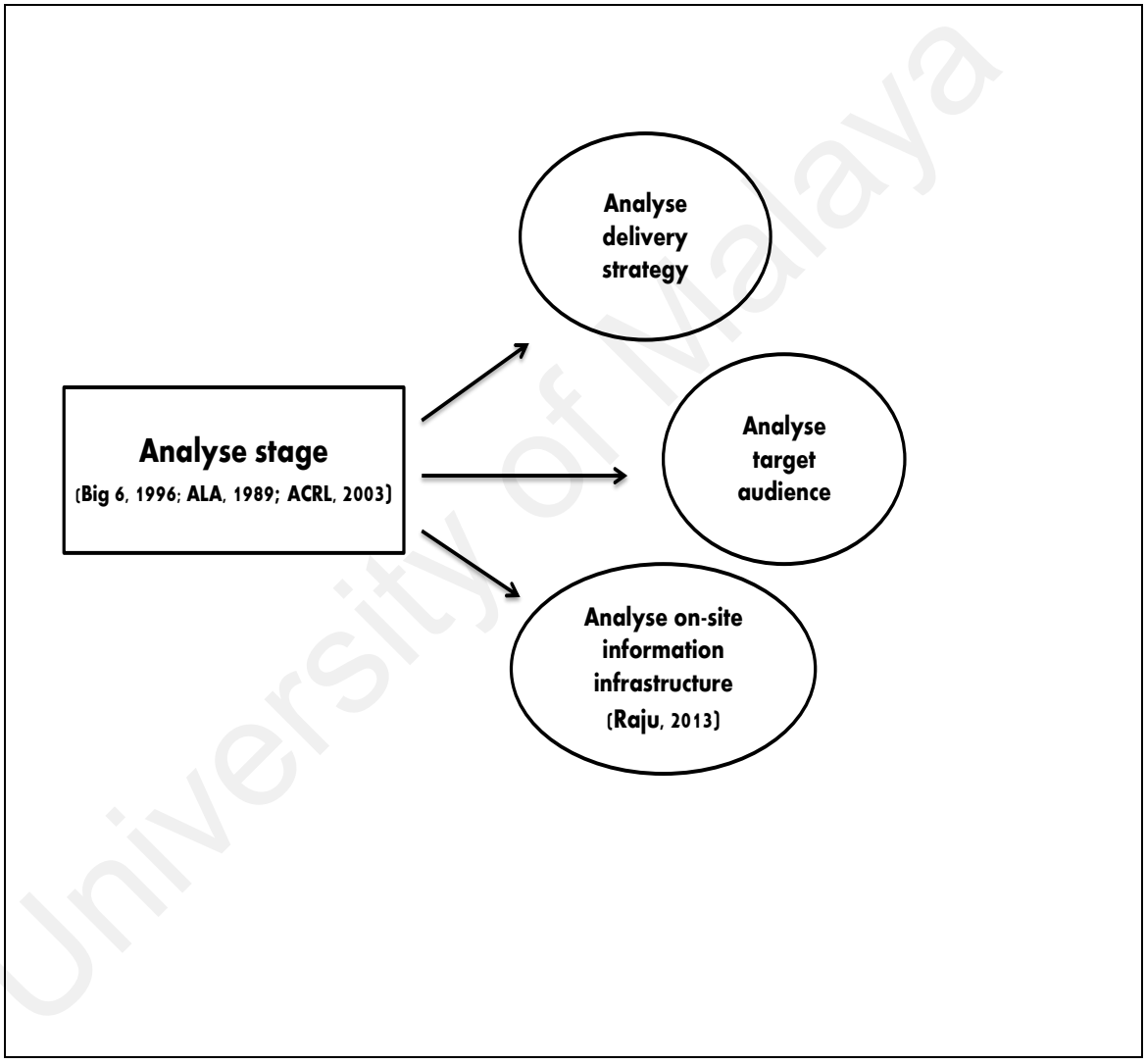

Figure 2.2: Employee in Analyse task stage

Execute task

The employee considers the analysis that was earlier done to arrive at the best option to execute the task. The chosen option would have been selected from other alternatives after critically thinking about cost, quality, source, time, tool, colleagues, organisational goal and community benefit (Waring, Wainwright, & Skoumpopoulou, (2011). Like the third face in Bruce's (1997) 'Seven Faces of Information Literacy', this is the execution stage. However, the employee at the stage prepares the yardsticks to measure the outcomes (learning outcomes or quality assessment) of the execution which are the building blocks for the next stage, evaluation stage. In an academic environment, this stage could be used do a self-evaluation described by Goad (2002) as 'organisation learning'. The employee would reconsider the strategy of execution if the expected results were not met, thus re-analysing the task again. The employee at this stage is graphically presented below:

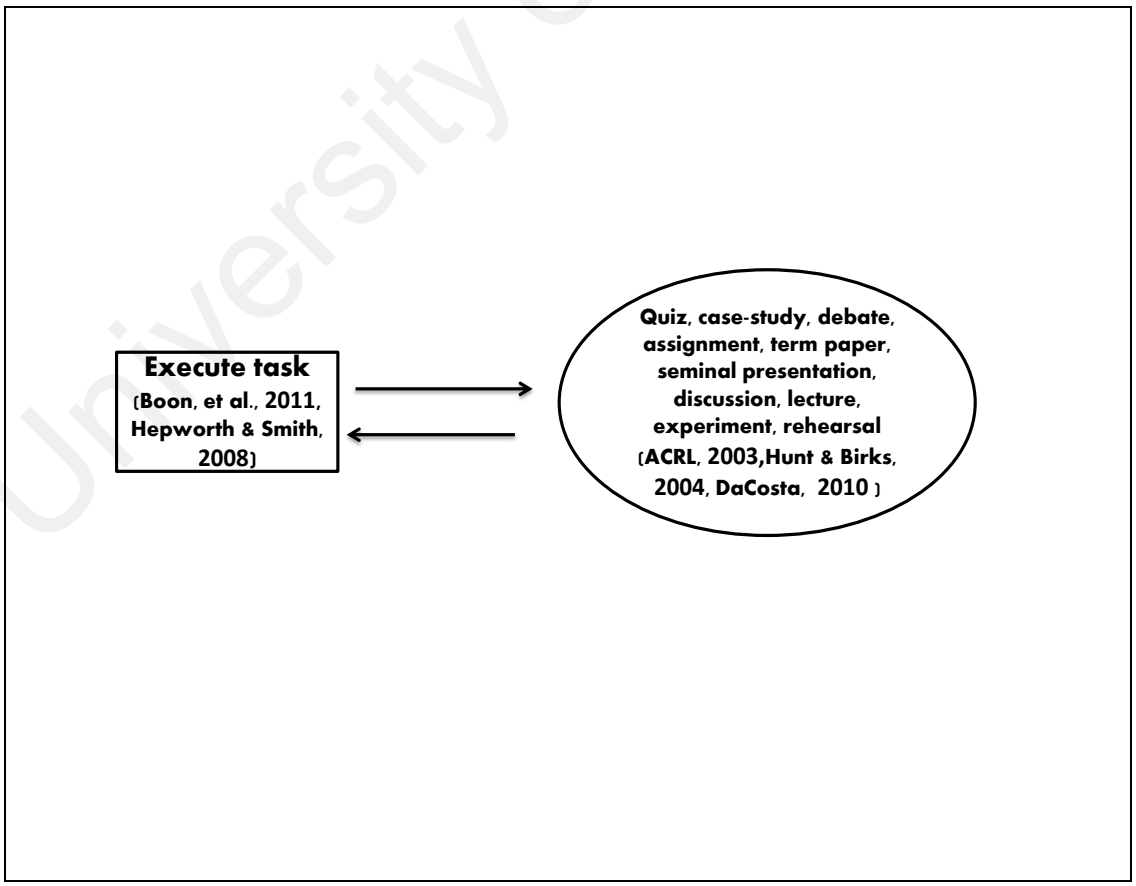

Figure 2.3: Employee in Execute task stage

Evaluation

The last stage of the model is where the organisation evaluates investment in order to determine profit and lost. For non-for profit organisations, they measure performance by the Key Performance Indicators (KPI) set by the organisation (Li & Hung, 2010). In describing the influence of social interaction, Wang, et al (2011) sums up that the Zone of Proximal Development (ZPD) as the distance between actual development level and potential development through collaboration with more capable peers. As such, the collaboration of employees is encouraged by the organisation in order to nurture young and novice workers through practice described by Lloyd (2010) as 'community of practice'. While individual employee could do a self-evaluation during the Execution stage (earlier stage), the organisation at this stage set parameters to evaluate the contribution of individual employee, assess contributions to the society, and ascertain to what extent the organisational goals are met. The employee at the Evaluation Stage is graphically presented below:

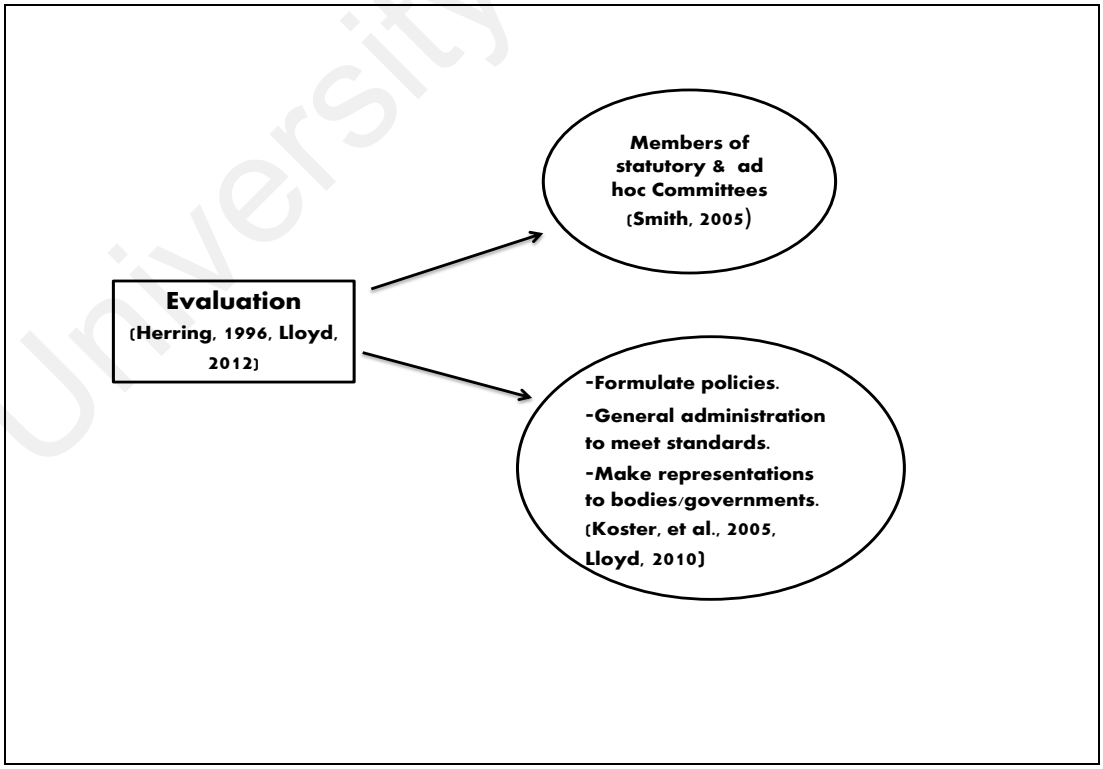

Figure 2.4: Employee in Evaluation stage

The model cannot be said to be a perfect attempt at providing a platform for researches in information literacy in the workplace in developing countries such as Nigeria but it is a starting point to invite comments and contributions to better develop the model. When the four (4) stages of the model are put together, it may be presented as below:

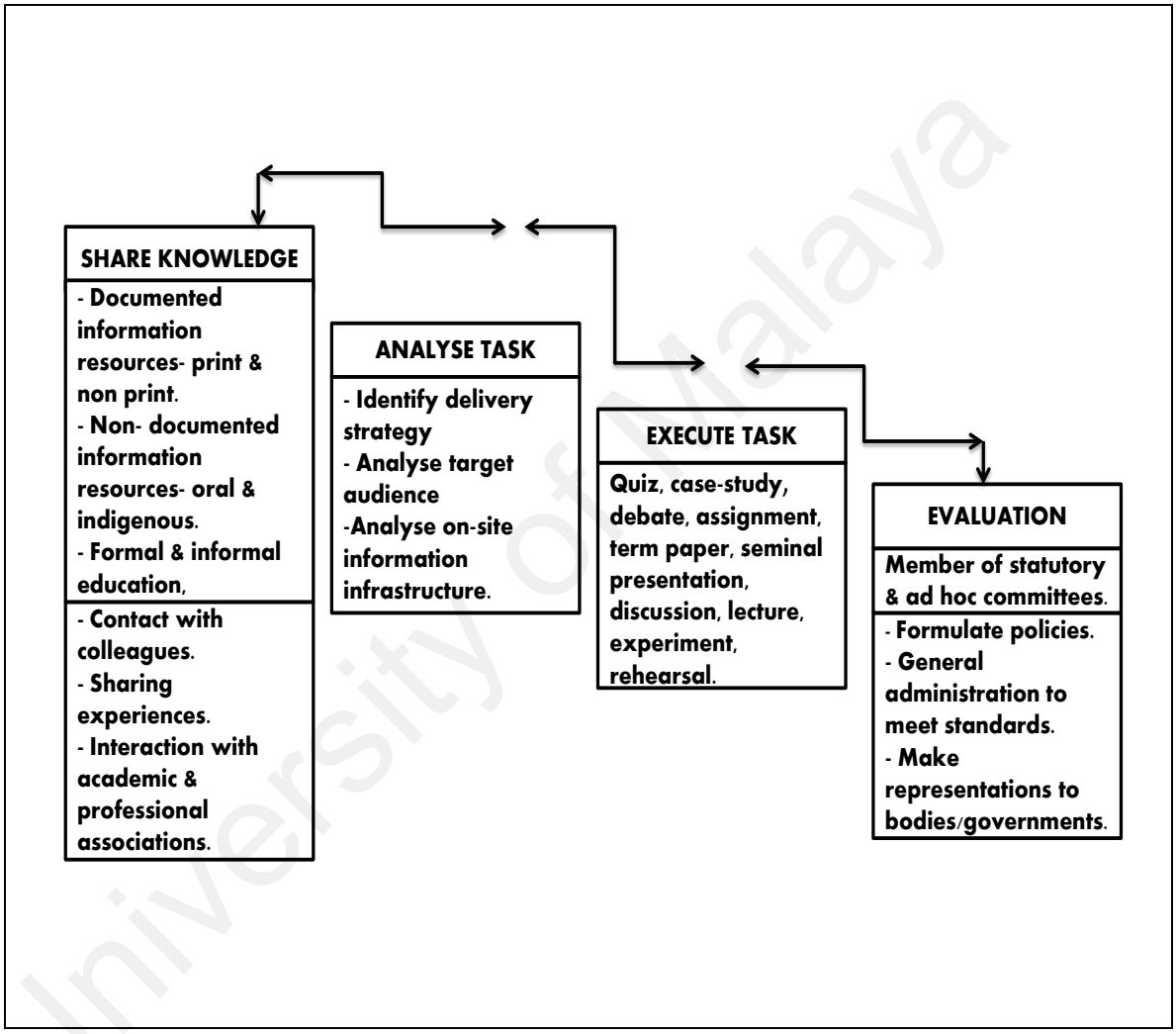

Figure 2.5: Proposed Workplace Information Literacy Model (WILM)

The proposed Workplace IL Model ***(WILM)***

The Empowering 8 model (Wijentunge & Alahakoon, 2005) being a model for information literacy education in Sri Lanka, provided an opportunity for the learners to explore other information resources outside the classroom environment. This is the reality that this new model also espoused in the workplace at the share knowledge stage

where the employee can explore non-documented, oral and indigenous information that could make him an informed employee. The existing models did not provide this window of opportunity.

The proposed model considers the information process at each stage and brings the experience of the worker to bear on the task at hand. This is quite unlike the information process described by Cheuk (1998) where the auditors only 'consume' and 'supply' information without considering the wealth of knowledge they brought into the workplace. Relying on the argument of Aiyepeku, Atinmo and Aderinoye (2002), the relational model of Bruce (1997) was the closest to the African (Nigerian) reality, but this proposed model brings the employees to the reality of serving the goal of improving their immediate and international community. At the execution stage, information literacy competencies of the employees are better exhibited since they will determine execution strategy based on the contextual realities and the task at hand; an opportunity that was not provided in the existing models.

CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter presents the research methods that were employed to gain insight into the perceptions and practices of academics about information literacy in the workplace as they prepare undergraduates to be information literates. Other issues treated in this chapter include: research design, population and sampling strategy, mode of data collection, and method of data analysis.

3.2 Research design

The "workplace is an inter-subjective space" (Lloyd 2010, p. 89) that provides a platform to assess how information literacy (IL) is exhibited in the routine practices of employees. The activities in the workplace involve inter-relation and co-participation among employees. This relationship is described as a social practice through which they execute their tasks (Moring & Lloyd, 2013). To carry out this study in the workplace therefore, requires a research design that would allow the researcher to feel, watch, or listen to the academics as they perform their tasks which may "open up informational potential outside [apart from] verbally expressed, documented or oral information, to information that is embodied, tacit and socially legitimised" (Bystrom & Lloyd, 2012, p. 30). It is important to mention here that the tasks of the academics may bring them in contact with other employees on campus and their students as they prepare them (students) to leave the tertiary institution as information literate persons. Such students eventually graduate from the structured 'teacher-guided' classroom into the complex social noosphere of the workplace- an information landscape of lifelong learning- enacted to support organisational goals of winning market share and improve customer patronage.

Given this workplace-practice approach, the design of a qualitative case study that was chosen for this research was informed by the structure of the workplace on one hand and the recommendation of Merriam (2001) that "for 'how' and 'why' questions, in a single-bounded system, the case study has a distinct advantage; on the other. Yin (2011) argues that a research that intends to gather more information from a particular person or group of people (academics) should engage a case study approach. Furthermore, Graftein (2002), Gorman and Clayton (2005), Given (2008) and Neuman (2011) recommended that a research that allows the researcher to learn from the participants' own real world by freely expressing themselves should be conducted with a qualitative research orientation.

3.2.1 Objectives of the study

In order to discuss the research design, it is important to represent the research objectives and questions that were presented earlier in chapter one:

- The main aim of this research is to understand the activities and co-participation of academics in the workplace in Nigeria by exploring how IL evolves in the practices they engage in.
- **The specific objectives are:**

  -To examine the perception of Information Literacy among academics in Nigeria;

  -To explore the information environment within which the academics in Nigeria practice; and

  -To identify how academics in Nigeria engage in practices that may prepare undergraduates with information literacy skills for the workplace.

3.2.2 Research questions of the study:

- **RQ1-** What is the perception of academics about information literacy (IL)?
- **RQ2-** How is the information environment constituted for academics?
- **RQ3-** How do academics engage in practices that could prepare undergraduates with information literacy skills for the workplace?

3.3 Philosophical assumptions.

There are four philosophical assumptions which qualitative researchers consider as guide for their inductive inquiries (Creswell, 2012b). They are ontology, epistemology, axiology, rhetorical, and methodological assumptions. The philosophical assumption of a research should be stated to assist other readers of the research report in sharing the understanding and realities of the participants' world as interpreted and presented by the researcher (Creswell, 2012b). The researcher considered the assumptions for this research and their relevance for this study:

3.3.1 Ontology

This explains the multiple realities that exist in a social setting of the participants. These realities could take the realm of realism, materialism or idealism. The realities are subjective as they are interpreted by the participants. In a qualitative research therefore, the researcher is at the site to learn from the participants as they understand their world better and can interpret it better. In this study, the researcher restricted his world view of the phenomenon from shaping the knowledge that exists 'out there' with the participants. He considered the phenomenon 'as-it-is' (existence) in the participants' world and this gave him the opportunity to make meanings from their interpretation of the phenomenon.

3.3.2 Epistemology

This philosophical assumption explains the relationship between the researcher and the participants' world. A researcher could share the same world as an insider thus facilitating the process of accessing the research site and also helps in understanding the participants' world. Epistemology also explains how a qualitative researcher come to know what he knows about the phenomenon. That is, the strategy of how he constructs knowledge from the participants' world of realities. In this study, the researcher employed 'prolonged engagement' to explore, learn, and understand the participants'

world in order to interpret events effectively**.** As an inductive, interpretive qualitative study, the researcher relied on meanings that he interpreted from and across the participants' responses.

3.3.3 Axiology

Axiology explains the value of the researcher's personality as it could nurture and sustain bias in the research but could also facilitate modalities to turn bias to a virtue for the research. In this study, the researcher explains the value that he carried into the researcher, the value he attached to some value-laden nature of information, and declared how these did not cloud his interpretation. As a qualitative researcher, his value and personality became useful to: access the research site, manage the participants and depress bias. The researcher was aware of the value of his roles and he declared them in order to reduce bias. His value was presented in reflexivity; later in this chapter.

3.3.4 Rhetorical

The language of presentation in qualitative research should be literary and rely on the direct statements (verbatim) of the participants. Rhetorical assumption explains that the research process should be presented in thick descriptions of events and activities; as described by the participants or observed about them by the researcher. In this study, the researcher employed a formal language structure for the purposes of documentation but essentially used informal style in interacting with the participants in order to accommodate the nuances and realities in their world. The informal style made the participants freer to 'open-up' thus helping gaining insight into their perceptions. The researcher used the language (phrases and expression) that came from the participants. During 'member checking', it was almost with ease that the participants accepted the transcriptions as true reflection of the interviews and observation because they could identify their own phrases and expressions. While maintaining the formal style required of academic research, the informal and fluid style adopted by the

researcher did not take anything away from the detailed presentation of the research findings.

3.3.5 Methodological

This philosophical assumption explains the method of data collection which the researcher should employ at the research site. Whatever choice a researcher makes of the mode of collecting data, such choice should clearly seek the consent of the participants before data collection. This philosophical assumption prepared this researcher to benefit from the value of a theoretical lens and allow an emerging data collection and inductive method of analysis. The data collection was through in-depth-interviews and non-participatory un-obstructive observations thus making it an inductive, interpretive qualitative case study research. The methodological choices at various points were made transparent enough for transferability.

3.4 Case study research

Researchers draw their preferences from two types of research paradigms: Positivist and Interpretivist (Gorman & Clayton, 2005). Researchers who view the world as a collection of observable events and facts that can be measured may be conducting a quantitative research thus fall within the Positivist paradigm. On the other hand, qualitative researchers follow the Interpretivist paradigm because they view the world as containing multiple realities that are complex and always emerging thus making them less amenable to precise measurement or numerical interpretation (Gorman & Clayton, 2005; Ghanabousi, 2010). The choice of the paradigm for this study rests on the advice of Creswell (2012a) that peoples' perceptions on issues are better examined when such people are allowed to discuss what they have on their minds freely; thus suggesting an Interpretivist paradigm and qualitative research design because of the multiple realities which exist in the participants' world. Creswell further informed that "the naturalist (the researcher) elects qualitative methods over quantitative

… because they are best studied for research problems in which the researcher does not know the variables and needs to explore; because the literature might yield little information about the phenomenon of study, and the researcher needs to learn more from participants through exploration". Following these opinions, the researcher chose to learn from the participants through in-depth interviews while processes, activities and practices are better examined through observation (Merriam, 2001).

In describing the approach and direction which an investigation could follow, Yin (1994) reported by Merriam (2001) suggested that "for 'how' and 'why' questions, the case study research has a distinct advantage. Also, the less control an investigator has over 'a contemporary set of events', and/or if the variables are so embedded in the situation as to be impossible to identify ahead of time, case study research is likely to be best choice" (p.32). To shed light on what exactly is a case study research, Merriam (2001) further puts it as "an empirical enquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly defined" (p.27). In addition, Yin (2009) argues that 'why', 'how' and [what] questions are better to "deal with operational links needing to be traced over time, rather than mere frequencies" (p. 9).

In the phenomenon under study, the researcher intended to understand the operations, workings and practices of academics in the workplace. Also justifying the invaluable, resourceful and explorative opportunities in case study research, Gakindi (2012) in her case study of a tertiary institution in Kenya, another developing country, affirms that case study is a better methodological option as it provides a full variety of evidence.

In addition, Creswell (2012a) categorises the method where in-depth interviews are used to elicit data from a person or group of persons as a case study. He further describes it as "an in-depth exploration of a bounded system (e.g. activity, event,

process, or individuals) based on extensive data collection". 'Bounded' in Creswell's description means that the case in question is unique and hence "separated out for research in terms of time, place, or some physical boundaries". The rapport that is created during interview encourages candour on the part of the interviewee thus strengthening the data that emerge from such dialogue.

The characteristics of case study listed by Wildemuth (2009) provide a guide for this researcher to justify the choice of case study research approach for this study. He mapped the research objectives against the characteristics and noted that case study approach was appropriate for the study. The characteristics are:

1. The phenomenon is examined in a natural setting.
2. Data are collected by multiple means.
3. One or a few entities (person, group, or organisation) are examined.
4. The complexity of the unit is studied intensively.
5. Case studies are more suitable for the exploration, classification, and hypothesis development stages of the knowledge-building process; the investigator should have a receptive attitude toward exploration.
6. No experimental controls or manipulation are involved.
7. The investigator may not specify the set of independent and dependent variables in advance.
8. The results derived depend heavily on the integrative powers of the investigator.
9. Changes in site selection and data collection methods could take place as the investigator develops new hypotheses.
10. Case research is useful in the study of why and how questions because these deal with operational links to be traced over time, rather than with frequency or incidence.
11. The focus is on contemporary events.

(Wildemuth, 2009, pp. 51-52)

On the basis of these therefore, the study took a qualitative case study approach. Even though there has been much work done on information literacy (IL) as a subject (Virkus, 2003), there have been few on the workplace (Bruce, 1997, Cheuk, 1998, Koster et al, 2005, Lloyd, 2007, Osman, 2010) thus providing very little understanding of the phenomenon. Apart from Osman (2010) who investigated IL among the Police in Texas, USA other works are not very recent and none of them was conducted in developing countries. Neuman (2011) further suggests that a qualitative research is preferred if the respondents are to be given the opportunity to coin their own words,

phrases and descriptions to explain a phenomenon in the way they feel most comfortable. Since the researcher was out to explore and to learn from the respondents, it was logical to listen to Neuman's suggestion. Also, Flick (2009) suggested that qualitative study is a good tool to maximise the opportunity of acquiring insights into participants' behaviour, personal life, anxiety, life-style, fear, perceptions or experiences. As predicted by Flick, it turned out as such because this researcher was able to share in the real life of the participants as they engage in practices aimed at preparing undergraduates to becoming information literates.

3.5 Theory in qualitative research

The qualitative researcher employs a theory to guide the study from conception to consummation. This becomes critical as the researcher is the research instrument and also the data analysis tool; a position that may goad a degree of bias. A theoretical perspective enables the researcher to avoid the pitfalls of bias and imposing a predetermined mindset to draw conclusions (Gorman & Clayton, 2005). Martin (2013) also emphasise that theories, models or standards help predict the direction for research and in interpreting findings; thus research, especially qualitative; because of its inductive approach, requires a theoretical lens. Miles and Huberman (1994) remind novice qualitative researchers that having a conceptual framework is not foreign to qualitative research because it guides the researcher in:

> (a) identifying who will and will not be included in the study; (b) describing what relationships may be present based on logic, theory and/or experience; and (c) providing the researcher with the opportunity to gather general constructs into intellectual "bins" (Miles & Huberman, p. 18).

3.5.1 Practice theory for the study

Conducting this study in a workplace requires a theoretical perspective that interprets 'practice' as a constellation of activities of employees as co-participatory in a social context (Bystrom & Lloyd, 2012, Moring & Lloyd, 2013). In the workplace, practice requires activity and skill development and a shared understanding of the embodied knowledge or know-how (Schatzki, 2002, p. 3). While individualism is the ideal in the learners' world (classroom), team work or co-participation is the norm in the workplace where employees are presumed to be in the know to share knowledge (Winterton, Delamare - Le Deist, and Stringfellow, 2005). This distinction informed the choice of a constructivist orientation that underscores the practice theory for this study. In the workplace, the affinity among people in practice, artefacts and their environment enable them construct and share knowledge; as exhibited in their 'doings' (Lloyd, 2010). Therefore, the choice of a practice theory, in this case 'fit theory', was to understand the academics as people in the know and how they interact with information as co-participants in the work-site to share knowledge.

Furthermore, the development in research has been turning to practice approach to understudy people and their activities as many social practices involve information seeking and sharing, information management, information creation and information literacy (Cox, 2012a, p. 62). As the activities are executed in a practice, the skills necessary for and embedded in the practices are brought to the fore. In ascertaining what 'practice' is, Reckwitz (2002, p. 250) describes it as "a routinized way in which bodies are moved, objects are handled, subjects are treated, things are described and the world is understood". This description is holistic and would provide an understanding of the activities of people usually conveyed in a sense of knowing as social, embodied, embedded in routines and material objects and their arrangement, closely linked to purposes, feelings and taste, transitory and situated (Cox, 2012b). The employees carry out their routines by 'doing' something for other employees to 'do' something. In such

doings, knowledge is shared; learning takes place and the novice become experienced.

In describing the benefit of practice approach to workplace research, Wenger (1998) argues that practice is 'doing, but not just doing in and of itself. It is doing in a historical and social context that gives structure and meaning to what we do' (p. 47). Practice approach allows the researcher to see beyond individualism and appreciate communal efforts dispensed in a socio-cultural reality of everyday life. At times, the routines are embedded in daily life and mistaken for 'normal' life rather than a structured display of knowing capable of extending the frontiers of knowledge; understood better in practice. Also, the "workplace is an inter-subjective space" (Lloyd 2010, p. 89) that provides a platform to assess how information literacy (IL) is exhibited in the routine practices of employees. The activities in the workplace involve inter-relation and co-participation among employees. This relationship is described as a social practice through which they execute their tasks (Moring & Lloyd, 2013).

Person-Job (PJ) fit, used for the study, explains that an employee, whether novice or experienced, possesses Knowledge, Skills, and Abilities (KSA) that matches the skills expected to execute specific tasks in the organisation (Kristof, 1996). Such tasks are already determined, at times before employment, by the organisation, as the spring board to achieve the organisational goals and aspirations. Whereas 'task identification' in some IL models (Big6 IL model, ACRL model) is a critical step among the skill-set in classroom contexts, the activities in the workplace are contextualised, in 'an inter-subjective space' (Lloyd, 2010, p. 89) and complex (Mutch, 2000). This understanding separates this research as a 'practice' study from that which is oriented in students' settings.

In conclusion of this section, Person-Job (PJ) fit is a practice theory which gives a guiding lens that assisted in understanding the processes, activities and practices which the academics engage in to execute their tasks. In an earlier study, Li and Hung (2010) use Person-Job (PJ) fit to investigate the mediating role of PJ fit in relations to

information literacy and work outcomes. Justifying the position of theory in research, especially a practice theory, Moring and Lloyd (2013, p. 3) argue that a practice theory "aims to view the practice holistically focusing on the interaction between people, information and knowledge practices in a particular setting, with an emphasis on how information activities are socially constituted, conditioned and negotiated in practices."

Furthermore, in an earlier work, Bystrom and Lloyd (2012) justified the position of practice theory in research as they argue that "Within the field of information studies, practice theory appears as a fruitful analytical tool that can frame the understanding of how (work) task as an element of labour are performed and understood by workers as part of their workplace practice" (p. 28). Building on the positions of these workplace researchers, the chosen practice theory -Person-Job fit- guided the researcher in framing the research design, research questions, selecting the mode of data collection, data analysis and literary style of writing. In fact, the theory was a guide from conception to completion of the research.

3.5.2 Theoretical lens and the Workplace IL Model (WILM) for the research

Following the gaps in literature, as presented in chapter two and relying on the theoretical lens of Person-Job (PJ) fit, an operational model was developed and trialled in the workplace among academics in Nigeria. The model was used as the guide and perspective for all the methodological considerations. The model is presented below**:**

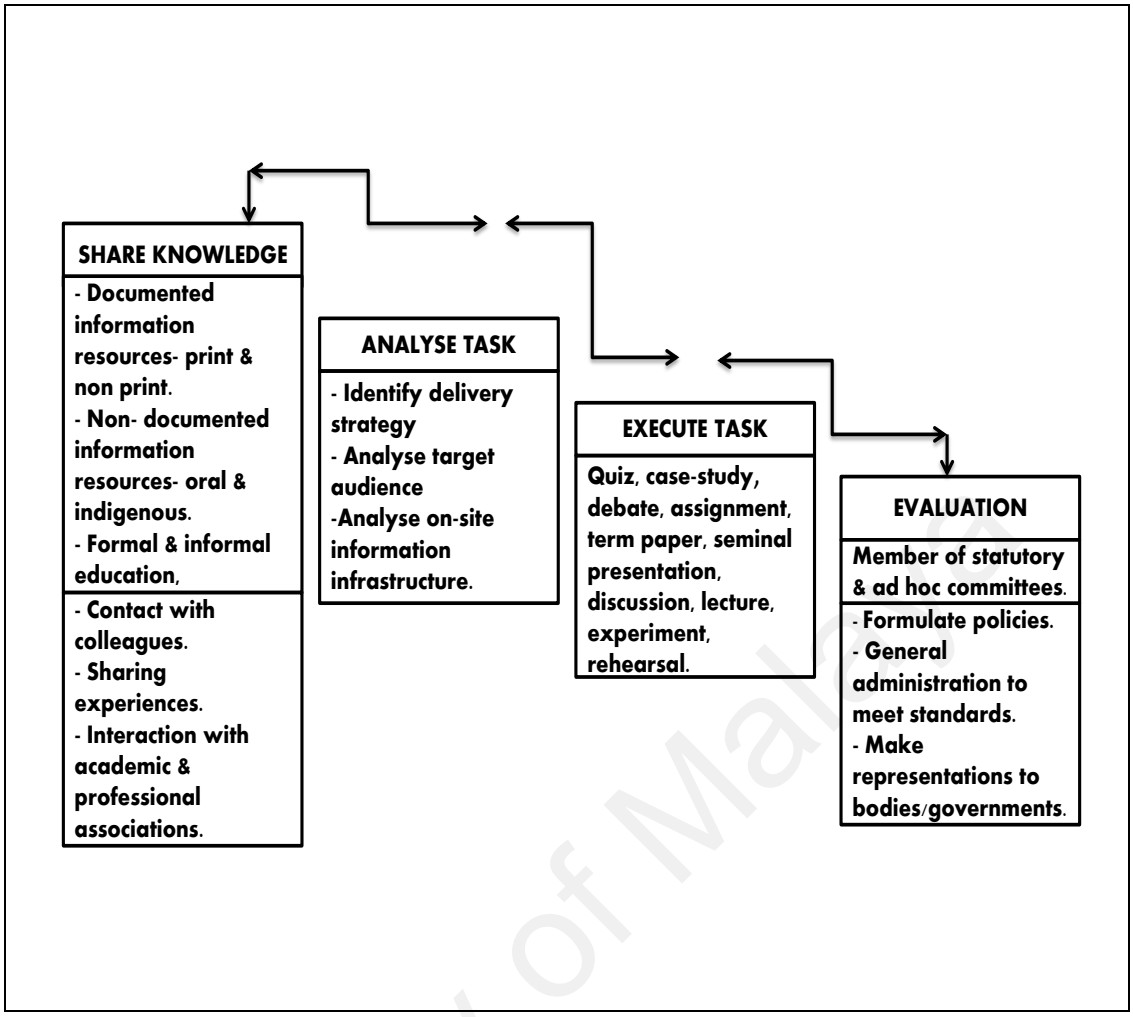

Figure 3.1: WILM as Conceptual Framework

The proposed workplace IL model (WILM) was used as the guide and methodological perspective for this research. The model has four stages: Share knowledge, Analyse task, Execute task, and Evaluation. The various possible tasks that were theoretically identified are presented in each stage.

3.6 Research population

The teachers in tertiary institutions in Nigeria constitute the population of this study. It is important to note that the teacher who teaches engineering, medicine (in the medical College) or curriculum studies in the university, phonics in the preparatory class, history in the secondary school, law, entertainment, or any other course of study is called a 'teacher'. As such, the departmental unit and all the routine tasks constitute

the teacher's workplace and has become inter-subjective (Lloyd, 2010), all-inclusive, very wide, and important to the survival of the community (Whitworth, 2014) especially when the society looks up to tertiary institutions to produce "graduates who are able to make a meaningful contribution to the national economy" (Lumande, Fidzani, & Oluka, 2013, p. 130).

Tertiary institutions and their teachers therefore are the cynosure of all eyes. Earlier studies have called the 'teacher' several names: teacher-librarian (Abrizah, 1999), university educators, (Bruce, 1997), teachers (Woo, 2003), faculty members (Weber & Flatley, 2006) and teacher educators (Smith, 2005); an indication that draws attention to the fact that the teacher operates at the primary, secondary and tertiary level of education.

When Paul Zurkowski observed that the employees did not possess the expected workplace skills (Zurkowski, 1974, Badke, 2010), he called the attention of the National Commission of Libraries and Information Science apparently to improve the 'teaching' of library instruction and library information skills as it was known then. This makes the teaching profession a platform for development. In 2009, when the current President of the US, Barak Obama, identified that Americans do not possess adequate information literacy skills, he challenged the "nation's educators and institutions of learning" to braze up for the challenge (The White House, 2009, p. 1). This, again, points to the education sector and the teaching personnel as important tools for national development. More so, one theme that seems to run across many definitions of information literacy is that of a set of learning competencies that are better experienced through a combination of skills that support information access and use. In the opinion of Idiodi (2005, p. 223), "such descriptions [definitions] relate fundamentally to the learning process and to the acquisition of knowledge,

[underpinned by the] concepts of higher cognitive attainment that are more familiar in the education sector".

In support of Idiodi's argument, Gavin (2005, p. 352), in her discussion of alternative strategies for promoting information literacy, emphasised that the "classes are the first vehicle that comes to mind". This explains, again, why the education sector and the teachers, as earlier discussed, are the gateways to all professions. For the teacher in tertiary institutions, they are better and appropriately referred to as academics. In this study, they are referred to as academics.

3.6.1 Population sampling strategy

There are thirty-seven (37) Colleges of Education spread across the six geo-political zones of Nigeria (NigeriaScholar, 2012). This figure does not include private Colleges. This is because their funding pattern, focus of proprietors and fees-charged may not make it feasible to consider them for this research. At least one College is located in one geo-political zone thus making up to six for consideration. One of them was established over fifty-five years ago as a teacher training institution and has been awarding Bachelors degree in Education since 1999. Relying on the advice of Creswell (2012) on 'sampling of convenience', this College was chosen because it is located in Lagos, a coastal, commercial centre, highly populated, the former capital of Nigeria, and most accessible through land, sea and air.

The Lagos State Government owns and funds the College. The state has been peaceful since it was created in 1967 and this has informed its steady economic growth thus attracting international conglomerates. Lagos is the 'eye of the nation' and a strategic mirror to view the Nigerian nation. Her official label that is inscribed on all public properties, which each state is noted for, is 'Center of excellence'. The researcher stays in Lagos and quite familiar with the terrain and officialdom of the institution in order to facilitate access to research participants.

3.6.2 Research site

The College of Education was chosen by the Federal Government of Nigeria (FGN) for special intervention on improvement of learning. The College served as the Centre and Headquarters of Applied Scholastics (Nigeria) for the training of lecturers drawn from tertiary institutions across the country to implement the Applied Scholastics learning technologies.

The College was, in 2002, selected by the Unicef B-Office as the Co-ordinating institution for the training of lecturers to implement the introduction of HIV/AIDS Education to the curriculum of NCE in Nigeria. In 2010, this College was selected by the Federal Ministry of Education in conjunction with Unicef to train lecturers as the first set of facilitators for the introduction of Early Childhood Education into the Curriculum of Nigeria Certificate in Education (NCE) in Nigeria.

3.6.3 Preliminary study

The College has a total of five Schools (Faculties) and a total of two hundred and ninety-seven (297) academics. In order to elicit rich data for the research, the researcher categorised the academics into three: (A) lecturers (LE), (B) lecturers with added responsibilities (LAR), and (C) lecturers with more added responsibilities (LMAR). The 'added responsibility' was assumed to mean more exposure to more activities, tasks and practices. Such exposure and experience would likely generate rich data for the research. Gorman and Clayton (2005), Flick (2009) and Creswell (2012) describe this selection approach as 'purposive sampling' and that it assures the researcher of rich data. The rich data would emanate from their many activities as they come into contact with more people, artefacts and information in the community of practice. Jennings (2010) also describes purposive sampling as a judgemental sampling where the researcher decides who best can give rich data based on their experience and knowledge.

All lecturers fell under A, all Heads of Departments (HoDs) fell under B while all Deans of Schools and other administrative office holders such as directors and the Provost fell under C. It should be noted that the lecturers in B and C, still attend to their lectures in addition to their added responsibilities of Heads of Departments and Deans of Schools or other administrative positions. It is assumed that their added responsibilities demanded of them more exposure to information practices. Relying on the College Staff Directory which was provided by the Registrar for the purpose of this research, the researcher sent a 'letter of request for participation' (Appendix A) to each academic in 'one- at- a- time' fashion. For those in Category A, the first three letters were not honoured but the fourth lecturer called the researcher on the mobile number which he provided on the letter. A meeting was scheduled and the interview was conducted in the lecturer's office; being his preferred place. The interview lasted for forty-eight (48) minutes. The interview transcripts were analysed and the interview guide was later refined. It should be noted here that the lecturer did not accept the invitation to observe any of his activities.

With the completion of the interview with the lecturer, it was time to move on to the academics in category B; Heads of Departments. Letters were sent to Heads of Departments; also in turns. Relying on the experience during the interview of lecturers in category A, this time, the researcher included reminders to prompt the Head of Departments; after waiting for two days without a call or SMS. The tenth letter yielded a positive result of SMS. The HoD called back and scheduled a meeting; also in the HoD's office. An hour to the agreed time, she called to reschedule the meeting, "due to unforeseen circumstances". It was painful though but 'methodology' literatures, the researcher's peers and supervisor had mentioned such vicissitudes of qualitative research. Eventually, the interview was conducted and it lasted for fifty-five (55) minutes. Upon the transcription and analysis, few corrections were made on the

interview guide. She accepted the invitation to observe her in a scheduled meeting with some Students' Representatives. The observation was for about forty minutes.

The last batch of the letters was sent to those in Category C; the Provost, Deans and academics who are holding various administrative positions. Also, the letters were sent in turns. The letters were sent and reminders were also sent after two days of waiting for response. At the end of three weeks, the researcher had sent letters, one after the order, to ten academics in this category. None of them responded to the letters or the reminders that were sent. As at this point, the researcher had spent two weeks beyond the initial proposed four weeks for preliminary study. The waiting could not continue. Based on the findings of the preliminary study, the target choice of the Heads of Department was made because: (1) they are academics in the College, (2) they have added experience because of their added responsibilities of coordinating the other lecturers as the Head of Department, and (3) they are exposed to more tasks for the College in particular and larger Society in general. In addition, selecting participants that are homogenous (Creswell 2012) within the research site, such as the Head of Department provided more rich data for the research. With the responsibilities of the Heads of Departments, they are involved in many activities and practices: exposure to a wider information landscape, representing their departments at various academic and administrative fora, and management of their departments.

The Schools (Faculties) and the Heads of Departments in the College are presented below:

There are five Schools (faculties) in the chosen College: Arts and Social Sciences (SASS), Vocational and Technical Education (SVTE), Sciences (SOS), Education (SEDU) and Languages (SLAN). The detail is presented in the table below:

Table 3.1: Research Population

SCHOOL	No of HoDs
SASS	9
SVTE	9
SOS	7
SEDU	6
SLAN	5
Total	**36**

3.6.4 Selection of Heads of departments (HoDs)

The Registrar asked one of his administrative officers to introduce the researcher to the Heads of Departments in one of their regular meetings of the Committee of HoDs on Monday 29th July 2013. The Committee was aware of the researcher's visit and the time was scheduled for the second session of the meeting. After the introduction and preliminary protocols, the researcher stepped forward to address the academics in relation to their role in the research; should they participate. The researcher used the details in the 'letter of request for participation' that was used for the preliminary study (please see Appendix A) as a guide to address the academics.

The researcher gave details about 'information literacy in the workplace' as the subject of the research and the reasons for choosing academics in the College. Counting on the argument of Willig and Stainton-Rogers (2008) that the researcher should give adequate information to convince 'would be' participants to give their consent, the researcher informed the audience that the research is a part of the award of PhD at the University of Malaya thus explaining the role of being a student and that the findings

shall be under the copyright of the awarding institution; although they are entitled to read the findings before they are finally submitted. Apart from explaining the structure of the forth-coming qualitative study as recursive and time consuming, the talk also centered on the possible duration of each interview, a fact which was gained from the preliminary study. Furthermore, the researcher assured the academics of utmost confidentiality and anonymity. The researcher further stressed that apart from this meeting, there would not be need to meet in a congregation such as this again and other members of this Committee may not even know those who participated in the research eventually. This is because the researcher would be making personal contacts with individual Head of Department that signed and returned the letter requesting for their consent; which shall be distributed after the talk.

On a final note, the researcher informed them that any academic who volunteered to participate is equally at liberty to withdraw such consent at any point of the research without any disadvantage whatsoever. The researcher summarised the talk again as:(1) giving details about the research title and reason for choosing them (academics), (2) Explaining their roles and requesting for their consent (3) assuring them of confidentiality and anonymity (4) explaining that there is no consequence for withdrawing from the study at any point, and (5) providing information about the researcher role in the research.

Then, it was question time. Sincerely, the researcher was surprised at the number of hands he saw signifying to ask a question; surprised because almost all the hands were up for questions that should be answered in the remaining ten minutes. In order to maximise the time of one hour allotted for this session, the researcher took all the questions first before answering them. With this approach, it was discovered that all the questions could be group into three: (1) **Duration and Time**- Could the time for interview be less than the one hour that was projected? (2) **Duration of research**-

Suppose I volunteer and have reason to travel, can I still continue where we stopped? (3) **Publication of findings**- Who and When would the findings be published? All the questions were all answered before the letter requesting for their consent (Please see Appendix B) was distributed to all of them.

There were twenty-one (21) Heads of Departments who attended this session and only ten letters were signed and returned. One of the ten letters was from the Head of Department who participated in the preliminary study. The researcher approached her after the third session of the Committee meeting to explain to her why she could not be part of the main research again because she took part in the preliminary study. Jorgensen (1989) advised that a participant in a pre-study should not take part in the main study because such participant would anticipate all questions, give 'prepared answers' and may not be spontaneous in response. While waiting for the third session of the meeting to end, the researcher composed and sent an SMS to the nine volunteers to show appreciation for their belief in the research and committing their time to it. All the nine academics responded to the SMS.

3.7 Mode of data collection

The research was undertaken in the workplace where academics are engaged in practices. Being a practice, Moring and Lloyd (2013) were of the opinion that practices of information literacy involve the doings and sayings of people in relation to themselves, artefacts and their environment. In order to see such doings in practice therefore, the researcher engaged the strategy of non-participatory un-obstructive observation. Earlier researchers in IL who used observation are Veinot's (2007) observation of a vault inspector, Lloyd's (2007) observation of fire fighters and Aabo and Audunson's (2012) observation of library users of 'space'. However, observation method is always preceded with interview in order to get the perception and interpretation of the participants' world. To this end, a semi structure in-depth interview

was used before moving onto observation (Woo, 2003). During the interview session, the researcher solicited for the consent of the participant to observe any or all their activities. More explanation about the in-depth interview and un-obstructive observation are presented below:

3.7.1 In-depth interview

The research used semi-structured in-depth interview and non-participatory un-obstructive observation as the data collection methods. In-depth interview as a mode of data collection was chosen in pursuance of Neuman's (2011) advice that this method is the richest in getting out information from respondents as the researcher can probe further to get deeper meaning to a question. Gorman and Clayton (2005) were of the opinion that in-depth interview allows the participants "to highlight self-perceived issues or relationships of importance … of inestimable value in understanding contexts". This mode of data collection had earlier been used by Dadzie (2007) who investigated information literacy (IL) readiness among two universities in her case study in Ghana. Similarly, Lloyd (2007) and Dorner and Gorman (2011) also used in-depth interviews to elicit information from their participants. The choice was also informed by the academic attainment of the respondents who are enlightened enough to share their opinions in expressions they deem convenient.

Gorman and Clayton (2005) further concludes that "dialogue between researcher and subject allows the interaction to move in new and perhaps unexpected directions, thereby adding both depth and breadth to one's understanding of the issues involved" and to the advantage of the research. With in-depth interview, this researcher was able to use all the four probing techniques- neutral probing, clarification probing, recapitulation, and reflective probing (Given, 2008) to provoke a dialogical interaction that explores the various possible shades in which rich data could be embedded. All the interviews were audio-recorded with a digital recording device and each interview

lasted for an average of 65 minutes. All the participants were interviewed more than once. More details are presented in the table below:

Table 3.2: Date and Duration of In-Depth Interviews

FIRST ROUND INTERVIEW		
Participant	Date/duration	Duration
HTE1	August 2nd ,2013	58 minutes
HEA1	August 5th, 2013	65 minutes
HEL1	August 7th, 2013	55 minutes
HHV2	August 9th, 2013	75 "
HIS1	August 12th, 2013	57 "
HEE2	August 14th, 2013	75 "
HTA2	August 16th, 2013	81.12 "
HBV1	August 19th, 2013	52 "
HCS2	August 21st , 2013	71 "
SECOND ROUND INTERVIEW		
Participant	Date/duration	Duration
HTE1	August 22nd, 2013	86mins
HEE2	August 23rd, 2013	80mins
HIS1	September 25th, 2013	53mins
HCS2	October 23rd, 2013	53mins
HCS2(cont.)	October 30th, 2013	52mins
HEA1	November 13th, 2013	116min
HTA2	November 28th, 2013	64mins
HHV2	November 28th, 2013	68mins
HEL1	December 16th, 2013	66mins
HBV1	December 19th, 2013	42mins
THIRD ROUND INTERVIEW		
HBV1	June 25th,2014	35mins
HEE2	July 3rd , 2014	25mins
HHV2	July 11th,2014	40mins
HCS2	July 17th, 2014	28mins

Table 3.2 above shows details about the in-depth interviews between August 2013 and July 2014. Apart from three participants who chose venues outside their offices, all others preferred the interview to be conducted in their offices. Except for HCS2 and HEE2 who had to stop the interview to attend to an urgent unforeseen administrative responsibility, all other interviews were conducted with minimal interruptions. The transcripts of the interview were typed into MS Excel file, analysed and the findings are reported in chapter four. A detail presentation of the data analysis is done later in this chapter.

3.7.2 Non-participatory unobstructive observation

In addition to the semi structured in-depth interview, the participants were also observed in their regular academic practices in order to further give the researcher the opportunity to gather additional information. Observation as a mode of data collection has an advantage of recording attitude or behaviour that are somewhat hidden yet affecting the participant's behaviour (Jorgensen, 1989). Still giving an explanation of what Observation is really worth, Sparkes and Smith (2014) argue that it is "a rigorous act of perceiving the workings of people, culture and society through one's senses and then documenting these in field notes" (p. 100). Since the research is about the workplace where people carry out routines through 'workings', choosing observation, as a method of data collection for this research, was in the interest of the research. In addition, Creswell (2012) further describes observation as a frequently used form of data collection, with the researcher able to assume different roles in the process. The roles such as participant observer, non-participant observer and changing observational roles are all to assist the researcher gather more resourceful, in-depth and rich data about the phenomena.

In relation to this study, non-participatory un-obstructive observation was used with a switch of role where necessary. Taking the role of a participatory observer would distract members of the environment and may prevent the researcher from making the necessary notes of what was observed. So, the researcher, once in a while had cause to switch research observation role in order to elicit more data by engaging in more reflections. Changing role within the study, according to Jorgensen (1989) was inevitable as the researcher is either an outsider from the inside or an insider from outside. The researcher cannot be totally insensitive or totally committed to the event in the research site. Adequate management of the observer roles, Jorgensen argues,

strengthens the qualitative research. In recommending which role a researcher should adopt, Sparkes and Smith (2014, p. 73) argue that:

> The role adopted [by a researcher] may change over the course of a study as will the kinds of information and ways of knowing that are made available to the researcher. The roles available to the qualitative researcher range along a continuum from complete observer (non-participatory, outsider and passive) to complete participant observer (participatory, insider and active).

Gorman and Clayton (2005) also pointed out that observation, as a mode of data collection, enables the researcher to "uncover patterns of behaviour that both reflect otherwise hidden attitudes or views and unconsciously affect participants" and this would be done better as a non-participatory observer. The workplace environment is about interrelationship of employees as they execute the tasks in the organisation. As a research in a workplace, Moring and Lloyd (2013) argue that such study will "offer researchers the ability to observe and analyse the 'fine details of how people use the resources available to them to accomplish intelligent actions, and how they give those actions sense and meaning" (p. 3).

Observation as a method of data collection also helped this researcher to 'see' what the participants said they do during the interview sessions. It was a method of triangulating the data collected through the in-depth interview. During the interview sessions, the researcher tried to note what could be observed; which could not be defined or interpreted adequately without the opportunity of sighting that is provided by the Observation method. During the observation, field notes were taken minimally in order not to distract the ensuing event. Follow-up questions were fielded, where necessary, to guide the researcher in understanding the event under observation. As much as possible, the researcher relied on his memory for the duration of the observation while field notes were quickly taken immediately the participants and other members in the event-site are out of sight. As much as possible, the position of observation was always strategic enough yet non-distractive; enough to lurk and watch.

The field notes were later developed into transcripts, typed into MS Excel file, analysed and the findings are reported in chapter four. Table 3.3 showing the participants that were observed and the events is presented below:

Table 3.3: Date, Venue, and Duration of Observations

Participant	Event	venue	date	Duration
All participants	Teaching practice workshop	DEP Hall	18th Sept., 2013	The whole event of four hours
HEA1	Workplace environment	Science complex RM 006	21st Nov., 2013	60 mins
HTE1	Class size	NEC theatre	22nd Nov., 2013	60 mins
HCS2	Staff collaboration in Entrepreneurial Skill (ESP) Project review meeting	Lecture RM 105	29th Nov., 2013	Throughout the two-hour event
HTE1	Micro-teaching	SEDU complex RM 210	1st July, 2014	60 mins
HEA1	Participatory assessment	Science complex RM 006	21st July, 2014	60 mins
HIS1	Staff collaboration in Practical session (Hands-on)	Inter-Science Lab.	4th August, 2014	The whole event of three hours (at 90 mins par batch) for two batches.
HEL1	Information retrieval from available print resources	(1)Participant's office and (2) departmental library	7th August, 2014	35 mins
HHV2	Residential Home Management Practicum (RHMP)	'Family House'	25th August, 2014	35 mins
HTA2	Rehearsals	Demonstration Theatre	8th Sept, 2014	60 mins

Table 3.3 above shows the summary of the observation of events; dates, venue and duration. The minimum duration of observation of each event was thirty-five (35) minutes while the longest time was four hours. All the events were observed with the consent of the participants. Field notes were taken and later converted to full notes. The transcripts were analysed and the findings are presented in chapter four.

3.7.3 Interview questions

The interview question guide that was used for the semi-structured in-depth interview has four parts: A, B, C, and D. There are two general questions in section A. This is to prepare the participants before going into more specific questions. The first question was asking for their responsibilities as Head of Department while the second requested for their current on-going research. The two questions were to build rapport and induce a friendly atmosphere for the subsequent questions.

Section B

There are four questions in section B. All the questions are to elicit answers for the first research question of 'what is the perception of academics about information literacy?' There are probes added to the question in order to dig deep and around the participants' perception of information literacy on one hand and to explore their understanding of the workplace environment, on the other. The probes were further refined after the first two interview sessions with the participants. This was because upon the subsequent review of the interview transcripts and after discussing them with the researcher's peer reviewers, it was noted that there was a need to add some probe questions in order to gain more insight into the participants experiences. Given the academic attainment of the participants, the researcher used the term 'information literacy' in the question so that the interview would retain its focus on the phenomenon.

Section C

There are four questions which bother on sources of information and access to such sources. Following the conceptual workplace information model (earlier discussed in Chapter two), the activities of employees at the workplace cannot be taken in isolation of their information sources, artefacts, other colleagues, and the work environment. In the light of this, all the four questions requested for answers for the second research question**: '**How is the information environment constituted for

academics?' For example, one of the questions in this section is 'How do you handle situations where the information you need are not available or too much?' The question was actually intended to know the alternative sources of information of the participants.

Section D

This section has five questions. The questions are meant to provoke thoughts of specific practices which the workplace environment affords the participants. It was expected that four of the questions would provide answers for the third research question; 'How do academics engage in practices that could prepare undergraduates with information literacy skills for the workplace?'The last question was only a wrap-up question but also an opportunity to strengthen the research by benefitting from the experience of the participants. This informed such question such as: 'do you have any piece of advice for me as a researcher? This question came up because the participants are researchers and some of them have many years of experience of teaching 'research methodology'. The refined and final interview guide is presented as Appendix C.

3.7.4 Observational field note

The observation guide for the observation sessions was designed to capture both the description of the event and the researcher's reflection in terms of personal thoughts, hunches, broad ideas and themes; as suggested by Bogdan and Biklen (1998) and Creswell (2012). Even though the researcher had identified the event to observe, the observational field note assisted in recording other ideas that were useful in the event and in subsequent observation and interview sessions. In some events, the researcher asked follow-up questions that elicited more data to clarify some grey areas identified during the observation. The field note has two parts: the part for the basic information about the event, venue, date, time and total duration. The second part has two sections: one for recording the descriptive notes and the other for recording reflective notes. The field note that was used is presented as Appendix D.

3.8 Ethical considerations

The Registrar of the College, after receiving the researcher and listened to explanations about the proposed research in the College, requested for a "letter of trust" to be submitted to the institution to assure him that names of individuals and the name of the College shall not appear anywhere in the final report. The letter was written and submitted the following day (The "letter of trust" is attached as Appendix E). Thereafter, the Registrar insisted to see a copy of the consent form before they are given to those who volunteered to participate in the research. Upon his satisfaction, he asked one of his administrative officers to arrange a meeting with the Chairman, Committee of Heads of Departments. At the meeting, the researcher explained in detail about the proposed research and the roles of: the researcher, the College and Heads of Departments. At the end of the meeting, the researcher was invited to a meeting of all Heads of Department at which to address all the Heads of Departments. On the scheduled date, the researcher joined in the second session of the meeting of the Committee of Heads of Department where nine (9) Heads of Department volunteered, signed and returned the consent form; indicating their participation in the research. The detail about the meeting was earlier presented in this chapter.

3.9 Method of data analysis

The audio-recorded interview raw data were transcribed verbatim into Excel file and later into MS Word file. With the digital audio recording device, each word could be separated by adjusting the output speed lever (DPC speed control) in such a way to pick on specific word even if the speaker is a fast speaker or stammers. Following the hindsight given by Miles and Huberman (1994) that data analysis should start early and concurrently with data collection, the researcher ensured that each interview session was reviewed, read at least three times and eventually transcribed into an Excel file where it was possible to create fields for: event, venue, date, and time. One advantage of this strategy was that it gave this researcher the opportunity to know the aspects of the

responses that were evasive or merely 'looking the other way'; given the academic attainment of the participants.

After reviewing such interview transcripts, the subsequent participant would not be able to evade the direct answer because possible follow-up questions were already prepared to elicit more rich data to answer the research question under focus. As the researcher was reading the transcripts, he was making "marginal remarks" (Miles & Huberman, 1994, p. 67) of leads, tentative interpretations, connections with previous data, and at times any idea that would be explored in the next or subsequent interviews. The interview followed this form until completion. Looking up the transcripts in the Excel file, as recommended by Meyer and Avery (2009), gave the researcher an easier approach to identify the codes that have naturally formed on the margins. It was easy to identify a long list already created. Although the researcher had to switch to MS Word file document as it determines the end of a line automatically and enters the next line; unlike in MS Excel where you have to determine that.

The interview took three rounds. The first round was for all the participants, the second was for clarification and detail data on what was discussed earlier and the third was for specific participants whom the researcher felt may possibly give any new data. So, after the completion of the first round, each line of transcripts was perused for a code that draws attention to the research questions. This time, any code could be related to any of the research question. It could also spring up something new. So, the researcher was all out line-by-line to see how best to get data in such respect. In what Yin (2011) describes as data fragmentation, the codes were later gathered and sorted broadly into likes (L), not-similar (NS), and totally strange (TS). The 'likes' were the initial codes that reflect closeness to research questions while the 'not similar' codes were those that were not about the research questions but may provoke a direction for subsequent interviews. The 'totally strange' codes were codes that were not driven by

the research questions because the participants digress entirely into 'irrelevant topics' before the researcher could bring them back on track. The meaning of each code is put close to it in order not to muddle it up with any other similar code or lose its context. This was for the purpose of the second round of interview and observation. Observation as a method was not used at all in the first round. As at the time the researcher was going for the second round of data collection, there was already a broad intellectual 'bins' to put the new data; the incoming data would either be 'likes', 'not similar' or 'totally strange'.

The second stage of data analysis continued when all the data from interviews and observations had been transcribed. Relying on the strategy explained by Strauss and Corbin (1990) to inductively allow an emergent theory from the data, it was discovered that since the researcher started with the practice theory of 'fit' as the theoretical lens, the participants were understood as employees who possess knowledge and have the capability to share such knowledge. As such, the data did not induce a new theory because of the overarching 'fit theory' which may possibly have 'blind-folded' the researcher. In response to this development therefore, the suggestion of Sparkes and Smith (2014) about hierarchical data analysis was adopted. The broad categories earlier discussed were re-categorised and labelled by constantly comparing the codes to see which code is similar that needed to be refined, merged or re-evaluated. The following steps were used as recommended by Sparkes and Smith (2014, p. 118):

Immersion

The researcher transcribed the raw data after listening to the audio recording. Thereafter, he read them for at least three times in order to get immersed and familiar with the data. While listening or writing, it refreshes the field experience and increases the recall rate of the event. This stage made the researcher familiar and closer to the data.

Search for, identify and label theme in each case

The researcher later engaged in line-by-line coding described as 'open coding' by Charmaz (2006). Although this study did not use Grounded Theory approach, the 'open-coding' provided a wide range of codes for consideration for interpretation and pattern development. This coding strategy and its subsequent marginal remarks made it easy to identify labels and themes in the case; even though the researcher did not use Grounded theory approach. All the codes were later put together for comparison even though the constant comparison had started during data collection; as data analysis started from data collection.

Connecting and ordering themes

At this stage, the themes were pooled together and re-broken into meaningful categories which connect together in some way. This stage resulted to cluster of themes and the themes were classified into meaningful themes that are more general in outlook. A title to identify the contents of the theme or detail meanings in the theme was created. The researcher ensured that the final title was representative enough.

Cross-checking

During the cross-checking stage, the researcher went through the process again to see if some new idea could come up in the data, but none. The researcher wanted to be sure that everything was correct because he suspected it could be difficult for him to see anything wrong or new again in the first three stages because he has been with the data all along. The researcher could have been too immersed to see anything wrong or new again. So, in order to have an effective cross-checking process, the researcher scheduled a meeting with his peer reviewers, on different occasions, to go through the processes so far and cross-check. Upon completion, they made corrections and they agreed on most of the labels and on the process culminating to the stages. Some of their

suggestions were effected while the researcher had to convince the reviewers why he preferred to retain some categories and themes; as they were.

Confirmation

This aspect of the exercise was done by the peer reviewers as suggested by Sparkes and Smith (2014) that those who did not participate in data collection should help confirm the analysis processes. The cross-checking process was done by the researcher while the peers confirm the process so far. 'Confirmation' according to Sparkes and Smith (2014) is a strategy to ensure rigour of the inquiry. They relied on the documentation (memoing) made by the researcher to ascertain that the process was transparent and repeatable. They re-coded randomly and compare the codes with what the researcher already had. Upon completion, some slight variations in 'labels' not in content were observed. These were discussed and aligned.

Produce a table identifying themes

The last step is to produce a table. The table of the emergent themes is attached as Appendix F while one of the themes (Conceptions of information literacy) and its cluster are presented below as Figure 3.2. Further discussion of some of the findings is presented in chapter five; according to the emergent themes.

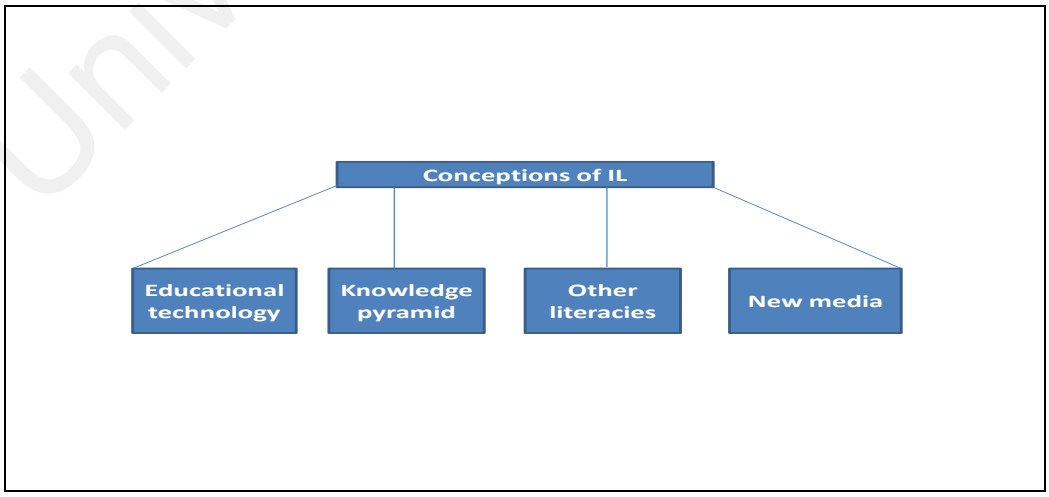

Figure 3.2: Emergent Theme and Clusters.

3.10 Trustworthiness

The researcher considered the need to convey trust in the research process which has been addressed by several experts (Miles & Huberman, 1994, Merriam, 2001, Gorman & Clayton, 2005, Charmaz, 2006, Yin, 2011) as a critical factor in establishing the findings in a qualitative research. While Eisner (1991) suggests that a qualitative researcher should have the 'enlightened eye' to observe details in a prolonged engagement in the field of qualitative research, Marshall and Rossman (2006) recommended that trustworthiness could be achieved through the following ways: Prolonged engagement, Member checks, Triangulation, Data collection method, and Peer debriefing. However, there seem to be a consensus among the experts that trustworthiness in a qualitative research may be assessed on the basis of four elements: credibility, transferability, dependability, and confirmability. In view of this seemingly consensus of opinion and in relation to this research, trustworthiness was achieved as presented in figure 3.3 below:

STRATEGIES USED TO ACHIEVE TRUSTWORTHINESS	
1. **CREDIBILITY** *Prolonged engagement *Member checking *Peer review *Reflexivity	**2.** **TRANSFERABILITY** *Tick description of events *Memoing
3. **DEPENDABILITY** *****Preliminary study *External audit *Peer review *Detail description *Reflexivity	**4.** **CONFIRMABILITY** *External audit *Peer review *Reflexivity *****Triangulation

Figure 3.3: Strategies used to achieve trustworthiness

Figure 3.3 above shows the summary of the strategies which were used in this research to achieve trustworthiness. All the strategies are explained in the next section:

3.10.1 Prolonged engagement

The data collection for the research started in August 2013 but the researcher had already commenced the preliminary study in July, 2013. These early days provided a rapport and friendly atmosphere for the subsequent months ahead for data collection. It is important to note that the researcher benefitted from the fraternity he has with the research site. This advantage was responsible for the not-too-difficult access to the research site. However, a lot of additional friendship-cultivation had to be done for the purpose of the research because the participants and researcher are in different departments and may not come in contact; if not for the purposes of the research. In fact, with such background of affinity, the researcher thought that the data collection would take about twelve (12) weeks but it turned out to be far more than that.

The initial round of data collection left so many sentences hanging; so many stories that did not lead to answering the research questions and a host of such digressions. This was because the researcher is a novice. Also, he was contemplating not to 'hurt' the participants; hence gave them a field day of free and unending discussion**.** This made them free, friendly and eventually created more rapport. However, all these gaps were noticed after the first two interviews. When the researcher returned for further interviews, the statements were apt and focused on answering the research questions. At this time, the researcher had gained the stamina and confidence to effectively use all the probe strategies, employ follow-up questions and interjecting prompts. There were times when the researcher was not collecting data on site but would be spending such time in analysing the collected data in order to maximise the next visit for interview or observation.

On some occasions, the research had brought the researcher closer to some people (apart from the participants) whom were 'distant' employees who do not have reasons to come together. It also 'forced' the researcher to sustain a social and informal rapport which the research had established because the researcher knew he could not afford not to; as data collection has not ended. So, the researcher maintained the usual phone calls to say 'hi', send SMS on the first day of the month which is a social 'trend' in the campus environment. Also, at times the researcher has to wave from a distance to greet them. Later on in the data collection stage, some of them came-by to ask how far the researcher was doing with the research and even shared their experiences. This show of concern in the research really gave the researcher courage and satisfaction that the participants have trust in him, were friendly and ready to provide more data for the research. So, the researcher needed to sustain this rapport and friendliness already created by the research.

To conclude this section, the data collection continued until when the researcher observed that the responses were becoming repetitive and monotonous owing to data saturation. Then the data collection was terminated in September, 2014. For a research enterprise that involved a data collection from August 2013 through September 2014, prolonged engagement, as described by Jennings (2010), is a way to show that the researcher could have seen, observed and heard enough to establish the credibility of the findings in the research. This was how this researcher used prolonged engagement to achieve trustworthiness, albeit credibility.

3.10.2 Member checking

The participants were carried along in the processes involved in the research. The researcher ensured that the interview transcripts were ready the following day and taken to the interviewee for discussion in order to ascertain if the transcripts were a true reflection of the interview that was held. Apart from this, the discussion was also to

seek the opinion of the participant on the meaning that the researcher gave to each code and to confirm if such codes interpret the intent of the participant's statements. There was an occasion when the researcher took the transcripts to the participant. The participant said she was busy and would attend to it, make her comments, and phone the researcher to come and pick it up. The researcher waited the whole day but there was no response. So, the researcher sent SMS to her and she replied by inviting the researcher over to her office. There in her office, she apologised for not going through because she had been very busy.

The researcher had to wait for hours before she could go through it; she made few comments especially about her language mannerisms and asked questions about some codes. Eventually, the researcher and the participant concluded the discussion that lasted for about forty minutes. In view of the academic attainment of the participants, some of them actually requested to see the end product of the data analysis; a request which the researcher obliged. However, there was an incident when the 'member' (participant) imposed his wish that he preferred to listen to the audio recording and because, according to him, he did not have the time to read the interview transcripts. It was difficult to convince him otherwise because he said he usually listens to transcripts of interviews he had conducted; even with media or newspaper outfits. Giving him the entire recording device was not a good option because he could identify other participants' voices and even gain knowledge of their discussion. Again, the researcher did not want to do anything that would make any of the participants withdraw; at least he should manage the situation to avoid it, where possible. Eventually, the researcher copied the file from the device onto another audio file in a laptop and took the laptop to his office where the participant and the researcher both listened. He made quite useful comments; though for future research. The researcher had to carry the laptop to his office because he did not want to share the audio file through any of the mobile network

(like WhatsApp) as it could expose it to a third party. To a large extent, the members participated in the research thus achieving credibility of the process.

3.10.3 Peer review

Peer review are colleagues who are not involved in the research but understand the methodology of conducting research and could do a critique of the process and results of the research in a way to further strengthen the research (Creswell, 2012). Further to the invaluable role that peers could play in the life of a research, two peers were 'appointed' for this research. They were debriefed before and after data collection. Both of them understand the geographical context of the research site and they were both PhD students of International Islamic University, Malaysia and University of Malaya; respectively. Both peers graduated during the recent 2014 convocation ceremonies of their respective universities. At different occasions, they made contributions that helped in putting the research in focus. Both of them have been part of this research from when the research questions were drawn and their reviews had been quite nourishing to the research. Before data collection, there was a time the researcher scheduled a meeting with one of them to discuss the approach taken being a workplace research that would involve peoples' activities. The feedback the researcher got was that the questions should be made open enough to induce the participants into talking freely; especially when they are highly educated people.

The suggestions really worked when the researcher got to the field for data collection. Sometimes, the researcher became confused when he needed to vividly present the characteristics of the research participants and yet maintain their anonymity which he promised. It was one of these peers who suggested the caveat that was introduced. For the time being, it sharpened up the description and made the study richer. Also, at a point during the data analysis, the researcher had to schedule a meeting with one of them twice on the same day in order to take a second look at the process

because the researcher could not leave the knotty aspect to wait till 'later'. When data collection and data analysis were completed, the two peers were debriefed while the reporting commenced.

3.10.4 External Audits

Yin (2011) in his 'Qualitative research: start to finish' describes how external auditors could help achieve confirmability in qualitative research. Yin's description actually prepared the researcher ahead to approach two lecturers who agreed to be the external auditors for this research: (1) An Associate Professor in the department of Human Kinetics and Health Education, Faculty of Education, University of Lagos, Nigeria. He teaches research methodology and has been involved in USAID-sponsored Projects where qualitative methods of data collection were used. Apart from teaching and research, he currently facilitates seminars and workshops on research methodology in and outside of his university campus. Before data collection, the researcher scheduled a meeting with him to go through the research questions and methods of data collection. Initially, the researcher was thinking of conducting focus group discussion (FGD) to explore the general perception of the participants as a group; apart from what they would have discussed during the interview. It was at one of such meetings with the external auditor that he suggested 'observation' instead of focus group discussion (FGD).

Being a workplace research that would involve people in actions, then 'observing' such activities would yield more rich data for the research and that academics may be too busy to gather into a focus group discussion (FGD) schedules. Going by this suggestion, the researcher tried out the method of data collection and it has been quite resourceful. During data analysis, the researcher also consulted with him to go through the process and samples to ascertain whether the process has been transparent enough. One of his suggestions was to separate the themes in 'information

infrastructure' and 'internet access' though he left the decision with the researcher. On a second look at his suggestion, the researcher was of the opinion that 'internet access' is just a sub-theme of information infrastructure and could be left together under the main theme for coherence.

The second lecturer who agreed to be the external auditor for this research is a senior lecturer in the department of Computer Science at the Lagos State University, Lagos, Nigeria. The researcher consulted with this lecturer for most part of the research. He also went through the specific questions on the interview guide to match them against the research questions. On one of our meetings, he expressed satisfaction that the process has been transparent as he had earlier advised that the researcher should keep and update his memo regularly. The Memoing eventually became a source through which the auditors could follow the researcher's decisions on some steps. For example, the research questions and the mode of data collection that would elicit a particular response were discussed with this external auditor before starting the data collection. That way, he suggested that the researcher should try and match the information environment with the expected task before going to observe a particular practice. At the research site, this contribution was actually an asset. Eventually, after data collection and analysis, the researcher scheduled an appointment with him again to see the samples of the analysed data and peruse the process of arriving at that point.

Comparing the comments, suggestions and opinions of the two external auditors, at different occasions, the researcher could conclude that they agreed on most issues. There were times when there were little differences and after answering the queries which they posed, they usually felt convinced of the researcher's choice of decisions. The researcher always looked forward to having feedback sections with them. Their contributions were of great value to the researcher especially being a novice in qualitative research for academic purposes.

3.10.5 Reflexivity

The academic background, professional experience, and 'self' of a qualitative researcher may make or mar the process of conducting a rigorous, transparent and credible research Pickard (2007). Pickard argues that the personality of the researcher could be a source of bias and suggested that reflexivity could help manage such personality to the advantage of the research. Agreeing that reflexivity is a veritable too to achieve trustworthiness in qualitative research, Bloor and Wood (2006) describes reflexivity as the researcher's awareness of himself in the process of his research and his role in constructing that process. A declaration of the personality and role of the researcher is therefore what is intended by reflexivity (Gilgun, 2005). Here, this researcher explained how he used reflexivity in the next sections by following Gilgun's recommendation that reflexivity should address three main points:

(a). The topic of research and the researcher's personal and professional preference;
(b). The researcher's perspective and experience with participants in the research; and
(c). The audience of the research

3.10.5.1 The topic of research and the researcher's personal and professional preference

Studies in HIV and AIDS -basal and longitudinal- usually involve the need to maintain high sense of confidentiality and anonymity for the participants in the research. This is to avoid any form of stigmatisation that any of the participants may suffer on the account of their participation. This researcher had been participating in such studies since 2002. Most researches on HIV and AIDS are sponsored by International Donor Agencies (IDA) such as USAID which always laid so much emphasis on pre-research training workshops. At such workshops, case studies of People Living With HIV and AIDS (PLWHA) are treated and how to communicate and respect their conditions.

This researcher had attended, at least one of such workshops, every year since 2002; unknown to him that he would ever undertake a graduate study where this experience would be useful. In 2012 when the researcher registered for this graduate study, he had a decade of experience in qualitative research. Being a volunteer in HIV and AIDS Counselling and Care-giver did not interfere in his responsibilities as a professional librarian in a College of Education. A College with young ladies and gentlemen is supposedly a beehive of activities and behaviours that exhibit youthful exuberances. Such activities necessitated the need for HIVAIDS Club to sensitise students on 'high-risk behaviours' and how to avoid such. Another donor agency sponsored the training workshops for Voluntary Counselling and Testing (VTC) which is a pre-condition for testing for HIV status. As a Counsellor therefore, it is not difficult to maintain confidentiality and manage cases of students who are living with HIV or AIDS as the researcher ensured there is nothing in the library that could stigmatise them; especially when experience has shown that they withdraw from people who do not know their HIV-status and get closer to those who know their status.

In 2012, this researcher eventually decided to undertake a PhD programme. As a professional librarian, the thought of topics in areas of USER EDUCATION OR COLLECTION DEVELOPMENT came to mind but the early readings and scholarly panorama showed that research in this direction may not be something that would be of interest again. This was because outside Nigeria, here at the University of Malaya, the researcher has been opportune to use a library that provides access to one hundred and ten (110) online databases, ninety thousand (90, 000) e-books, and a conducive library environment that opens for fourteen hours in a day (8am- 10pm).

These resources encouraged the researcher to read broader and think wider thus arriving at the conclusion to do something different from what he had known; user education. So, the researcher left what he had known about user education and collection development and decided to choose something new and more interesting. While he was doing the preliminary reading, the researcher also experienced a sharp difference between academic scholarship here in Malaysia where adequate resources are available and where he was coming from where scholarship is not quite a convenient task. Also, another area of interest that was prominent in the LIS literature is INFORMATION LITERACY (IL). This was how he read further about this wide area of the LIS domain and also discovered that the literature was more from: how to teach information literacy; how, why or why not should IL be incorporated across the curriculum of schools, and how best to assess information literacy. However, the researcher observed that there was very little literature on workplace information literacy even when some experts have challenged researchers and colleagues to undertake research in workplace information literacy. Asking, consulting and reading further, the feedback the researcher got was that venturing into the workplace, especially in this early stage of workplace IL that is just emerging, would require an explorative qualitative research approach to identify and explore what goes on in the workplace that are not yet adequately documented in the literature.

With his little background in qualitative research, the researcher thought that the hiccups he would likely encounter in the research would not be too much to surmount; although he knew they would be challenging. Also, the preliminary readings suggest that more professional librarians use their colleagues (librarians) as participants in IL studies. As the researcher was venturing into a new area of interest, he decided to consider the academics as stakeholders in information literacy. With this background,

the researcher chose: INFORMATION LITERACY IN THE WORKPLACE: PERCEPTIONS AND PRACTICES IN ACADEMIA.

3.10.5.2 Researcher perspective and experience with participants in the research

The workplace is about employees and the tasks they execute. In executing their routines, some employees would be novice, some will possess more experience, and yet there would be some with very long years of experience. This experience is tacit knowledge with explicit knowledge. It was from this perspective that this researcher inferred that the employee has knowledge of what to do, how to do it, and with what to do it. The employee is central to the activities in the workplace. This researcher did not agree that it is possible to have a Senior lecturer in a university who has no knowledge of her area of interest. Also, the researcher argues that it may not be logical to think that there is a painter in the workplace who is paid his monthly salary because he did not have the knowledge to paint. Given this perspective, and taking up a research in the workplace, the researcher sought a practice theory for the study. Eventually, the researcher identified a practice theory- fit theory- which represented his perspective and theoretical lens. This theory positioned the employee, in this case the academics, as people in the know; they have knowledge of what to do and how to do it.

This researcher, as earlier mentioned, works on the same campus with the participants but do not share any specific social interaction. They were in two different worlds; a librarian and a lecturer. However, they both acknowledge that they are all employees even though they have different routines and tasks to assist the same organisation achieve her set goals. When they both have official reasons to interact, they acknowledge the offices of the individuals and treat issues not personalities. With this experience as employees of the same institution, it gave this researcher an opportunity of a seemingly easy access to the employees who eventually became the research participants. During the research, the researcher identified his role as a research student

and put-on the toga of a researcher and played down on the elements of friendship that he has with a few of them.

3.10.5.3 The audience of the research

The audience of this research is the academic world that is governed by strict compliance to methodological rules of conducting empirical research and scholarly communication. The academic world demands that a panel assess and accept the report as a contribution to knowledge in the domain of LIS. Given this audience therefore, this researcher ensured that the process was transparent. He consulted with scholars in the field of research methodology and exposed the report to a peer review at various stages of the research. This researcher did not over assume or take details for granted by providing sketchy overviews. Rather, the researcher engaged thick description of the processes and events to ensure transferability. He also maintained a Memoing style that was easily updated when a new decision or action was taken. In preparing for the research and in addition to his previous experience, the researcher attended series of trainings and workshops to prepare him for the rigour of qualitative research. Such additional exposure was necessitated by the requirements of the academic community to which the research report would be submitted. Table 3.4 showing some of the workshops he attended is presented below as 'Researcher's exposure and training':

Table 3.4: Researcher's Exposure and Training

Trainings and workshops that prepared the researcher ahead for qualitative research						
Event	**Speaker**	**Venue**	**Date**	**Organisers**	**Focus**	**As…**
Effective Communication with PLWHA	Prof. L. O. Shoyombo. University of Lagos (Unilag).	Students' Centre, Unilag, Nigeria.	18th March, 2012.	NIBUCAA	Listening & observation	Participant
Base-line Data collection in five states in South-West, Nigeria on Early Childhood Education in Nigeria	Team-Leader was Ass. Prof. E.A. Haastrup	Oshogbo, Osun state, Nigeria.	7th January, 2013.	Society for Early Childhood (SEC).	Qualitative data collection	Interviewer and enumerator.
Grounded theory and Analysis.	Dr Roger Barnard The University of Waikato, New Zealand.	Dewan Arif, Faculty of Education, University of Malaya.	10th April, 2013.	Faculty of Education, UM	Conducting qualitative research.	Participant.
Qualitative research in Education	Prof. Rosemary Caffarella, Connell University.	Bilik Cemerlang, Faculty of Education, UM	2nd May, 2013.	Faculty of Education, UM	Steps in qualitative research	participant
Conducting High Impact Qualitative research using Nvivo 10	Ms. Megan Anderson	Conference Hall, IPS, UM.	8th May, 2013.	IPS, UM	Conducting Data analysis with Nvivo 10	Participant.
Training Workshop on Nvivo 10	Group of speakers	Faculty of Science, UM	6-7 July, 2013.	Global Illuminators.	Analysis of data with Nvivo 10	Participant.
Mastering Academic Writing.	Group of speakers	Seminar Room A & B, IPS, UM.	27-28, Sept., 2014.	Communication and Cultural Innovation and Support, UM.	Mastering academic writing	Participant.

The table 3.4 above shows that the researcher has been attending series of workshops since May, 2012 through September, 2014. While the focus of one of the workshops was 'listening and observation', the focuses of others were on qualitative research. In January 2013, he was an interviewer and enumerator at one of the Projects while he was a participant in most of the others. The table further underscores the preparedness of the researcher as a 'data collection tool' for the qualitative study.

3.10.6 Triangulation, Memoing, preliminary study, and detail-thick description.

In relation to the contents in Figure 3.1 which summarised the strategies used in achieving trustworthiness for this research, there is need to discuss: triangulation, Memoing, preliminary study, and detail/thick description as they were used in the research. A preliminary study was conducted to give insight into what the actual and main research was likely to be. It was during the preliminary study that the researcher concluded that the Deans of Schools, Directors or Provost of the institution may not be favourably disposed to participating in the research since none of them returned the letters of request that was sent to them. The preliminary study was earlier explained in detail in this chapter.

Memoing was the systematic record keeping for the purpose of: when, why and what decision was taken. It acted as the tract record throughout the research. At times, this researcher was writing on pieces of bus docket or mart receipts when there was need to document what to be done later. The pieces were later transferred onto the main booklet that was used for the purpose. At times the researcher was keeping records on his mobile phone and stored as draft SMS especially when he was out of coverage of internet connectivity to upload to his Dropbox.

Triangulation was achieved by interviewing not only one participant but several and on several occasions. As the interview sessions continued, the data analysis was on-going concurrently. The advantage of this concurrent strategy was that the researcher was able to constantly compare what one participant said with what another said in order to identify gaps, a new idea or a lead to pursue during his next visit to another participant. Triangulation was also achieved by using two methods of data collection. The researcher was able to observe the participants to see if what they said during the interview actually existed in reality. The workplace is a world of several realities and the multiple interviews and observation sessions were approaches to triangulate the data sets. Lastly,

the whole stages of the research: choosing the topic, designing the research objectives and questions, data collection and data analysis were all explained with some degree of optimum detail by presenting them in thick descriptions. The thick description of the setting, participants and processes were to assist transferability and replication of the study in other similar settings.

As a novice researcher, this researcher was cautious of every element that could awaken the sentiments in the research site. He was mindful of the fact that he would return to the Campus after the research but must also provide details that would strengthen the research enough to withstand any scholarly scrutiny that is expected in the academic world. The researcher tried to manage and balance all these elements throughout the research. In the humble opinion of this researcher therefore, the decisions, processes and products of this research satisfy the test for trustworthiness.

3.11 Summary of the chapter

This chapter explained the research design, methods of data collection, process of data analysis and the strategies of ensuring trustworthiness of the research. The chapter further explained that the researcher provided descriptions of the processes from the choice of topic by stating the background to the study, and then went to discuss the formulation of research questions, the profile of the participants in the research, and evidences of workshops and trainings that the researcher attended in preparing to undertake the research.

CHAPTER 4: RESULTS

4.1 Introduction

The research site and justifications for selecting it are presented in this chapter. A descriptive analysis of the participants' is done to display the personality profile of the participants. To put the research questions (RQs) in perspective, the chapter presents the findings of the analysis of the perceptions and practices of the participants. The language and reporting style is made lucid and corroborative from the participants' verbatim statements.

4.2 Description of the research setting

This College was chosen for its strategic location in Lagos; a coastal, commercial centre, highly populated, former capital of Nigeria, and accessible through land, sea and air. The Lagos State Government (LASG) owns and funds the College. The State has been peaceful since it was created in 1967 and this has informed its steady economic growth and attraction to international conglomerates. Lagos is the 'eye of the nation' and a strategic mirror to view the Nigerian nation. The researcher stays in Lagos and is quite familiar with the terrain and officialdom of the institution in order to facilitate easy access to research participants.

The College was established in 1958 as Advance Teachers College (ATC) responsible for the training of teachers for lower primary schools. The College has since metamorphosed into a degree awarding institution charged with the production of middle-level manpower for the education system in the State in particular and Nigeria in general. There are five Schools (faculties) in the College: Arts and Social Sciences (SASS), Vocational and Technical Education (SVTE), Sciences (SOS), Education (SEDU) and Languages (SLAN). The College operates a central library system; no

branch libraries but the academic departments have dedicated shelves of information resources. The College library is not far away from the ICT Centre and Health Centre.

There are about fifteen thousand (15,000) students in the regular programmes leading to the award of Nigeria Certificate in Education (NCE) and there are about nine thousand (9,000) students in the part-time programme leading to the award of NCE. The College runs a three-year programme for the NCE (regular) and four years for the same certificate (NCE) in the part-time programme. The supervising and regulatory agency, the National Commission for Colleges of Education (NCCE), regulates and conducts regular accreditation exercises to ensure Colleges and courses conform to best practices. There are thirty-six (36) academic departments and two hundred and ninety-seven (297) academics in the College.

4.3 Description of the research participants

The mode of selecting the research participants was purposive owing to the possibilities of sharing more experiences in rich data by virtue of their added responsibilities as Heads of Departments. More detail was earlier given in chapter three. However, attention is drawn to the caveat below to further exonerate, protect and ensure the anonymity of the participants.

Please, take note That if the descriptions of the following persons here resemble or tally with some persons in any known environment or community it is a mere coincidence.

The description of the participants in the research is here presented:

The participants are coded to ensure their anonymity. There are four characters in the Alphanumeric code names; First alphabet is constant as ‘H’ signifying the participant as Head of Department. The second alphabet signifies the Department while the third alphabet signifies the School (Faculty). The last Arabic numeral identifies the number of the participant from the same School (Faculty). In essence, HEA1 means,

Head of Department of Economics in the School (Faculty) of Arts. There are two HoDs from the School of Arts but this participant is coded '1' as an identity. Put together again, the code name is HEA1. All other participants were coded by following this naming scheme.

HEA1

HEA1 joined the College as Assistant lecturer in 1993 and he is now forty-eight years old. He has been the Students' Staff Advisor for two tenures (1996-1998 and 2008- 2010). As the current Head of Department of Economics, he has been one of the Coordinators in the department's drive in Entrepreneurial Education. His position, as Head of Department, confers on him the membership of the Academic Board; the highest decision making organ on academic affairs. As Head, he is the manager of human and material resources of the department. He represented the College at the Applied Scholastics (International) Resource Development Programme in New York in 2010 and has since been appointed as the Country Advisor. Applied Scholastics (Nigeria) has been facilitating workshops on 'Learning how to learn' to staff and students on campus since 2010. Apart from teaching Economics, HEA1 is an active member of academic and professional associations. He is also one of the founders of Clean Environment Initiatives (CEI); a non-governmental organisation interested in youth development by converting 'waste to wealth'. Since 2011, he has been the team leader for the training of Secondary school teachers for improved quality teaching in Lagos state under the training programmes of Applied Scholastics (Nigeria). HEA1 has two Master degrees: one in Economics and the other in Transportation and Urban Development. He is currently pursuing a doctoral programme in one of the universities in the country.

HIS1

HIS1 combines her responsibilities of Head of Department of Integrated Science with that of the Staff Advisor for the School of Science. She holds a Master degree in Integrated Science and currently on her doctoral programme in one of the Nigerian universities. She joined the College in 2001 and was forty-one years old at her last birthday in 2014. She has attended and presented papers at several conferences and workshops organised by her academic and professional associations. Her position as Head of Department confers on her the membership of the Academic Board; the highest decision making body in the College on academic matters. As Head, she is the manager of human and material resources of the department. In 2007, she won 'The Most Valuable Academic Staff' Award, thus qualifying for an International scholarship in Integrated Science. Since her return, she has represented the College at local and International academic and professional programmes. With locally sourced materials, HIS1 has motivated and coordinated staff and students in the department to fabricate instructional resources to facilitate learning.

HTE1

HTE1 holds two master degrees: one in Chemistry and the other in Curriculum Studies. He completed his PhD in 2008 in Australia. In 2011 he was appointed the Coordinator of Academic Programmes for the Collaboration Programmes between the College and other Universities. HTE1 is a member of Science Teachers Association in Nigeria (STAN) and also an active member of the Council for Curriculum Development in Nigeria (COCUDEN). As the current Coordinator of Centre for Education technology in the College, HTE1 facilitates workshops for staff and students on technology use in Education. As Head, he is the manager of human and material resources of the department. He has published books on topical issues like: Best practices in Teacher Education, Theory and Practice in Education and a host of others.

He joined the College as Assistant lecturer at the age of twenty-five and has served in the College for twenty-two years. He has served in several positions such as: Staff Advisor to the students, College representative at the Ministry of Education, Member of the Ethics Committee of the Academic Staff Union, Member, Board of Assessors for Teaching Practice Programme (TPP), among others. As the Head of Department (HoD), HTE1 also doubles as the Chairman, Committee on Accreditation and Standards; a position that confers on him the membership of Top Management Committee (TMC) of the College. He has attended and presented papers at many local and international conferences and workshops.

HCS2

She is a member of the Quality Assurance Committee of the College, a responsibility she handles with her position as Head of Department of Chemistry. With her first and second degrees in Chemistry, she completed her PhD programme in Australia in 2012. She motivated staff and colleagues in the department to design the Entrepreneurial Skill Development Programme in the department; which was not in the curriculum but was discovered to be necessary for the students. HCS2 has travelled widely and published books in Chemistry. As Head, she is the manager of human and material resources of the department. She has attended local and international conferences where she presented papers. She has passion for tailoring students' classroom experiences to meet societal needs. She is one of the founders of 'Students and Friends'; a socio-religious club that canvases neighbourliness and youth empowerment. She is now forty-six years old and has been with the College since 1999. HCS2 has served in various capacities: Member, Disciplinary Committee, Chairman, School of Science Publication Committee, among others. By virtue of her position as Head of Department, she is also a member of the Academic Board; the highest decision making organ on academic matters.

HTA2

HTA2 joined the College in 1999 as Assistant lecturer after a career in journalism in one of the foremost media outfits in the country. He is a prolific writer, a public-speaking trainer and moderator in media programmes in Nigeria. He has won laurels for contributing immensely to the College community and the State. As Head, he is the manager of human and material resources of the department. He has a Master degree and currently on his PhD programme. Since the past fifteen years that he has been with the College, he has attended many local conferences and some in the UK. Apart from being the School Advisor, he has been a member of the Students' Career Development Committee, a committee that was established to prepare and nurture students into prospective careers. Being the School Advisor, he enjoys the Counseling bit of his role thus he is usually among students as if they are peers. He represented the College at the National Youth Development programme that was facilitated by the Federal Government in developing skills necessary for the workplace. Also, HTA2 is a member of the Academic Board, member of the Ethics Committee, Coordinator of the Young Writers Club (YWC), and Chairman, Committee on Staff Discipline and Award.

HEE2

HEE2 has been a facilitator for UNESCO programmes on the maintenance of best practices in Early Childhood Care delivery services. He has also been an award winner in the 'Early Childhood Care Education Campaign' of the Federal Government in conjunction with Unicef. He is a consultant for the USAID-funded projects on Early Childhood care in Nigeria. His contributions were instrumental to the introduction of Early Childhood Education into the curriculum of Colleges of Education in Nigeria. As Head, he is the manager of human and material resources of the department. HEE2 is the Chairman, Committee of Heads of Departments, member of many other Committees in the College, and member of Counselling Association of Nigeria (CAN). He has two

master degrees: one in Curriculum studies and the other in Early Childhood Education. His PhD is also in Early Childhood Education. He joined the College in 1991 as Assistant lecturer at the age of twenty-seven. HEE2 has travelled widely and published many books on education and teaching practice. He has attended and presented papers at local and international conferences and workshops. He is the Co-Founder of Child Today Project (CTP), a non-governmental organisation campaigning for attention and support for compulsory and adequate care for every child.

HEL1

HEL1 joined the College in 1998 as Assistant lecturer and celebrated his forty-seventh birthday this year; 2014. He holds a Master degree in English Literature and currently pursuing his doctoral programme in one of the Nigerian universities. As Head, he is the manager of human and material resources in the department. He has attended and presented papers at local and international conferences and workshops. He was appointed the Coordinator of Humanities and Language studies in the Degree awarding programme that the College is running in affiliation with another university. He has published widely in local and international journals. He represented the College at the 'Bring Back the Book' programme of the Federal Government which was intended to re-awaken the reading culture in the Nigerian citizenry. HEL1 was among the academics that were trained in the UK by the Havering College, UK as the arrow-heads to facilitate a Trainer of Trainer (TOT) approach aimed at improving quality teaching in the Education sector in the State. Havering College and the College eventually established a Partnership programme and HEL1 was made the Coordinator of the Project. HEL1 has taken his students to local communities in the West African sub-region that share similar historical and socio-cultural affinities with Nigeria. In most of his writings and publications, HEL1 has eulogised the invaluable candour embedded in the African culture.

HBV1

He is the Chairman of the Landscape Development Committee; a committee charged with the responsibility of ensuring that building constructions conform to the Master Plan of the College. He has been in the services of the College since twelve years ago and turned forty-nine at his last birthday in 2014. He has a Bachelor and Master degrees from the same university. As Head, he is the manager of human and material resources of the department. HBV1 coordinates the activities of students' associations and reports directly to College Management. In 2009, though not the Head of Department, he was among those who represented the College at the International Trade Fair on Construction and Materials. HBV1 has attended and presented papers at local and international conferences convened by the academic and professional associations he belonged. He is a member of many committees in the College such as: Students' Welfare and Disciplinary Committee, Ceremonies Committee, among others.

HHV2

Nutrition and Healthy Living Education has been her area of interest and she has pursued this at academic and social endeavours. She is a member of Intervention and Lobby groups campaigning for improved living conditions and sustainable employment through cottage industries in local communities. HHV2 holds a PhD and has been a Consultant with international organisations. She has published widely and her writings reflect her perception that local community can improve their living conditions by improving their attitudes and life-styles. Also, she has attended and presented papers at local and international conferences and workshops. She has served in many Committees such as: member; Editorial Committee of the College Publications, member; Committee on Accreditation and Standards, Auditor; Academic Staff Thrift and General-Purpose Cooperative Society, among others. As Head, she is the manager of human and material resources of the department. She joined the College in 1997 as

Assistant lecturer and was forty-eight years at her last birthday in 2014. HHV2 has been representing the College on the Boards and Councils of Accrediting Agencies since 2007.

The description of the participants is graphically presented in table 4.1 below:

Table 4.1: Participants' Profile

Par	Highest qualification	M/F	YOE	AGE	Other post	Area of interest
HEA1	MSC Economics	M	21	48	Country Advisor, Applied Scholastics (Nigeria)	Entrepreneurial Education
HIS1	MSc Integrated Science	F	13	41	Staff Advisor, School of Science (SOS)	Science Education
HTE1	PhD Education Technology	M	22	47	Coordinator, Centre for Education Technology.	Education Technology
HCS2	PhD Chemistry	F	15	46	Member, Quality Assurance Committee.	Entrepreneurial Education
HTA2	MA Communication & Theatre Arts	M	15	51	School Advisor, School of Arts & Social Sciences	Community Education
HEE2	PhD Early Childhood Education	M	23	50	Head, Committee of HoDs & Member, College Management	Early Childhood Education
HEL1	MA English Literature	M	16	47	Coordinator, Havering College Partnership project	Orature Education
HBV1	MSc Building	M	12	49	Chairman, Landscape Development Committee	Architectural and Building Education
HHV2	PhD Home Economics	F	17	48	Auditor, Academic Staff Thrift & General Purpose Cooperative Society	Nutrition and Healthy Living Education

4.4 Presentation of findings

There were nine (9) participants in all. There were thirty-six (36) Heads of Departments but twenty-one (21) of them volunteered to participate in the study. At the 'community of interpretation' forum (Sandberg, 2000, p. 13) with the Heads of Departments; where the researcher explained the details of the study, eleven academics withdrew their interest as they said they could not spare the time for series of interviews. Of the remaining ten who signed the consent form (Appendix B), an academic who took part in the preliminary study had to be excused. At the end of this meeting, the nine (9) remaining volunteers were tabulated across the Schools (Faculties)

and each participant was interviewed in that order (Please, see figure 4.2). Hence each participant was interviewed across the five schools before moving onto the second row of schools in the table (Table 4.2). Each participant was interviewed more than once. A detail of the selection of participants was earlier presented in chapter 3.

Table 4.2: Order of interviewing

→				
SASS 1	**SEDU 1**	**SLAN 1**	**SOS 1**	**SVTE 1**
SASS 2	**SEDU 2**	**None**	**SOS 2**	**SVTE 2**

4.4.1 RQ1. What is the perception of academics about information literacy (IL)?

The findings under this research question are presented under two main subject headings:

- Divergent conceptions of information literacy; and
- Attempting a definition of information literacy (IL).

The participants have different academic background and subject disciplines. This is because each participant was drawn from a department. That is, there are no two participants from the same department. This heterogeneity influenced the varied ways in which each participant perceived information literacy; more especially when literature confirms that the term 'information literacy' is often described by people in different ways (Virkus, 2011) because there has been so much contention (Snavely & Cooper, 1997) on how best to define information literacy. Given the knowledge and academic exposure of the participants, they perceived IL in different ways.

4.4.1.1 Divergent conceptions of information literacy

Two participants perceived information literacy as a support for educational attainment. They simply draw instances of how 'traditional' educational learning was before the advent of information technology and thus prefer to see IL as a support to achieve learning; an educational tool. They presumed that IL is educational technology. According to one of them, IL is the ability to enhance teaching and learning. Since information technology (IT) is a critical factor in IL, the participant was of the opinion that IT in education is educational technology. Once this is used in *"enhancing teaching*

and learning" (HTE1) then, it is IL. The other participant says IL is all about education because *"education enables people to read and write"* (HIS1). From the perspective of information seeking, ability to identify information need is based on a prerequisite that the person seeking information can read the information when such is identified. As such, IL assumes literacy is a prerequisite. Their perceptions of IL, therefore, reflect their knowledge and experience over time. The perceptions of the two participants are presented below:

> *Our [my] focus in terms of IL has to do with the use of information technology and that is the reason why we have a center which we call center for educational technology which happens to be a unit in the department of curriculum and instruction here in the College .This center is given the responsibility to make sure that the students and lecturers in the College are given the opportunity to be able to use computer technology and that is our own interpretation of IL. That is, our ability to make use of computer and computer-affiliated or associated technology in enhancing teaching and learning.*- HTE1

The perception of the other participant is captured and presented below:

> *Information is very important. Education is light. If one is not educated, that person is in darkness. Education enables people to read and write. Take for instance, if the information is on paper, how do you read it, how do you communicate it, how do you get the understanding. So, of course it has to start with education. When you are educated, of course, you are literate. You can get the information and know how to transform that information.* - HIS1

HHV2 was of the opinion that culture and orientation plays a role in how people perceive information literacy. She explained that people in her community prefer to rely on others for information rather than seek information personally. Her opinion also explains the reading culture of the people in her community. In IL, the volume of information from several sources and in varied formats are issues of concern; taken for granted that people already have an improved reading culture. For those who possess a low reading culture, as explained by the participant, their ability to identify their information need will be a cause for concern. However, placing her opinion alongside

the element of 'information need' in IL, one may see the participant's opinion as the cultural influence in information seeking. From the point of view of culture and attitude, her opinion was that information literacy is an attitudinal thing:

> *Information literacy is more like an attitudinal thing among Nigerians and this is why people say 'if you want to hide information, hide it in a book'. We rely more on verbal information than on documented information*- HHV2

Responding to a probe on whether she is among the 'people' she referred to, she cleverly presented a scenario for the researcher to determine where she belongs on the matter. Her verbatim statement was:

> *So, the way I look at it is that even those who possess formal education do not make use of information that is documented. They like asking. They will even ask you what they know. It is when you respond that they say, 'oh! I have that information too.' So, I think is a cultural and attitudinal thing- HHV2.*

In the opinion of HEE2, IL is the ability to *"use an idea to improve situations in the society"*. Given the current rate of unemployment in the society, using any information, according to the participant, to improve the society is information literacy. This perception could be explained through Lloyd's (2012) 'people-in-practice' perspective of co-participating in practices in the workplace. In the workplace, employees share experiences, exchange ideas and learn from inter-subjective interactions aimed at improving the organisation or society (Lloyd, 2012). In the opinion of this participant, if an idea could improve the society, especially now that the society is going through high rate of unemployment, the person with such idea is considered information literate. He illustrated this by saying he has been training teachers to be Care-Givers in an environment where mothers are incapacitated in one way or the other. Acting like a pseudo-mother is therefore influenced by circumstances which the employee of a care-giving Center should understand in order to deliver the service required of a pseudo-mother. Having this understanding is IL. As such,

information literacy is simply a tool to understand this peculiar nature of education to provide a difference from good to better:

> *What we are[I am] saying is that information literacy is itself an understanding of using a particular idea to turn things from good to better and to the best … So, literacy is not the same with reading and writing English language but the use of an idea to better [improve] situations in the society.*- HEE2

In the opinion of one of the participants, IL is the ability to construct knowledge by following specific steps. Following the steps and showing understanding along the steps will enhance knowledge construction. Otherwise, a barrier may ensue. The opinion of the participant is well situated in the steps in the knowledge pyramid: relationship between data, information, knowledge and wisdom. This knowledge pyramid indicates the construction of knowledge among the co-participants in the social site described in Lloyd's (2010) definition of workplace information literacy. This participant (HEA1) further explained that IL is experienced when avoiding the barriers to learning. According to the participant, a major challenge in learning is 'skip gradient'; when a learner skips what ought to have been learnt at a particular stage. Attending and resolving the problem of 'skip gradient' to remove the barrier is how he conceives information literacy:

> *Learning is considered to be in stages or steps. When you miss a stage or step (gradient), you [the learner] may run into a barrier. So, a student that does not have a 'grounded' [basic] knowledge in eh … let's say in some formulas (at the secondary school). When you [learner] get to higher institution, because they [lecturers] will still be bringing these formulas into it [topics of discussion], you may face a barrier. There are some things you ought to have learnt at certain stages, if you skip it, that may give you further problems.* – HEA1

Another participant, HCS2, shared her perception of IL from her academic orientation of being a scientist. In her opinion, Science is all out to solve the problem of the society. Her perception is congruent with other information literacy definitions and models (ALA, 1989, Big6) which define information literacy as problem-solving skills.

Furthermore, the participant was of the opinion that the world is all about problem-solving. The Science Literacy (SL) underpins her perception of IL as Science Literacy (SL); being the ability to understand the nature of Science. In her opinion, Science observes the environment, identify a problem and provide a solution. She conceives IL as:

> *In relation to Science, information literacy is defining problems, going for field trips to get information to solve present and future challenges.*- HCS2

In the perception of HBV1, information literacy is a simple term and does not need to be defined or discussed. He felt the term is simple but not very clear as to what exactly it means. He said "Information" and "literacy" are simple terms. The participant's verbatim statement was:

> *I don't know exactly what you want me to talk about that [IL]. I think it is self explanatory enough. Information. Ehn…em … literacy. They are two simple words, the way I see it. How else do you want me to explain the terms? They are self explanatory. Well, information, literacy … [Unusually long silence]. ehhh, probably when you have an information, you should be able to know how to decipher information, how to analyse it. I don't know what you want me to talk about information literacy. You analyse the information and you … I don't know how you want me to explain it.*-HBV1

New media is HTA's perception of IL. According to him, this *"era of the new media"* is the exposure and the skill necessary to navigate on the internet to access varied formats of information products and services. As the internet get more interactive and attractive with many services, so also is the skills required to surf it kept emerging. The services on the internet initially were more for academic purposes but today there are several tools to access social and health information, aviation and weather forecast, real time sporting events and sundry activities. Once an individual is able to navigate and access information on the internet and be able to use such information ethically, the

participant argues that such person is information literate. This is, according to him, is the skill that:

> *opens the gateway to the superhighway of information. This is the era of the new media. The new media has to do with convergence of different medium [media] in sourcing, retrieving, and treating information-HTA2.*

In the perspective of HEL1, *"IL is an appendage of IT"*. His perception could be understood against the background of seeing the internet as a signpost of the information age and society (Naidoo & Raju, 2012). Internet and information technology has influenced how events in life and work are interpreted, thus igniting "a wide debate about what competencies young people and adults need for successful life and work in the 21st century" (Virkus, 2011, p. 15). Information technology (IT) and information literacy (IL) are therefore two sides of the same coin. They are together in a symbiotic relationship. Access to information -health or cultural- can be achieved with optimum satisfaction when IT is used as the tool. The perception of the participant is presented below:

> *IL is the depth of our involvement of how we use IT as a tool to extract information. This can be in form of education, health, that is, health information, about culture that is cultural information, linguistic information. So, the umbrella or canopy body that gives us the perspective is IT. So, IL becomes a tributary or appendage to IT.*-HEL1

Summary

Table 4.3: Participants' Perception of IL

Number of Participants	Perception	Participant
2	Support for educational attainment	HTE1 & HIS1
1	Cultural and attitudinal	HHV2
2	Improving the society by solving a problem	HEE2 & HCS2
1	Ability to follow steps to construct knowledge	HEA1
1	Too simple to be perceived	HBV1
1	New media	HTA2
1	Appendage of IT	HEL1

In table 4.3 above, there are two (2) participants who share the same perception of seeing IL as a 'support tool for educational attainment'. Another one perceive IL from cultural and attitudinal perspective because over the years 'people prefer to ask for information' rather than search personally. Another set of two participants also share the perception of IL as problem-solving to improve the society. This perception (solving a problem in the society) is suggest by the current rate of high unemployment in the country. Every parent sees a child in school as an investment intended to get around unemployment. Any form of education is therefore expected to make the student (undergraduate) a potential quality employee or employer of labour.

This problem-solving conception of information literacy, according to the participants, does not necessarily have to be based on acquired skills, although in the opinion of HEA1 (earlier presented), some skills are necessary to correct the 'skip gradient'. Other participants were of the opinion that once a problem in a community, or about an individual is solved due to some information, this becomes more important since the *"individual ... can meaningfully use a given message or information to positively turn around things" (HEE2).* This conception of IL is prevalent in the IL definitions and models that suggest the identification of information need, locate information source, retrieve, synthesis, communicate and ethically use information (ALA, 1989, ACRL, 2003).

4.4.1.2 Attempting a definition of information literacy (IL)

The participants, having shared their various perceptions of IL, were also requested to attempt a definition of IL whichever way they felt comfortable. The aim of this request was to benefit from their understanding of the phenomenon and to see also how their definitions are close or at variant with definitions of IL in the literature.

Some of the participants constructed their definitions of information literacy with the underpinnings of their perceptions. While some felt the term (IL) is related to education and learning, some felt information literacy concerns everybody; no one could disavow the relevance of information in this century where the world is typically a global village. Only one participant (HBV1) did not construct a definition of IL. In fact he asked the researcher a direct question; *"If I may ask you, what do you think of information literacy yourself?"* He felt the terms were simple and self explanatory enough to require any definition. At a point, he tried to make up a definition, but dropped the idea as his effort could not yield lucid thoughts to be taken as a definition. The participant said:

> *They ['information' AND 'literacy'] are two simple words, the way I see it. How else do you want me to explain the terms? They are self explanatory*- HBV1

Other participants defined IL as:

> *[IL]ability to receive information either in print, audio or audio-visual, sign or symbol, understand them and know how to use any of them in any situation* –HEA1.
>
> *Information literacy can also be seen as the new Knowledge based on the information you have gotten and how you are able to use the knowledge to solve challenges you might be seeing*- HCS2.
>
> *IL is the ability to get necessary information. That means you have to put in some effort to know what makes up the information. The effort here means one has to learn how to access the necessary information*- HTA2
>
> *information literacy is itself an understanding of using a particular idea to turn things from good to better and to the best*- HEE2
>
> *Well, as an individual, you have to be well informed. To get information, you have to be a kind of person … er… when you get information, you are educated because information given or heard make you to forge ahead*- HIS1
>
> *Information technology gives birth to information literacy. We talk about information super-highway. It [IL] is about IT that links us with the rest of the world making the world a global village*- HEL1

ability to make use of computer and computer-affiliated or associated technology in enhancing teaching and learning- HTE1

Information literacy is more like an attitudinal thing among Nigerians- HHV2

The definitions and the IL elements in them are summarised and graphically presented in the table 4.4 below:

Table 4.4: Participants' Definition of IL

Par.	**Information Literacy (IL) element in definition**
HEA1	'ability to access print, audio…' - **Information resources**
HCS2	'knowledge to solve challenges' - **Problem solving**
HTA2	'put in some effort to know' - **Critical thinking**
HEE2	'using an idea to turn things around'- **Problem solving**
HIS1	'information make you to forge ahead' - **Information need**
HEL1	'IT gives birth to information literacy' - **Information technology**
HTE1	'ability to make use of computer' - **Computer literacy**
HHV2	'IL is more like an attitudinal thing'- **Cultural context in information sharing**.

Summary

Table 4.4 above is in relation to research question one. The table presents the terms that are prevalent in information literacy (IL) definitions. The first column represents the participants while the second column presents their verbatim quotes from the definition they constructed. The IL concept or component to which the participant's definition could be related is presented in bold; right in front of the verbatim quotes.

The participants did not use IL concepts in their definitions but they were able to define or describe information literacy the way they understand; based on their experience or academic discipline. Their definitions are in congruence with the definitions of IL (please see table 2.1) even though they perceived IL differently due to their various academic and professional inclinations. Going through the various definitions and models of IL (ALA, 1989, ACRL 2000, Virkus, 2011, Bond, 2012), the concepts in bold also feature in them although at various positions and degrees.

However, that the participants perceived IL differently was reported in the literature as Bruce (1997), Weber and Flatley (2006) Boon, Johnson and Webber (2007) and DaCosta (2010) also found out in their studies that academics had different perceptions of information literacy across their various academic and professional inclinations.

4.4.2 How is the information environment constituted for academics?- (RQ2)

This research question identifies and explores the information resources that are available to the academics in conducting their routine tasks in the workplace. Further, it ventures to understand how the participants access the resources in order to justify 'easy access' or 'challenging access' since 'access to information' is one of the critical considerations that were raised in the literature review. The research question also sought insight into how academics handle easy or challenging situations in the environment; being a developing country in the twenty-first country.

The findings for this research question are presented under five main subject headings. These headings represent the five broad areas which interview questions (please see Appendix C) were fielded to elicit responses or spur discussion that could answer the research question under review (research question two). The participants were encouraged to feel free to express their minds as there could be issues about 'what ought to be' and 'what it is' which they may not want to bare their minds if confidentiality and anonymity was not assured. The researcher gave them these assurances and they all discussed freely. The findings from their discussion are presented under the following headings:

- Information sources;
- Access to information sources;
- Handling situations of a developing country;
- Information environment and information need of the undergraduates; and
- Information environment and the expectations of the society.

4.4.2.1 Information sources.

Actual question – What are the sources of your information?

The participants were asked to list the sources through which they access information for their routine practices. The intention of this question was to identify the information resources which they rely upon to equip themselves in order to inform their undergraduates; with a thinking that it will be of best practice if the person to share knowledge is also informed.

Participants listed their information sources. Three of them had 'library' on their list but a further discussion showed that they were not referring to the library on campus. The other participants did not include 'library' on their list. However, all of them included 'internet', among others, as their information sources. Four participants informed that they relied on field trips to get information from people, organisations or 'see the environment'.

One of the participants commented that:

> *When you cannot get information, you go onto the field to see for yourself. We go to companies and factories to see things. At times, I visit professional colleagues to get information that I cannot source by myself*- HBV1

His list of information sources was:

- *Green Book of the College[NCCE guideline/curriculum]*
- *Meetings*
- *Conference and seminars*
- *Books*
- *Interaction with colleagues*
- *Internet* -HBV1

Some of the participants informed that their undergraduate students form a source of information. They discuss with them, share in their experiences and subsequently ferment ideas that spur further information activities. However, a participant (HEE2) argued that the undergraduates do not have any idea to share and that

they only wait for every bit of information to come from their lecturers but another participant (HTE1) listed the students in addition to his information sources said:

> *As a lecturer, I read a lot and many of the information I need before I go to class to teach are extracted from the internet. I have a lot of books, I have my own library, I extract a lot of information from the internet and ask a lot of questions from colleagues abroad and here in Nigeria because I have a lot of friends that are lecturers that we compare notes and these are the main sources of my information. There is a secret that I am about to expose. People don't know that these students have a lot of information within their reach. We underestimate them but they have a lot of information within their reach*- HTE1

The participant (HEE2) who was of the opinion that the students do not have information to share, actually included 'students' on his list of sources of information. His list was captured in his statement as presented below:

> *We network. Networking is a resource in academics because there is nobody who knows all. Networking is one major factor. The other one is mentoring. You choose people who are your mentor and you can race issues in their presence and they share their ideas that are viable. Another one is the manner of our relationship with our students and colleagues to share all shades of opinions, I read on issues in the department, I also attend workshops and seminar, I am also on interventions provided by International Organisations such as USAID, UNICEF. I also surf the internet where I get lots of ideas about issues at hand. We have subject associations .For instance there is Association of Childhood Education Practitioners, this is an association of experts in Early Childhood Education. We also have Counselling Association of Nigeria and we have meetings, share ideas through different sources. We have publications that come quarterly where one could test the veracity of information that you have. There is [are] departmental seminars, meetings and workshops*- HEE2

In response to a further probe, on the position of the students as sources of information, this participant (HEE2) was emphatic that the undergraduates, in his own opinion, are not his information source:

> *You see, quite a number of students can be described as vegetables. It is just about two or three percent of them that have the inbuilt zeal to access information from any source on their own. Quite a lot of them depend on what the lecturer said, some depend on what a few colleagues*

> *have gone to search for or for instance, I was in class today, we were discussing and we needed to identify the governor of a state. This is quite elementary but in a class of hundred and twenty [120], it was only one person who made an attempt even though the attempt was not good enough.* - HEE2

Another participant (HTA2) shared in this opinion that the undergraduates in the College may not be as good as expected thus cautioned on relying on them as information source. However, this same participant who cautioned on the reliance on students as source of information, added the students onto his list of sources of information. Firstly, this is his opinion about the students; as source of information:

> *…incidentally students in Colleges of Education are very lazy and most of the time, except in very few instances, it is those students who cannot make university admission that come to this place [College of Education]. That means the students that come to this place, [C of E], when it comes to IQ, they are not so super. You will find out that it takes extra work for you [as the lecturer] to give them the basic knowledge not to talk of this new technology that is challenging*- HTA2

Secondly, in relation to his list of information resources, HTA2 said, "I have access to virtually all the databases in UK". Although the researcher did not intend to make the participant compare information resources across continent, the participant did the comparison to drive home his point of access to an avalanche of information resources. The researcher prompted him to consider his tasks as a staff of the College and not as a student in UK. Upon the prompt, the participant responded as presented below:

> *Before the UK picture, I usually rely on the information I can get from colleagues, my students and once in a while from the internet via the cyber café. Apart from that, I attend conferences and that gives me an opportunity to network with colleagues. Personally, I acquire books and that has given me a large collection of books. Most times, when I am looking for resources, I simply contact people and before you know it, I am given links to invaluable resources* – HTA2

Only one participant (HEA1) was of the opinion that an individual himself or herself is the "number one source of information". To him, the individual is trained in a particular field of study and he may probably understand the terrain of information sourcing and better equipped to identify where to source for information. The participant later gave his list of information sources:

- *You are your number one source of information because you have been trained in your field of study. So, you have direct source to information.*
- *My professional bodies that I belong to.*
- *Learning materials- text books, journals,… ehm …*
- *Government agencies that is relevant to your field of studies*
- *Internet and that will be categorised into: access through subscription, free browsing.*
- *Historically especially where it deals with people's culture, you will need to find out from people who have background knowledge. You can go and observe the cultural practices of the people such as music, folktales, link in migration, traditional belief) through which you can understand their history. You have to possess the skill to sift the information from exaggerations.*
- *Through assignments to students.*
- *Library.* – HEA1

Gossip was one of the sources of information for one of the participants. The participant said she actually got gist of what was going on from informal sources such as gossips; especially on campus. Other informal sources she listed are: group associations, conferences and cultural associations. Her complete list of information sources is presented below:

- *Internet*
- *Encyclopedia*
- *Library*
- *Media- print and electronic*
- *Informal - Group Associations, conferences, cultural groups, gossips.*- HHV2

Other participants who share their list of sources of information are presented below:

- *Interaction with Students*
- *Internet*
- *Staff and colleagues*
- *Workshops, seminars, conferences*
- *Textbooks*
- *Visualising and observing the happenings in the environment.*- **HCS2**

HEL1

- *I rely more on available books especially in their hard copy so that they can last longer.*
- *Internet.*
- *Occasionally, I connect with my colleagues.*

HIS1

My sources of information are: Internet, library, books from colleagues, newspapers.

Summary

All the participants have their sources of information. While some listed their students as one of their information sources, others said they rely on books, library, and the internet for information. The students form a category of people with whom the academics interact formally and socially. In such interaction, there is the possibility of one person learning one thing or the other from the other. This learning was not acknowledged as exhibited by some participants while some participants observed that the students may be informative. However, one may infer that there is a good teacher (academic) because there is a learner. When the learner asks a question for clarification and the teacher is prompted to research further in order to give an informative answer in the next class, the learners (undergraduates) in this way have played a part in the process of informing the teacher (academic); they are critical players in the learning context and some of the participants affirmed this. Expectedly, all the participants listed books, especially in the hard copies, as their information sources. Furthermore, a host of them listed their academic and professional peers and colleagues as their sources of information which they rely on in carrying out their routine tasks.

4.4.2.2 Access to information sources.

Actual question - Kindly describe your access to these information sources.

This subject takes the earlier presented findings on 'information sources' further. It is not enough to list the sources, the researcher ventured to explore insights into other tangent issues to information sources such as: ease or challenges of access to the listed sources, extent of regular access and cost of accessing the information. This subject exposed the participants' information environment and how they manage routine practices therein. More of the comments were about access to and via internet. This is because, on one hand, access to personal books or contacting colleagues, for example, may require less of internet access while access to online databases or other web resources, on the other hand requires more of internet access.

In order to examine the information environment within which academics practice, the access to information was considered an important component. The access to colleagues, according to the participants, involved formal and informal on-campus interactions while interrelations with colleagues outside the campus was sustained through attendance of conferences and other academic and professional colloquiums. Participants said they interact with colleagues in and outside the country through internet services especially email. However, some participants pointed out that access to information on campus via the internet is a mirage.

One of the participants summarised access to information in this way:

> *We have publications that come quarterly where one could test the veracity of information that you have. There is [are] departmental seminars, meetings and workshops*- HEE2

In an attempt to explain how she expected her undergraduate students to maximise the opportunities of access to information, a participant alluded to these information resources, which in her opinion are available on campus: 'e-library, available technology and campus-wide internet access'. She said:

> *[i] go to a place like the library to look for information. Thank God for technology, we have elibrary.* -HIS1

Three participants were of the opinion that the ICT Centre only exists in terms of structure. The building is conspicuous enough but the participants raised questions of how and what an ICT Centre is supposed to be in the workplace. Their queries were informed by the fact that ICT is not only about building, it should also be 'about access'. Even if the 'infrastructure' is minimal; access to the little that is available will go a long way to support information activities. Such access would not have generated these complaints presented by some of the participants (HTA2, HHV2, and HEL1):

> *When talking about access, we are not talking about the facilities being there alone; rather we are also talking about the ability to use these facilities. Go to our ICT centre and take a good look at the computer systems. Those that are not obsolete are either not modern or not functioning… Do we have the necessary infrastructure? The only thing is a big building.*-HTA2

> *it has been difficult to access the internet. No! Not for me as an academic because I can buy a MODEM to assist myself in realising the goal of completing my tasks promptly; even though the MODEM is a rip off. But for the students, it is difficult. The cyber café are exorbitant and very slow. It takes a whole day to get a few pages downloaded. The place is so hot because the proprietor did not fix air-conditioners because they will consume more electricity and adding to the overhead cost*- HHV2

> *There is challenge here on campus because the tool to achieve information literacy is not readily available to us. That tool is information technology that is required to post or access information. The environment is not conducive. The tools are not there*- HEL1

The academics 'do not have internet access in their offices' and two participants described the situation on campus that leaves anyone to imagine how the tasks of the academics in this information age could be carried out effectively if the environment or community where they practice is constituted as described below. The descriptions of the two participants are presented below:

> *Sometimes ago, I learnt they increased the capacity of the electricity generator but was that information communicated to members of the academic community? Did the service improve to such an extent that people would know it was as a result of the increase in the capacity of the electricity generator? Sometimes ago, the ICT Centre gave us [academics] access to wifi though it was either off or slow, all of a sudden we just discovered it was not existing again. No reason was explained to anybody. Even when it was on, you have to go to a particular location before you can gain internet access that was slow and frustrating. Even students were not given internet access. That time, it was mere internet access and library did not have any subscribed database. So, with the access, whenever you can make use of it, you simply use Wikipedia, Google scholar and other free websites. I am sure you know the meaning when something is free. You have to use it because you do not have an alternative. Not the best. Is it?* – HTA2

> *Today on this campus, the library is the only information centre and whatsoever the library cannot provide is believed not to exist. When I recommend texts for my students, they will come back to tell me that the texts or some of them are not available in the library. But if you have one or two cyber café operators in the library, students can rely on such internet access to gain access to databases that have more resources than the ones I recommended. They can also use such platform to reach other research fellows in their chosen field of interest, engage in video conferencing and do other academic work with colleagues across the world. But without the internet, all these are not possible and the students of today would just be like the students of decades ago who only rely on available books; no matter how obsolete. So, there has to be an information centre where this is possible*- HEL1.

As described earlier by a participant, internet is important in matters concerning academics and the work setting where they practice. While responding to the question on sources of information, all the participants listed 'internet' as one of their information sources but the campus, according to the participants, do not provide internet access. Describing their information access in their environment, three participants explained HOW they employed internet as their source of information:

> *Even the lecturers on this campus do not have internet in their offices except they have to get a laptop and MODEM to facilitate their daily routines. The College Management said there is ICT center in place now but would all the students and lecturers have to come [go] to the ICT Center before we can access the internet? How much of information would anyone access within such constraint of having to assemble at the*

center to source for information; more so when the Center does not operate 24 hours. - HIS1

I access the internet through my MODEM which I personally acquired to support my information need. However, I always contact friends and colleagues who have ideas on the issue of concern to me or sometimes, I proceed on field trips if there is any information I cannot find on the internet.- HCS2

The students do not have internet access except for few of them who access information through their phones but I tell you that is not good enough because they cannot access dedicated databases and they cannot do serious academic work on phones. If the College cannot afford to provide it [internet], they [College] should just provide the platform through which private operators can provide internet access, even the lecturer won't mind to pay for the service- HEA1

In describing his access to the internet, a participant raised the issue of cost of access for academics and students. Also in response to a probe question about the idea of taking his laptop to the ICT Centre to work, the participant was of the opinion that the cost of internet access is 'not too expensive' to bear. He thinks also that taking his laptop to the ICT Centre to work was not a bad idea though he longed for the convenience of having the internet in his office. This participant thinks 'the students should not be charged for internet services because they have paid their school fees'. In his opinion:

Access to the internet is not too expensive. I have a laptop and I take it to the ICT centre to work. Students have free access to the internet and whatever they want there, they [staff of the ICT Centre] will put them through. They may be asked to pay a token; I don't know … what really operates. In my opinion, I don't think they should charge students for using the ICT centre since they have paid their school fees. For me, whenever I want to do anything that requires internet access, I leave my office and go there though it will be more convenient if the internet is in my office- HBV1

HTE1 gave an insight into how he accesses internet at home though the question he was responding to was about his information access on campus. However, his comments shed light on the position of internet access in the larger society; apart from the campus. Describing how difficult, even at home, to get internet access, he said he

was compelled, at times, to wake up at night and go to roof-tops in order to secure good signal quality. This shows the importance of internet access to academics; even outside the campus. His opinion is captured and presented below:

> *Access to information is difficult compared to what is experienced in advanced countries. At times, I wake up in the night if that is when I can get adequate internet signals to access some information. There are instances when one would have to climb high places or storey buildings in order to get internet signals. However, the internet providers are trying to install high mast to improve the signal quality and because we are in Lagos, the population is good for business and that is why the internet [mobile network] providers will do anything within their ability to improve internet service*- HTE1

One of the information resources that was discussed by the participants is the College Library. The College Library is the main library and the campus operates a central library system. That is, there were no faculty (School) libraries supervised by the Main library. However, as explained in the description of research setting, departments have few collections -donated by colleagues and donor agencies. As expected of knowledge workers, all the participants said they read books as a form of information source. Although there was no specific question to find out whether participants consult on-campus library, the general responses that bothered on the library as a resource centre are presented below. This insight becomes more informative as the comments were of added information on the on-campus information resources to further describe how the information environment is constituted for the academics:

> *At times when I recommend websites to my students they will come back to me to ask me to recommend text books. When they couldn't afford to buy the books and they couldn't find any in the library, they will still come back to me to plead with me to bring my personal copy from which they can make photocopies*- HHV2

> *There should be an information centre where every student and staff can access information. Today on this campus, the library is the only information centre and whatsoever the library cannot provide is believed not to exist. When I recommend texts for my students, they will*

come back to tell me that the texts or some of them are not available in the library- HEL1

[i] go to a place like the library to look for information. Thank God for technology, we have elibrary - HIS1

As a lecturer, I read a lot and many of the information I need before I go to class to teach are extracted from the internet. I have a lot of books; I have my own library- HTE1

That time, it was mere internet access and library did not have any subscribed database- HTA2

*Like I mentioned before I rely more on books because they are available anytime, they do not require electricity or internet and they are ever availab*le *but my classes and other engagements wouldn't let me use the library in the College but I always ask my students to go there. But for me, I use my personal library. I have lots of books. In fact, you need to see my library*- HEA1

Summary

The participants described their access to information resources from different perspectives. Some said they attend and meet with academic and professional colleagues at academic forums to enrich their information. A participant said there was 'elibrary' on campus and there is the internet facility to access it while another participant reported that the library did not subscribe to any online database. Another participant queried how convenient it would be for academics and their students to go to the ICT centre to use the internet; since the Centre has internet access. Yet some participants claimed that the description of ICT Centre as providing internet access on campus is more from the conspicuous building rather than actual provision of internet access to information resources; especially when some academics acquire their personal laptops and MODEM in order to carry out their routine practices. For the participants who said they have personal library to serve their information needs, one wonders if such resources (which may better be referred to as 'collection of books') are systematically organised to qualify as 'library' but it was confirmed by some participants that the on-campus library 'did not subscribe to any online database'. Also

there were incidents of 'students who complained of not finding recommended texts whenever they visit the library'.

4.4.2.3 Handling situations of a developing country.

Actual question - How do you handle situations where the information you need are not available or too much?

In Mutula's (2013) description of 'information society', he affirms that developing countries still experience challenges in accessing digital and internet resources. Given some of the challenges earlier presented, this affirmation by Mutula comes handy in helping to present the findings here under a subject heading: **Handling situations of a developing country.**

The participants shared their experiences of situations when the information they require were inadequate or unavailable. Their experiences further demonstrated the need to understand the interplay of the information environment and the practices that could blossom or dwarfed. As knowledge workers, the participants explained how they handled situations such as inadequate technology. Technology has come to be the underpinning tool to bring people, especially academics from far and wide together without necessarily being in a physical space. This is what one of the participants described as "networking" (HEE2). Though this interaction is possible among colleagues on campus, the knowledge base could be strengthened more if there is the technology to interact with other colleagues outside the country to 'compare notes, share ideas and discuss matters of common interest'. The technology to achieve this is lacking in most developing countries of which Nigeria is one (Mutula, 2013). HEE2 summed up some of the challenges this way:

> *... technology is the drive for efficient information. When we talk of efficient information we are talking of the ability to cross-compare the adequacy of the information from any part of the world and technology is that drive to make it possible to share and link with others without*

> *physical contact. From the comfort of your office you can network and do a [video] conferencing and this is only possible through a virile technological base which most African countries are lacking-* HEE2

Responding to a probe on how he manages this inadequate technology, the participant was of the opinion that the situation is getting better than what it used to be sometimes ago:

> *[T]he student that just left is one of our students who have just graduated but requested for my phone number in order to be in contact with me. All these were not possible pre-2000 [Global Satellite Mobile telecommunication (GSM) was launched in Nigeria in the year 2000] and so things are now more electronically powered than those times of the manual one. As the HoD, our storage and retrieval system is a little bit better now because we now have a computer system and a laptop with which all the students' profile, their results, everything about their bio-data,… we have them in electronic form and whatever happens we can retrieve their particulars and get in contact with them-* HEE2

In attempting to list some of the challenges he face in order to access information; which are probably mitigating against effective information use, the participant said that having "Very busy schedules, erratic supply of electricity…" (HEA1) were his challenges on campus. The participant compared his experience on campus with situations in 'advanced countries'. All the participants complained about the inadequate electricity supply on campus which they said was not making academic life conducive thus hindering many activities. The participant shared his experience this way:

> *Very busy schedules, erratic supply of electricity, slow and fluctuation of internet signals, network failure, and so forth. It is not a bread and butter issue. Access to information is difficult compared to what is experienced in advanced countries-* HTE1

The participants explained how they handle the lack of electricity and internet access by 'patronising cyber café'. They tied the issue of internet on campus to electricity. As earlier presented, all the participants alluded to the eminence of 'internet'

in this time and age. In 'networking with colleagues', solving an information problem, 'sharing in an experience of a mentor' or 'compare notes' on workplace best practices, the internet comes up as a major factor. If knowledge workers, such as these participants do not have adequate access to electricity and internet, it becomes more important to explore how the academics have been handling the situations. A participant explained how academics have been coping with the situation in this way:

> *One of the major challenges is electricity power failure. Some of us [lecturers] patronise the cyber cafe but only to work half way and be told that electricity has been disrupted [outaged]. So, one has to shut down the system and come back another time. Most students do not have laptops, because of the cost and they have to rely on these cyber cafes but unfortunately the electricity has been a major hindrance. At times when there is electricity, the cyber café will be so crowded because so many people want to seize the opportunity of the available electricity to access the internet. Due to this crowd, the system[computer] will be slow because of the bandwidth that the café is using. For commercial purpose, most cafés prefer less bandwidth since the subscription they would pay would be higher if their bandwidth is bigger [broader] and faster. More so, they [cafes] will charge more if the generator [alternative electricity power generating set] is switched on.* – HCS2

Considering the cost of patronising the cyber cafes, a participant said "access to the internet is not too expensive. I have a laptop and I take it to the ICT centre to work" (HBV1), because there is free internet access at the ICT Centre. However, another participant queried: *"would all the students and lecturers have to go to the ICT Centre before we can access the internet? How much of information would anyone access within such constraint of having to assemble at the Centre to source for information; more so when the centre does not operate 24hours?"* (HIS1). As earlier reported by a participant, the electricity generator at the ICT Centre does not work all day which could be the reason why some participants opt for cyber cafes; which are also not giving the best of services.

One way of getting around the issue of internet access is to acquire personal MODEM which a participant described as a 'rip-off' in terms of cost. However, one may wonder how the students would bear the cost of internet access if the 'MODEM are rip-off even for academics'. Still bearing out his mind on the issue of electricity and internet in a developing country, HEL1 captured the situation as presented below:

> *The internet is not there. All these MODEM are rip-off even for us academics. The College should provide internet and electricity; at least for academic purposes. What do we teach or learn when you cannot see beyond your nose. The library has no databases except old books. I see students resort to mobile phones these days for their internet connection and I think that is hopefully helping them but I wonder how much serious academic work they can do on the phone-* HEL1

The workplace is inter-subjective in nature and tasks are executed by people not by an individual (Lloyd, 2010) thus further explaining the collaborative nature of the activities in the workplace. One participant expressed his worries when he observed that the situation on campus (difficulties in accessing information) is challenging this collaboration and also making "lecturers waste the resources of the institution" (HEA1). In the workplace, when a task is carried out by an individual, it shows that another individual has done an earlier bit of the task at a different point. The workplace is about working together and less about individualism. The success or improved performance of an employee is seem as a contribution from the colleagues, the support of the organisation and interrelation between the individual concerned and other practitioners. So, when an individual is not doing it rightly or when the organisation is 'not providing support', it becomes a concern for everybody, that is, 'the stakeholders'. This interplay between the employee, other employees, the information environment and the support or otherwise of the organisation was described by HEA1 as uncertain and apprehensive. His description of the situation is presented to capture the concern of 'collective responsibility' (Flores & Johnson, 1983) which is a virtue in the workplace:

> *You see if all the stakeholders see the issue of electricity and internet access as a priority, then we will face it. By stakeholders, I mean, the lecturers, Departments, Schools, and the College; altogether. The reason I am saying this is that what they [stakeholders] are going to benefit is so much. The multiplier effect back to the system is huge. You cannot quantify them. You see, this issue of no electricity is creating high level of redundancies, it's creating inefficiencies and it's creating waste of the resources of the institution. If you are a lecturer and you are in school but you are not doing what you are supposed to do and you get money [salary] at end of the month. Then you are wasting the money of the College. But if you are busy, you will be able to create output that the College will benefit from. That is why I said we cannot blame only the College. If the staffs take it [internet and electricity] serious, the College can look for means to provide electricity while individuals take care of their subscription. If they pay for their subscription they will be busy because they won't want the subscription to waste since there is electricity. An alternative is that if the College cannot provide electricity for the whole College for a whole day, they [College] can have a dedicated hall where electricity is provided throughout office hours and lecturers could go there with their laptops to work; if you really want to work and not necessarily sitting down in the office.* - HEA1.

Summary

Nigeria is a developing country and the issues about internet and electricity are important to the participants. The workplace of knowledge workers -the academics- that is saddled with the responsibility of preparing a workforce to achieve national development currently experience inadequacies on campus. The participants expressed how they tried to get around the challenges by patronising internet cafes that operate on alternative electricity generators thus increasing the cost of access to information. In addition, the participants were of the opinion that 'all stakeholders should see the challenge of electricity and internet access as a priority' in order to forge ahead. If it is seen as such, one thinks this will be in the spirit of collective responsibility for a common goal.

4.4.2.4 Information environment and information need of the undergraduates.

Actual question - What is the information need of your students?

The actual question here was considered from two perspectives: one, from the on-campus information environment and two, from the perspective of the expectations of the society. The first is reported here under the subject: **Information environment and information need of the undergraduates** while the second is presented under the subject: **Information environment and the expectations of the society.** This separate approach enables the researcher to identify the information needs that the society expects of the students to provide upon graduation (at the workplace) while also benefitting from how the on-campus environment could provide the information need of the undergraduate students.

The researcher explores the relationship between the information environment (earlier presented) and information needs of the undergraduates whom the academics (participants) are expected to prepare for the workplace. This was to ascertain whether the participants actually understand the information needs of their students and whether they could help satisfy them within the existing on-campus context.

The undergraduates in this community are expected, upon graduation, to become school teachers, a workforce that trains and prepares those who become medical doctors, library and information professionals, engineers, teachers, nurses, librarians, business individuals, captains of industries, barristers at law, accountants and indeed the professionals that would emerge soon; such as Cloud Computing and Green Computing Technology.

These would-be teachers (teacher trainees) are required to teach students who belong to the information age that is characterised by high reliance on information technology for learning and social life. It is also important to explore how the undergraduates acquire the skills required of them to interact with these technology-

savvy learners. The equation may be easy to solve if technology-savvy teachers are to train technology-savvy learners. However, it will be necessary to examine whether the undergraduates are technology-savvy before they become teachers. If they are, the equation is also easy to solve but if they are not, there would be so much grey areas to study since information technology (IT) is a critical consideration in learning and working in the information age. In response to a question bothering on the information need of the undergraduates, one of the participants said:

> *The information needs of our students are determined by the dictates of the curriculum as approved by NCCE [National Commission for Colleges of Education]. So, I will check up what the curriculum expected the students to know at a particular level of their studentship. The NCCE is an organisation and has gone through the Education systems of other countries before designing the curriculum that will fit the Nigerian society. So, in my own opinion, the information needs of today's students [digital natives] are accommodated in the curriculum. This curriculum is reviewed regularly to accommodate the developments in the society.* – HIS1

In the opinion of HEA1, the undergraduates "prefer multimedia resources" and "they do not like to flow with old school". The participant used 'old school' to mean lecturers who are not thinking and teaching like people in the modern times of information age. These students belong to the internet age or better described as digital natives given their age range (Rafalow, 2014). The responsibility of preparing them for the workplace, therefore, requires that academics understand their information need and accommodate such needs in their interaction with them. However, it is worthy of note that during one of the non-participatory observations, there was a mismatch between what the academics say and what was actually done. It was clear that the academic whose class was observed understands the information needs of his undergraduates but did not take them through the process of meeting such needs. Responding to a question on the information need of his students, his comment before the observation is here presented:

> *[Y]ou cannot teach them using text books. Part of what we do in Applied Scholastics is to teach students in relation to their own environment otherwise, the teaching is failure. Anything you are teaching and you do not relate it to the environment, the students cannot understand and they will not be interested. You have to be current and alive with the students. You have to give them sites where they can visit to verify whatever you teach them and discover that they can get more information there than what the teacher has given them. That way, they [students] will know that the teacher is current and thinking like them. They do not like to flow with 'old school' rather they want their several questions answered. Such questions can only be answered by a teacher who is also current and thinking like a 'youngster'. They want to see a teacher who is at par with them. A teacher that is dynamic. That means such teacher should be conversant with what is going on around.* – HEA1

The finding that is reported here was from an un-obstructive non-participatory observation of which the researcher secured the invitation during the interview session with the participant. The participant had accepted the invitation and asked the researcher to feel free to come in into his class, discussion or any interaction at any time that was convenience. Upon this invitation, the researcher went to the class to observe the environment, interaction between the participant and his students and identify possible ways that information literacy evolves in the class practices.

The one hour session was on 'Gross Domestic Product (GDP)' and took place in the Science Complex, RM 006 on 21st November 2013 starting from 3.00pm and ended by 4.00pm. The class had seventy-three students in attendance. The students on the first six rows were sitting close to a big, tall and wide window but those on the last rows were not. Some female undergraduates (ladies) on the few last rows were searching furiously into their bags; the researcher thought they were trying to bring out some documents, books or assignments to be submitted to the lecturer. Not so! Three of them, as if competing for whom to bring out the item first, carefully brought out a folded card tucked into a flannel. With some dexterity and familiarity with the art, they unfolded a hand fan laced with beautiful colours. One of them mopped her forehead of highly powdered-face and began to fan herself. Soon, the other two joined. As if the male

undergraduates on the same long pew did not feel the heat of the hot afternoon, they looked away in apparent air of mixed-feeling or mere submission to the situation. The lecturer came in at 3.02pm and introduced the topic of the day. He noticed the researcher's presence and the researcher simply winked at him. He acknowledged it and continued with the class.

The researcher guessed some of the students would take him for a new student but a few of them would have seen him around on campus but would not be able to tell why he was in their class, especially when he did not utter a word throughout the class session. There was good class control, efficient time management and the students gave him a rapt attention. In what looked like a flash, the class had been on for forty-five minutes. Though he punctuated the class session for requests for question from the students, there was nobody that signified by the raise of hand. This time, after about fifty minutes, there were many students who raised their hands to ask questions. All the questions were entertained before he gave an assignment for the next class. The assignment was a 'word clearing' for the next class. Word clearing was to make the students use the dictionary to find the meaning of words on a list; the next class was going to surround these vocabularies. Clearing the words before the class will put the students on a familiar terrain during the next class. The researcher got this explanation during the second interview with the participant where the researcher also requested to find out why he did not give a reading list or website references as he mentioned during our first discussion (first interview). He replied this way:

> *I am sure you saw the class. It would take half the class time to set up the projector and the generator [alternative electricity supply]* - HEA1.

Responding to a probe on setting the class ahead of actual lecture hour, he queried *"who will be responsible for whatever happens to the gadgets before the actual class?"*

A question for clarification- What would you say you did in the last class that can improve the IL skill of your students?

His response to this question is presented below:

> *[T]he reality is that we have large classes and the facility to handle such class-size is not available. No class has a multimedia projector and most students in the class do not have computers or laptops and this makes teaching extremely difficult.* – HEA1

HTE1 felt that the information need of the students should be how to use information technology. This, according to him, is a fundamental requirement if they want to be information literates. Though he did not say this is the information need of his students, he was of the opinion that their information need should be how to use information technology. In essence, he determined their information need and teaches along that line. Also, on the issue of information need, HCS2 identified their (students') information need and teaches along that line. The understanding of their students' information need underscores their invaluable experience of interacting with the students over time. The comments of HTE1 and HCS2 are presented below:

> *Eh … ehh … the information need of the students eh… em… I am yet to practice something but I have been doing one. The one I do is making sure that they have a way of interacting with technologies to make them information literate. I want them to interact with technology that can provide information for them even the use of their mobile phones.* – HTE1

HCS2 said she understands the information need of her students and provided them with the information that filled the information gap. Her comment is presented below:

> *My close relationship with them has given me the opportunity to know their information need. I discovered that most of them do not have the financial capacity to cater for their education. So, when we [lecturers in the department] introduced the ES [Entrepreneurial Skill], they were very happy because it met their information need. I was able to identify this because we interact a lot and this made me to know what*

> *information will interest them. With the ES, the students returned from holidays and were able to assist their parents financially.* – HCS2

The reason to understand the information need of undergraduates is that the students require a skill to be able to identify information that is credible and reliable. Such skill could become transferable and guide them even after school. Students are also going to pass such skill to colleagues or rely on it to take decisions and this is why it is very important to prepare them in such a way that they can identify the need for information but more importantly to identify quality information. The skill to achieve this is not in-born rather it is learned. The method to teach it, the knowledge-base of who teaches it and the best environment to learn it has always been in contention. One participant advised that students' information need would continue to change over time and as such they should continue to seek information. Her comment is presented below:

> *So, the only way out is to continue to seek information and analyse the information before using it. Yes! The students require a skill to be able to analyse the information: The students must understand the language of communication; They must have matured analytical minds; Minimum formal education; and understand and manage existing environmental factors such as media ownership, political trends, electricity availability, current trends and technology, and so forth.* – HHV2

The information need of the undergraduates, expectedly, increased when they got to the College because they had a wider spectrum to navigate in order to complete academic assignments (Naidoo & Raju, 2012). Before their admission into the College, they were relying on the information provided by their teachers, friends or parents. They were not taught how to identify information need or how to critically analyse the information. This was how they completed their primary and post primary education. Some of them did not have access to computer systems at home or school. Neither do they interact within an internet environment (Naidoo & Raju, 2012). It was when they got to the tertiary institution that they were confronted with the realities of the need to use computer systems to source for information, critically analyse such information, repackage the information and communicate the information to a target audience. One

of the participants who commented on the information need of his students explained that:

> *They depend on others to survive. I think the reason for is that information technology is an upcoming skill in our environment. It's upcoming. For instance, one would expect that from the Kindergarten, the interaction with the computer will be encouraged but if you go to quite a number of our public schools, access to use such facilities is still limited. And most of the students we teach today in this College are products of public schools. So, interaction with such devices is still low but a few of them probably because of their background and environment and have these devices at home are doing well in information sourcing but the percentage is very low.*– HEE2

HBV1, even upon prompts, seem not to understand the information need of his students. On may infer that he probably has little understanding of his students and their information need. The participant wondered why they are referred to as digital generation. He commented that:

> *I am not aware that there are some students that are described as 'children of the internet age' or 'digital generation' but I know my students. Are they called 'digital generation' because they are always at the ICT center or is it because they wish to work with computer? Anyway, I will have to do a little research to find out that.* – HBV1.

Summary

The participants understand the information needs of their students (how to identify the information they need, how to use technology for academic purposes, how to use their phones as tools to access information resources, how to use acquired and previous knowledge to create financial support for themselves). They are aware of their limitations (a challenging information environment, little or no financial support for the students, coming in contact with the academic demands of ICT in tertiary education) and what informed such limitations. The participants were also aware that some of the students started having interaction with the computer system in the College when they were forced by realities to source for information to complete academic work.

These students were not exposed to any form of information literacy training and did not see reasons to identify information need, analyse information sources, synthesise the information, and ethically communicate the information. The need for critical thinking became a reality when they got to the tertiary institution; a fact that Naidoo and Raju (2012) affirmed in their study of information literacy training in a Higher Education context in South Africa. This understanding of the information need of the students would facilitate how best to prepare students to be information literate within the context of their information environment.

4.4.2.5 Information environment and the expectations of the society

The findings presented here are the second perspective. The purpose is to gain insight into how the participants' understanding of the environment for which they are preparing the undergraduates encourage or hinders their practices.

The Nigerian society is currently experiencing a high rate of unemployment. In fact 70% of Nigerians are reported by the World Fact Book to be living below poverty level (CIA 2011). Although a few could earn and live in opulence, there are some people who earn a paltry salary of ten thousand naira (RM197 or $61) per month against the official government approved minimum salary of eighteen thousand naira (RM356 or $110). These are official statements and figures but the reality on ground is more challenging. Therefore, the expectation of the Nigerian society is for students to graduate and become employers of labour; not an employee because the jobs are not there. However, the society expects that the few lucky ones, who scaled through highly contesting employment tests, should exhibit skills that would benefit the co-workers in particular and the society general. As teachers, the society expects them to prepare the students who are going to take critical decisions that will take the society to greater heights. Their teaching skills should take the students beyond the classroom. So, if they are not prepared that way, they may not prepare others that way. The cycle goes on. The

Nigerian state has an on-going official campaign: "DO NOT THINK OF WHAT THE COUNTRY CAN DO FOR YOU, THINK OF WHAT YOU CAN DO FOR THE COUNTRY". The message is to encourage the youth and general citizenry to think about self-empowerment or self-employment to boost national development.

All the participants understand these expectations of the society. Two of the participants were of the opinion that since the curriculum was designed to suit the society's expectations, if academic activities are tailored towards the dictates of the curriculum, the yearnings and aspirations of the society would have, by implication, been met. The advice of one of them was that:

> *Lecturers should equip these students to be self reliant. By self reliance, I mean engaging them in a useful practice that at the end of the day they can be independent. That is, they should be taken through learning in a "do it yourself" approach. This approach will let learning to be more meaningful and they [undergraduates] will be independent when the lecturer is no more with them; especially at the workplace. Learning should be made more practical oriented and focused to solve a problem in the society. The curriculum, where necessary, should be reviewed to include "do it yourself projects" that are geared towards making the undergraduates better empowered and self-reliant.* – HCS2

The comment of another participant on the role of the curriculum was that:

> *I do series of things such as eh … we follow the curriculum. By the time we are through with it [curriculum], students would have understood information literacy and be prepared for the workplace.* – HBV1

HIS1 felt she understood the expectations of the society and was already preparing them (students) to fit in; for a day when the lecturer would not be there. Just the way the society frowns at people who cannot think outside the box, she did not like students being spoon-fed. In her opinion, students should be able to source for information on their own. She explained how she carried out her practice of making the students meet their information needs:

> *The training I give is, like I said earlier, to make them source for information on their own rather than been spoon-fed. That is why we [i] give them tasks that will make them do it on their own. So when they graduate, I don't see why they shouldn't continue.* – HIS1.

The society expects her employees (current students) to win and excel in the 'highly competitive market'. This expectation should drive the information need of the undergraduates. According to a participant, the driving force behind academic training should be to equip students with skills that will make them stand out in the 'Highly competitive market' thus justifying the need for every student to graduate as an information literate potential employee. IL will put them at a vantage position in seeking employment opportunities or developing marketable ideas that could turn them into employers. This participant commented as presented below:

> *I have tried to take them through the basic skills that I think they require to perform well. But like I said earlier the facilities are not just there to encourage effective sharing of the new knowledge. I need to advice that any institution who wants to leapfrog into the information age would have to pump sufficient financial resources to realise the dream of producing graduates who are actually information literates. This is because the technology [skill/know-how] is the only thing that can give them a leverage to compete favourably with colleagues in this highly competitive employment market.* – HTA2

In order to meet the expectations of the society, HEL1 suggests that everybody has to think for a way out. The society expects employees to be informed. To prepare such employees, HEL1 suggests that:

> *we can start little. Each department or School can have a cubicle where one or two computer systems can be made available to students for the purpose of accessing the internet. Even if the department cannot subscribe to any database, the students can rely on the internet to access free databases. And that will make a big difference. The information centre in each school will focus on the information that will be most beneficial to students in that School. The number of students is small and manageable.* – HEL1

The Nigerian Society has created a paradox of scenarios. The Society created situations that forced people, especially youth, to live a life that is dictated by hunger, poverty and unemployment. Ironically, the society expects good citizenship. Also, the same society, expects people to seek information that will bring about national

development. First and foremost, the youth think of survival at all cost; at school and out of school. So, finding undergraduates that are using information technology tools such as the computer is not enough to conclude that they possess information literacy skills. Knowing what the society portends for them after graduation, some undergraduates are not just ready to acquire IL skills for academic purposes rather they acquire it for sinister motives. The society is aware of the paradox it created and looks towards the education sector for a workforce that can turn the situation around and take the country to greater heights again; a phase of cynosure. A participant aptly describes the situation:

> *So, what I am saying is that most adolescents of our time look for information that will douse the frustration which the society has forced on them. When you look at today's adolescents they are looking at pornography, they are looking … they are looking for a way to get out of poverty at all cost and that is why we have a lot of crimes in our environment. Those who cannot go into crime will now begin to look for information sites that would bring down their thoughts of the reality that they had expected.* – HEE2

In relation to the expectations of the Society, HHV2 said the employees that will take informed decisions, as expected by the Society, must be the ones with mature analytical minds. This skill is not in-born. She said the undergraduates had to be thought how to be curious and develop the art of challenging available information. This makes informed decision making; described by experts as critical thinking (Glaser, 1941) while Bruce, Hughes and Somerville (2012) described it as learning how to learn. So, one of the expectations of the society is that the undergraduates will become critical thinkers who will adequately analyse any information against: alternatives, recognition of assumptions, situations, cost, individuals involved, political and economic considerations and a host of other parameters. It is worthy of note that if academics understand this expectation of the society and they factor it into their practices, the emerging workforce will be wholesome. Her description of 'analytical mind' is presented below:

> *[This is] when you are curious. When you show more interest in things, issues. Make more time to think through an idea before using it as a basis for decision. To me, analysis is living. Life without analysis is boring. That is what makes change; that is what makes dynamism. Analysis makes information usable. It reduces monotony. Analytical mind is an attitude you cultivate. It is all about problem solving and you will pick information from the analysis. It is not in-born. It is what makes learning itself. When you do not apply that analytical mind, you don't learn. You just hear but you have not learnt. If you don't analyse and pick information from that analysis and use that information to improve/solve a problem, then you have not learnt. This is because knowledge is used to better one's life. Once you get information and could not apply it to improve everyday life, then such person has not learnt.*-HHV2

Summary

The findings here show that all the participants understand the information need of their students against the background of what the society expects of the workforce. All of them also describe the situations clearly to show they understand what responsibilities the society expects the employees to carry out; to reduce unemployment. But the observation session, earlier reported, indicate that the participants are constrained to do more to surmount the problem of preparing undergraduates that will reduce unemployment as decisions to improve the situation of unemployment may be beyond the capabilities of the academics. They (participants) identified the problem and even suggested solutions. For example, a participant said, before the observation session, that he observed a problem with his lecturer colleagues:

> *The problem I have observed with my lecturer colleagues is that they have not been telling the students how they can turn around every bit of information to valuable resources. That is the gap and that gap if it can be closed, the level of unemployment in the country will reduce. If every student knows that every bit of information can be turned around to improve their lives, then they will be serious with such endeavour. This area is the area that is lacking because many lecturers are not telling these students what they can do with this information and that is the end product of any information.* – HEA1

One would have expected that somebody who made this observation would make specific attempt to correct it. During the observation, the researcher did not see such effort or strategy. He did not tell his students how to turn information around, although he could have done that in previous classes. Following the gap that he observed about his lecturer colleagues (presented above), is the departmental brochure, course description or curriculum not clear about learning outcomes? If the problem of unemployment is as simple as he described it, would merely telling students how to turn around information be considered as information literacy? Would this simply wipe out unemployment? What exactly would turning around information in a subject, topic or course of study really mean? With these questions in mind, the researcher tactfully moderated the situation to redirect the discussion to IL and not unemployment.

4.4.2.6 Reflection on research questions 1 (RQ1) and 2 (RQ2)

In reflecting on the findings thus far, and before the findings on Research question three (RQ 3) are presented, it would be informative to recapitulate the findings from Research question one (RQ 1) which states **'What is the perception of academics about information literacy (IL)?**' The research question gave the researcher an opportunity to explore into the minds of the participants and discovered that they have different perceptions of IL. While some participants share the same perception, the others see IL from a different perspective. The number of the participants who share a perception is presented under 'P' in the first column while the actual participants are presented under 'Actual participants' in the third column. All the participants work and interact in the same environment (College campus) thus their experience with the information environment is presented under 'RQ 2- Information environment of the participants' in the fourth column. The table is presented below:

Table 4.5: Summary of Findings for RQ1 and RQ2

P	RQ1- Perception of IL	Actual Participants	RQ2- Information environment of the participants. **All participants**:
2	Support for educational attainment	HTE1 & HIS1	1. Have lists of information resources they use; 2. Experience challenges in accessing the resources; 3. Affirm that technology, electricity and internet are hindrances in the environment; 4. Possess requisite knowledge and understand the information needs of the undergraduates; and 5. Make efforts to get around the challenges to meet the expectations of the society
1	Cultural and attitudinal	HHV2	
2	Improving the society by solving a problem	HEE2 & HCS2	
1	Ability to follow steps to construct knowledge	HEA1	
1	Too simple to be perceived	HBV1	
1	New media	HTA2	
1	Appendage of IT	HEL1	

Research question 2 which states, **'How is the information environment constituted for academics?'** provided a platform for the researcher to understand the difficulties the academics face in accessing information. Particular attention was drawn to challenges in the areas of minimal access to the internet and very erratic supply of electricity. Having understood how the information environment is constituted and with the understanding that the academics have a clear perception of information literacy, this researcher wondered what practices the academics engage-in in a challenging information environment to nurture undergraduates to become information literates for the workplace. With this uncertainty (what practices are academics likely to engage in) in mind, this researcher proceeded into the study site with the third research question (RQ3) which states, 'How do academics engage in practices that could prepare undergraduates with information literacy skills for the workplace?' As earlier explained in chapter three (Methodology), the researcher gained insight into such practices through semi-structured in-depth interviews and un-obstructive non-participatory observation. The findings are presented under RQ 3 below:

4.4.3 How do academics engage in practices that could prepare undergraduates with information literacy skills for the workplace?- **(RQ 3)**

Questions presented to the participant.

- Kindly list some practices, tasks, or activities/engagements that you engage-in as an academic.
- How do you execute this task/practice?
- How do you think these tasks will prepare your students with information literacy skills for the workplace?

The practices of the participants are presented according to each participant:

4.4.3.1 The Practices of HTE1

HTE1 listed three practices that he engage in: (i) micro-teaching, (ii) group work, and (iii) teaching practice. He explained how these practices are executed in order to boost the understanding of the researcher. Micro-teaching, according to his explanation, *"is a miniature teaching equivalence of a regular teaching"*. In his case, he has a large class to contend with and he breaks it into *"smaller groups that could be easily taken through the skills of pedagogy and thereafter encouraged to practice such teaching skills among peers"* (teach-your-peers approach). According to the participant, Group work is a joint academic exercise that he usually engages the students in order to share in the knowledge of their colleagues or peers. Further, teaching practice was explained by the participant as an exposure to the real world of teaching. Students are sent to schools in the immediate community and lecturers, including this participant, are assigned in turns to supervise them to see how they evolve as 'ready-made teachers' for the workplace. Given this explanations and discussion, the researcher was able to identify the IL components such as: (i) 'public speaking and ethical presentation' (ii) 'synthesis' and (iii) 'professionals grooming the novice' that could possibly evolve from the practices earlier listed by the participant. Detail explanation of the practices is presented below:

Micro- teaching

The undergraduates are being prepared for the workplace of primary and secondary school setting where the main responsibility is teaching thus the emphasis is on the task of ensuring that the undergraduate *"students are equipped with appropriated skills to manage their classes while delivering the subject content"*. However, the participant explained that this task may be difficult to accomplish in his large class because he *"... cannot see who is fiddling with a phone at the back of class, maintain eye contact with all the students nor identify who is actively listening but all these are possible and achievable in a class of fifteen or twenty"*.

The practice of micro-teaching provides ample opportunity for the facilitator (lecturer) to assess himself through the immediate feedback that he gets from the students. This is because after taking the micro-teaching class through the rudiments of methodology of teaching, better referred to as pedagogy, the undergraduates are encouraged to do a *"short presentation to their colleagues who act as classroom students".* While the lecturer is assessing the presentation, he is also, invariably, assessing himself to see how much of the skills he has imparted into his undergraduate students. In response to a probe (why micro-teaching?), the participant said *"... you see, the art of teaching has its root in psychology especially the state of human mind and one [i] needs to carry along these students at every point. You [I] need to see who is looking blank, confused or identify who can talk to colleagues with confidence, speak convincingly with facts or some that are jittery and overtaken by fright or anxiety"*. This explanation shows that the class would be easily managed by the lecturer (participant) and his students would have time to demonstrate the skills expected of a teacher-in-training during their short presentations in class.

The participant further explained that the practice allows some *"degree of flexibility"* unlike the regular classroom. He said after the short presentations of the day, *"time is allotted for debriefing, i mean post mortem, where students critique their colleagues before make i comments on things that were done rightly and the others that require improvements".* This is the feedback mechanism built into the practice. This session prepares those who may be presenting in the next class while also strengthening those who presented in the day's class (micro-teaching session). The identified IL component in this practice therefore is 'Public speaking and ethical presentation'. This is because when the students are engaged in their short presentations, they are getting familiar to public speaking and, gaining confidence in addressing the public. Also, they are perfecting the art of using information ethically by acknowledging the sources; knowing well that the public, that knows the source of the information, may frown at the inadequate or non-reference of the sources. When the undergraduates get familiar with this skill and it becomes part of them, when they graduate or for academic tasks while still in school, they might have been grounded in the IL skill of 'citation and acknowledgement' of sources.

Group work

This practice is employed by dividing students into groups in order to execute an academic task. Such grouping, according to the participant, is intended to *"bring students from various background or social interests together to execute an academic task".* He further explained that some students have interacted with their friends, relatives or contemporaries who attend other tertiary institutions over some academic or social issues. Some have visited several places while some have highly enlightened parents whom they can share and discuss academic. Also, there are yet other *"students who are good [brilliant] at writing"* by the virtue of their primary and secondary school background.

The participant also acknowledged that *"there are some that are not very good in carrying out academic tasks".* So, group work brings all these categories of students together and thus enriches the final report or presentation of the group work. The participant further explained that *"students learn more and better among peers as this has been exhibited during my assessment of final reports of group work".* In response to a further question, (how do you identify individual brilliant students?), the participant said *"I give individual assignment at times and when they are submitted for marking, you cannot take away the brilliance exhibited in some of these papers but you see the brilliant students shouldn't go away with all the brilliance. Others should benefit from the process of becoming brilliant. Their skills should rub off on others. This is possible in a group work..."* In some instances, according to the participant, the group work that require group leaders to present the final reports of their group will show how coordinated and efficiently they worked together because the ensuing questions are directed to any member of the group, *"Most times, group members responded well which showed that they all worked together as a group though that does not rule out the possibilities that some may loaf around while others were quite busy on the group work".*

The participant explained that he shuffles the membership of the group in order to ensure that people benefit from themselves. In response to a follow-up question (how do you determine the members of a group?), the participant said *"There are no permanent members. Without following a particular order, I ensure members are shuffled. It's a large class, so there are enough to shuffle. I do it about three or four times before the end of the semester".* He also explained that his assessment of the final report bothers on identifying whether the ideals he discussed in class about working as a group were brought to bear on their final report. Following the discussion with the participant, the researcher identified the IL component of 'Synthesis' in the practice under focus. This is because, members of the group would gather information from various sources at

different times but in addressing the question of the group work, all members would have to work collectively as a group to: sift out the genuine information, remove errors and repetitions, justify what to include and draw a meaningful link between all the facts.

The IL component that explains this is 'Synthesis'. Furthermore, when the lecturer (participant) takes his undergraduates through this identified IL component, it is hoped that they (undergraduates) would be grounded in the IL skill of being able to do an effective 'Content analysis'. This is because they would have been familiar with the skill of breaking down information into bits and identifying the content, justify relevance and draw a conclusion for decision making. This skill is useful in academic tasks as well as workplace responsibilities thus qualifying it (the skill of Content analysis) to be referred to as a 'lifelong' skill.

Teaching practice

The participant explained that the practice *"exposes the undergraduates to the real world of teaching"* and that one of the goals is *"to prepare the undergraduates to fit into the workplace"* where they would eventually end. During their participation in the teaching practice, there is room for corrections before they graduate from the College. *"After the completion of the practice for a semester, the undergraduates return to the College for regular academic activities"*. Upon their return, corrections and recommendations on their skill development can still be effected before their graduation from the College. However, the role of individual lecturer (participant) to realise the goals of the practice come under focus in this interview with the participant.

The teaching practice is designed as an 'industry practice'; *"students are assigned to schools in the community for a semester while lecturers are assigned in turn to supervise them".* There are two levels of supervision: *"(i) the School of Practice (ii) the lecturer from the College"* (participant in this study). The two levels of supervision, according to the participant, are *"grooming the undergraduates to fit into the real world*

of teaching". In response to a follow up question (how do you conduct the supervision?), the participant explained that *"... there is a grading scale which guides what mark is apportioned to a display of a particular skill during the supervision".* In order to be fair to the student on teaching practice, the participant further explained that *"supervisors are expected to submit at least two assessments on each student while each student has more than one supervisor".* In this order, it is possible for a student to have four or more assessments from which the Coordinating Office will select the best two. Responding further to a probe question (what is your role in this assessment/supervision?), he said:

> *"... my role is to shape the student to become perfect and that is why the visit cannot be once. It's not possible. For instance if the marks for appropriate use of instructional materials [IM] is 10 and the student did not use [IM] at all or did not use appropriate ones, my role is to mount a remedial session [post-mortem] to brush him or her up to see the value in using instructional materials. Likewise, if the content in the lesson plan is weak, I won't just score him zero and go away. I'm to find out why? It could be that he didn't source for adequate information to prepare the topic, it could also be because he lacks basic knowledge of the topic or because he has anxiety or phobia for an aspect of the topic. Whatever I found out will determine the remedial session that the student requires to improve. By my next visit or visit by another supervisor, he or she ought to have improved enough to score let's say 12 out of 15. So, supervision is not just about scoring, it's about preparing the teacher trainee to near perfection in teaching skills and this is my responsibility as the supervisor*-HTE1.

HTE1 further explained that the grading scale was designed to address all aspects of teaching skills expected of a 'good' teacher. How well the skills are exhibited is what determines, to a large extent, the remedial session the undergraduate student will require. More so, lecturers (supervisors, including this participant) *"go through teaching practice workshop where colleagues share experience of what to expect during the practice and how to prepare the undergraduates to be 'best' teachers that the classroom could have".* At such a Teaching Practice Workshop, which the researcher attended as an observer for the purpose of this study, experienced lecturers presented papers that bothered on pedagogy and professionalism in the teaching profession. The presenters also shared experiences and strategies of preparing the undergraduates for the world of

teaching. These strategies and skills were already mapped onto the grading scale for assessment.

Upon analysis of the interview with the participant and observation during the Teaching Practice Workshop, this researcher identified an IL component of 'Professionals grooming the novice' as experience lecturers prepare themselves in the workshop in readiness for grooming the teacher trainee (undergraduates) for the workplace. This IL component becomes more evident as the practice is improved by accommodating the recommendations sent in from the second level of supervision (from the School of Practice). Therefore, this practice becomes an avenue to improving the teaching skills of undergraduates. When this is achieved, the IL skill that is likely to be imparted to the undergraduates may be the ability to identify the necessary skills that are required in the teaching profession and also 'sustaining the norms in the community of practice'. The IL skill, 'Sustaining the norms in the community of practice' is informed by the skills which they (undergraduates) acquire over time which will be helpful to them when participating in the Teaching Practice Workshop in future. At such times, they would have become experienced teachers preparing another set of novices; the lecturers groomed them and then they would be grooming others. This skill of grooming others is relevant to them while in school and also when they graduate and assume position of responsibility in the workplace thus sustaining the norms in the community of practice.

The summary of these findings is presented in the table below:

Table 4.6: Summary of Findings for HTE1

Practice	**Identified IL component**	**IL skill intended**
1. Micro- teaching	1. Public speaking & ethical presentation	1. Citation & acknowledgement
2.Group work	2. Synthesis	2. Content analysis
3.Teaching Practice	3.Professionals grooming the novice	3. Sustaining the norms in the community of practice

Summary

The three practices here presented may bequeath to the undergraduates some IL skills such as: (i) Citation and acknowledgement (ii) Content analysis, and (iii) Sustaining the norms in the community of practice. These IL skills may be possible as students are taken through the practices by the lecturer (the participant) acting as a facilitator. In the teaching practice for instance, the undergraduates will get to know the fundamental requirements of the profession and also get familiar with how activities in the classroom are expected to be coordinated. Getting this knowledge from professional and experienced supervisors (like the participant) would impart into the students the abilities to identify and sustain workplace norms; which is an IL skill.

4.4.3.2 The Practices of HIS1

In response to the question about what practices the academic has engaged in, HIS1 listed three practices: (1) Practical session (Hands-on), (2) Indigenous knowledge sharing, and (3) Assignment. In an observation session, the researcher was able to identify an IL component of 'building on local knowledge to achieve learner-center experiences.' Other IL components that were identified through in-depth interview were 'team work' and 'citation and acknowledgement' skills. From the three practices, three IL skills: 'workplace collaboration', 'negotiating knowledge' and 'study and writing' skills were intended to be imparted to colleagues and the undergraduates. More detail about how the researcher arrived at the 'Identified IL component' and the 'IL skill intended' is explained under each practice; presented below:

Practical session

Practical session is a practice of exposing the learners to *"laboratory activities that underpin theories of knowledge in Science".* While theories in the subject of Science seem abstract, the participant explained that *"it's not easy to define a theory or law without taking the learners through practical demonstration".* Learning is made more

effective through seeing, touching, and other sensory organs involved in physical activities (practicals). According to her, the practical session brings the lecturer-in-charge of the course and other laboratory technologists together. Some tasks would have been shared among such technologists or assistants and carried out before the day of practical session: *"preparing slides, preparing the reagents, chemicals or specimen".* The role of the lecturer is to coordinate the activities of her colleagues before and during the session to ensure *"adequate cooperation"* (team work).

The lecturer brings her experience and academic knowledge into coordinating the session thus explaining why *"some activities are even done outside the department because some instrument or specimen may be acquired by the Central Science Purchasing Unit".* This shows that the lecturer would liaise with colleagues outside the department and some departmental staff (collaboration) to achieve an effective practical session. On the day for practicals, the learners would *"learn from well coordinated activities of the session"* and could replicate this while still in school or at the workplace. The identified IL component in this practice therefore, is the 'team work' while the IL skill that is intended to be bequeathed to the colleagues and students is 'workplace collaboration'.

Indigenous knowledge sharing

This practice was observed in the laboratory where the lecturer takes students through the construction of some simple Science equipment (rain gauge, weather vane, dissecting tray), learning resources (organs of the human body, human skeleton) and diagrams (charts, organograms, realia) by using indigenous knowledge and materials. This practice helps the lecturer (the participant) *"to provide an alternative to the 'original' (imported) equipments which are not easily sourced".* This practice also whets the appetite for *"creative learning in students"* as the lecturer takes them through step-by-step of the skill acquisition. This observation session involved short interview and

discussion during the taxidermy of the giant African duck. The lecturer, in her surgical mask and hand gloves, carefully brought out the already soaked cotton wool from the glass cylinder. She entertained contributions from her students on how to source for local preservatives before she further explained the process of using local preservatives to soak wraps of the cotton wool. She further explained the procedures of skinning and evacuating the intestines of the duck. There were two other staff, also in masks and hand gloves, standing round her on the table and helping in picking items that were needed to carry out the next task. These assistants were also moving around the students to assist them or ascertain if they were doing the right thing on their dissecting trays.

The taxidermy was almost completed as the lecturer was suturing up the duck. The duck was fully finished and its entire characteristic features were well pronounced. It was displayed along with other creatures (rabbit, lizard and cock) that had been prepared earlier. The duck and the other creatures looked alive and could serve the purpose of learning resources. On another part of the shelf, there were other Science equipments that had earlier been constructed. The position of the lecturer during this practice was that of a facilitator because she accommodated the opinions and ideas of her students in order to build on their local skills (indigenous knowledge) to construct learning resources to achieve learner-center experiences. This practice further ignites the creative drive of the learners as their lecturer made them to be part of the learning experience thus informing why this researcher identified the IL component as 'Building on local knowledge to achieve learner-center experience'.

The lecturer benefitted from the indigenous knowledge of the students while the students also benefitted from the experience, academic prowess and professional exposure of the lecturer hence explaining why this researcher also identified the intended IL skill as 'negotiating knowledge'. This practice gives room for the lecturer (the participant) to share her knowledge while also recognising the value of the indigenous

knowledge of her students; the two parties eventually learnt something new from each other.

Assignment

This practice is a form of mechanism to get feedback from the students on what the lecturer taught or intends to teach. According to the participant, *"assignment takes the students beyond the last class and also prepares them ahead for the new topic in the next class".* She further explained, in an interview, that *"I have taken them through the strategies of sourcing for information in the library and I want to see how this is played out in their assignment"*. The practice is used to determine what the learners know before the start of the topic, during the discussion of the topic and after the completion of the topic. From the assignment, the lecturer could *"identify where to start the lecture"* because she said she could determine *"how much the students know".* In assessing such assignments, the lecturer said *"I check out their commitment to* [...] *research, referencing and respects [acknowledgement] of all sources they consulted"* which is a way to get a feedback whether they were able to apply the skills she taught them in class. According to the participant, she did not award marks for the mode of submission especially when most of the students prefer 'physical hand-in' to online submission.

This researcher identified the IL component in this practice as 'citation and acknowledgement' because in an attempt to prepare and submit the given assignment, the students would have consulted several sources and the lecturer had said she awards marks to effective referencing which is a signpost of information literacy (ethical use of information). The intended IL skill in this practice is 'study and writing' skills. Asking the students to put their thoughts to paper through the assignment is a way of grooming them to learn more about learning. They would be able to challenge the information they got in the cause of sourcing for information to answer their assignment. They will also wonder and challenge the accuracy of the sources before selecting or preferring a source

to another. All these skills come under 'studying' while the ability to convey these thoughts to others (examiner/lecturer) is a display of an effective writing skill. The lecturer (the participant) with her practice of 'Assignment' is preparing her undergraduates to have 'study and writing skill' which is critical to undergraduate academic activities and upon graduation; workplace routines.

The summary of these findings is presented in the table below:

Table 4.7: Summary of Findings for HIS1

Practice	**Identified IL component**	**IL skill intended**
1.Practical session (Hands-on)	1.Team work	1.Workplace collaboration
2.Indigenous knowledge sharing	2.Building on local knowledge to achieve **LCE**	2.Negotiating knowledge
3.Assignment	3.Citation & acknowledgement	3. Study & Writing.

(**LCE** in the table means Learner-Center Experiences)

Summary

The three practices were borne out of the knowledge of the participant and her commitment to achieve the utmost goal of preparing the undergraduates for the workplace. From the three practices, the undergraduates were expected to leave school with IL skills such: 'workplace collaboration', 'negotiating knowledge' and 'study and writing' skills. These skills shall continue to be useful to them as employees (currently undergraduates) throughout their workplace-life even when they move across industries or establishments thus explaining why such skills are called 'life-long' skills.

4.4.3.3 The Practices of HEA1

This participant (HEA1) listed five practices: (1) Participatory assessment (2) Group work (3) Micro-teaching (4) Case study (5) Academic colloquium; in response to the question posed by the researcher. The participant explained each practice to show how it was executed or carried out. The discussion was the basis for the researcher to identify the information literacy (IL) component in the practice and also forms the basis for further interview and or observation; where possible. The information literacy (IL) skill that was intended to be bequeathed to the undergraduates for the workplace was

identified through in-observation short interview or through in-depth interview; where observation was not possible. The Participatory assessment and Micro-teaching were observed while data about the other practices were elicited through in-depth interviews. Furthermore, the IL skill that may evolve from the practice is referred to, by the researcher, as 'intended IL skill'

Participatory assessment

The participant uses a 'check-sheet' to assess the understanding of an on-going lecture. In the practice, the lecturer pairs two students whom are called 'twin'. Each student is expected to endorse the 'check-sheet' of the other when they agree on the common meaning of a key-word, term or phrase created by the lecturer to assess how much the learners are gaining from the lecture. The 'check-sheet' for a particular lecture is sent out a week ahead of the lecture day. The 'check-sheet' assesses how efficient the learners felt the lecturer carried out the lesson of the day. Upon completion of the 'check-sheet', the lecturer also endorsed the 'check-sheet' in affirmation or disagreement with the assessment on the 'check-sheet'. The 'check-sheet' was later submitted to the coordinating office for further assessment, analysis and decision making purposes. This form of assessment brings together many parties to participate in ascertaining whether the lecturer was doing the right thing, whether the undergraduates were benefitting from the class and how the assessment could facilitate further decision making for improvement.

In response to a question after the observation session, the participant (lecturer) said *"the coordinating office and even the students are free to express themselves as truthful as possible. Everybody is encouraged to express an objective mind before endorsing the check-sheet".* The identified IL component in this practice is 'Assessment' as this is the underlining intention of the 'check-sheet'. Furthermore, the opportunity of expressing an 'objective mind' by any of those participating in the

assessment (the lecturer, the paired students-'twin' and the coordinating office) stands out as the intended IL skill being imparting to the undergraduates. This is the intended IL skill because none of the participating members is forced to take a decision; rather, they are free to take a decision out of personal conviction that the activities satisfied their expectations.

Group- work

The students are grouped together to carry out an academic work that will be submitted as a group work. "*Students learn better in a group and they will be able to contribute freely among their peers*". The activities involved in the group-work or project are shared by the lecturer into segments and assigned to individual student. Every student is expected to participate actively in the group work. The "*contribution of each member of the group is compulsory and there should be a seamless flow of thoughts in the write-up from the introduction to conclusion".*

Assessment of the group work apportions marks for active participation of members and any member could be called upon to explain a part or the entire work during the presentation. When the group work is submitted, *"i may not be able to see what individual member contributed to the work because the whole contributions would have been carefully integrated [Synthesis]"* thus presenting a well refined work. The identified IL component therefore, is 'Synthesis' which would have been achieved through a blend of effective interpersonal and group relationship. This (synthesis) is an IL component which is prominent in the ability to gather information from several sources (group members) and weave them together to form a "seamless", refreshing and interesting presentation. Such write-up will not show any jerky and disjointed sentences. This is achieved because the lecturer could have taken them through the IL skill of 'collating and representing information'. There are many information resources available but the intention of their authors was to provide information to be gathered by

people to meet their information need, collate relevant information from the resources and represent such information for other people. In response to a question (how do you think this practice could prepare your students with IL skills?), the participant said, *"They will become good information literates".* However, the researcher inferred that this practice may bequeath the skill of 'collating and representation of information' to the students.

Micro-teaching

The large classes are broken down into smaller (micro) classes of about twenty or less. The class becomes manageable and the lecturer is able to introduce specific topics to the learners and allow them to share their understanding of the class. After taking the students through the rudiments of a topic, *"I will ask them [students] to do a ten-minute presentation of their understanding of my lecture. This will give me the opportunity to assess their confidence in public speaking, understanding of the subject and how they can explain what they have learnt"*. The time and attention that could be given by the lecturer to the micro-students is almost not possible in the regular large class. Furthermore, the lecturer is able to analyse and attend to individual feedback from the students thus ensuring that he has taken them through a learning experience. According to him, *"Micro-teaching removes the barriers in a large class and provides the lecturer the opportunity to provide a learner-driven experience".* From this discussion, the identified IL component is 'Public speaking and ethical presentation' which the learners could exhibit in the ten-minute presentation. Above all, the lecturer would have imparted into them the IL skill of 'citation and acknowledgement' because the participant said that "i provide citations and references when teaching" and he expects them to also provide *"citations and acknowledgement of whoever helped you [them] in getting information".*

Case study

The participant explained, in an interview session, that there are various business enterprises spread around the community. Rather than remain in the classroom, "I usually send the students to visit any business enterprise of their choice and gather all possible information". This case study practice exposes the students to real life scenario of what they are taught in Economics and Entrepreneurial skills education. After visiting the specific cases, the lecturer requested the students to write comprehensive reports of their visits which he would assess. A day is set aside for feedback to the students. Such a day is a *"forum for students to express their interest and enthusiasm in a particular business or related field of study".* Heads of some business outfits and organisations are invited to share their experiences and give words of encouragements to the undergraduates. 'Information sourcing & representation' is the identified IL component. This was evident in the lecturer's assessment and scoring of how the students gather (source) information from the cases and their (students') skills of representing the facts they gathered (collected) from the business enterprises (cases) they visited. In one of his responses, he said: "I am particular about how they source their information, from whom and where. I also want to see how they applied what i've taught them in class when they are presenting their facts. I mean they should be able to acknowledge their sources while representing facts during their presentation". This practice may prepare the undergraduates with the IL skill of how to 'gather information from primary sources' as they had to interact directly with the people in the 'cases'.

Academic colloquium

Academic colloquium is one of the practices among the academics of the department. *"[W]e come together once in a while to share knowledge especially when one or some of us have just returned from a national or international conference".* The academics train themselves in this event on the basis of 'training-the-trainer' or what

one could describe as staff professional training and development. This peer development allows "*experienced lecturers to share their experience with up-coming or young lecturers in the department".* The information literacy (IL) component identified in the course of this interview was 'information knowledge sharing' as academics were able to fulfil their information needs which would be necessary to interact with their other colleagues and students. To adequately share information among themselves, as explained above, the IL skill intended to be bequeathed to colleagues and, eventually, the students may be all the communication skills (all the four language skills) such as: reading, effective writing, critical listening, public speaking, communication skills, presentation skills (Power-point), questioning and effective feedback mechanism.

The summary of these findings is presented in the table below:

Table 4.8: Summary of Findings for HEA1

Practice	**Identified IL component**	**IL skill intended**
1.Participatory assessment	1.Assessment	1.Objective and analytical mind
2.Group work	2.Synthesis	2. Collating & representing inf.
3.Micro-teaching	3. Public speaking & ethical presentation	3.Citation & acknowledgement
4.Case study	4.Information sourcing & representation	4.Gathering inf. from pry sources
5.Academic colloquium	5.Information-knowledge sharing	5. All Communication skills

Summary

This participant studied his information environment, relied on his experience and engages in practices that could assist him in preparing the undergraduates with some IL skills for the workplace. Although some of the skills were not expressly articulated by the participant, the researcher was able to map the skills against existing literature. Such IL skills were: objective and analytical mind to facilitate a decision making process, collating and representing information, citation and acknowledgement of sources of information, gathering information from primary sources such as interviews and ethnographic studies and lastly all Communication skills especially 'Power-point' presentation skills which is necessary for public presentations. All these

skills are necessary in the workplace and the lecturer (HEA1) seems to be bequeathing them (skills) to the undergraduates through these practices.

4.4.3.4 The Practices of HCS2

The participant, HCS2, listed three practices she engages in to prepare her undergraduate students for academic tasks while in school and when they eventually graduate into the workplace. Her three practices are: (i) Active engagement (ii) Staff collaboration and (iii) Analogy. From the in-depth interview conducted with her, she explained how she executes these practices to groom the undergraduates. Drawing from this prolonged interaction, this researcher was able to identify three IL components that may evolve from the practices as: (i) task-based participation (ii) information-knowledge sharing, and (iii) building on cultural values. However, the IL skills which these practices may bequeath to the undergraduates are: (i) Self learning, (ii) All communication skills, and (iii) negotiating knowledge. More detail is presented in the explanation of each practice; as presented below:

Active engagement

She explained that she introduces her students to a topic by presenting it from the *"simplest angle which looks like a tale or folklore through the use of examples and illustrations".* This aspect is usually simple because the students enjoy the story. She further said *"I always build my story around local examples that arrest their attention".* After the main theme of the story has been explained, the participant said she would then introduce the task to be executed, *"at times, I could task them [students] to sketch out the faces of the characters in my story and later relate it to the topic of the day which could be say… em… state of matter"*. She further explained that the practice is *"task-based and allows the student to execute the task at his or her pace".* The practice also identifies the zone of proximal development (ZPD) of each student which was explained as *"the point at which the students cannot proceed in the task and therefore*

require the attention and assistance" of the participant (lecturer) to continue on his or her on-going task. She further explained that:

> *"it consumes so much time but I tell you, it's a fruitful approach to self learning and personal discovery. For example, take a look at how long it takes me to tell a story about the relationship in the family [nuclear and extended] and thereafter relate it to 'chemical bond' before I give them a task of using used cartons to design types of chemical bond. Could you imagine the time that will take? For the execution of the task, I have to let students relax, discover and learn at their own pace. So it takes time but it's an excellent way of learning"*-HCS2

Learners that are exposed to the practice of Active engagement, according to the participant, would not have any dull moment, they would freely ask questions, request for clarifications and *"learn from known to unknown until they get stocked and call for assistance. It is quite different from the 'chalk and talk' in the regular classroom context".* She further said what is important in the practice is that the task is executed with emphasis on how well it is executed but not how much time was spent in completing the task. So, one could say this practice promotes individual learning and skill development. Thus this researcher identified 'Task-based participation' as the IL component in the practice because every learner would actively participate in executing a task rather than merely listening or watching. Rather, they listen, watch and execute thus achieving effective learning. When the lecturer (participant) takes her students through the practice, the IL skill that may be imparted into them (undergraduates) could be the ability of 'Self-learning'. That is, they can identify the information they need, identify where to source for the information and upon getting the information, they can determine the quality (authenticity, reliability or timeliness) to justify using it to complete a task; with minimal guide from the lecturer. When they are able to do this through Active engagement, they may perfect the IL skill of 'Self-learning' or 'individual learning' which is useful in both classroom activities while still in school and in the workplace; eventually when they graduate.

Staff collaboration

The academic members of staff came together and deliberated on how they can *"assist students in the department in developing entrepreneurial skills"* which would enable them engage themselves when they graduate from the College. The need for such thought, according to the participant, was due to *"the challenging economic situation in the country which has further increased the level of unemployment".* Most students are apprehensive of what happens after graduation and this has become a *"determining factor in enrolling in the department"*. In one of her comments, she said *"... we started holding workshop series among ourselves to trade ideas and prepare ourselves for this new thinking".* The participant further explained that *"the collaboration involved sharing published materials together, attending and presenting papers at conferences and also visiting institutions elsewhere in the country where colleagues are thinking of solving the problem of unemployment from the classroom".* Responding to a probe question (why collaborate to do this?), the participant said:

> *"There are many sides to solving this problem. During our time, nobody taught me entrepreneurial skill in [...] but today, there's an urgent need for it and that's why we brainstormed and came out with a course like this. In fact we have to embed it in an existing course because there is no course like that in the curriculum [...] for the students. We use team-teaching approach because of the various aspects we want the students to know. For example, budgeting, proposal writing, material and equipment sourcing, so many"*-HCS2

The participant also informed that her colleagues in the department are so committed to the exercise that *"they [we] all agreed to shift the preview meeting of the workshops and update on the entrepreneurial course to weekends. Everybody is always punctual and contribute a great deal".* Also, in her response to a follow-up question (do you mean the staffs benefit more from the workshop series?) said: *"It's more about improving the quality of students we turn out and to encourage others to come".* This response further guided this researcher to identify the IL component in this practice as 'Information-knowledge sharing' because all the members of staff synergize efforts in

terms of information they have and the experiences they have gathered over the years as individuals and members of various professional groups. Such synergy was intended to make them better and informed which could be explained under the IL component identified. Furthermore, since the practice is about and among academic staff of the department, colleagues will also learn or improve in all communication skills (all the four language skills) such as: effective writing, listening, public speaking, group communication, and interpersonal communication. Given the sustenance of these skills among the academic staff; due to their participation in the workshop series, there is the possibility that they would impart those skills to their undergraduate students thus making them (students) grounded in the skills.

Analogy

HCS2 shared her experience in using 'Analogy' as a practice to facilitate her interaction with her undergraduate students. The field of Science, according to the participant, seems more abstract hence she uses analogy to *"bring Science to reality".* She does this by building her *"teaching and discussion around stories, situations, news items, contexts, or circumstances in the immediate environment which the students are familiar with".* Such scenarios are similar to the topic in focus thus *"enhancing understanding of the Science theory, idea or topic".* At times, she said she will describe or explain the topic and challenge the students to generate descriptions or stories that are analogous to her description. It is after this aspect has been cleared and she was convinced that the students have an idea of the topic that she would *"introduce specific terminologies and jargons".* She further commented that *"sometimes they [students] looked blank and I have to use analogy to draw them out from known to the unknown".* In using the strategy, the participant explained that she liaises with colleagues who could have *"analogies or happenings in their experiences that could stimulate the students' understanding of the subject at hand".* In response to a follow-up question (suppose there

is no story or event in history to use?), the participant said: *"That is really not possible. If I understand a topic well enough then I should look for things around me to explain it to my students. Oh… events happen often and I need only to search around in textbooks, bible, home, TV, friends, land, sea, eh… all around."*

This practice of 'Analogy' suggests that illustrations could be drawn from everyday life as embedded in the socio-cultural values of the people (staff and students) to buttress the lecture of the day. This benefit, inherent in the practice, prompted this researcher to conclude that the identified IL component in the practice is 'Building on cultural values'. The practice as explained by the participant does accommodate suggestions of analogies that may reflect the discussion of the day even when such suggestions are made by the students. In this way, both the lecturer and students would agree on the best illustration that is analogous to the topic of the day. This approach and opportunity provided by the practice also prompted this researcher to infer that the students will benefit from such learning context and grow up to know that learning is better achieved when knowledge is negotiated; hence the intended IL skill 'Negotiating knowledge'. This IL skill is especially invaluable in the workplace where suggestions, experiences and analogies from superiors and contemporaries could help in achieving improved performance or user-friendly service delivery system. Negotiating such knowledge becomes an asset for such employee.

The summary of these findings is presented in the table below:

Table 4.9: Summary of Findings for HCS2

Practice	**Identified IL component**	**IL skill intended**
1.Active engagement	1.Task-based participation	1.Self- learning
2.Staff Collaboration	2.Information -knowledge sharing	2. All communication skills
3. Analogy	3.Building on cultural values	3.Negotiating knowledge

Summary

Staff collaboration as a practice is a practice among the academic staff in the department but it has its aftermath effect on the undergraduates because when the academic staff become improved through further training and workshops, the students may get improved too; in the long run. Also, since the practice is a staff development programme, kind of, the participants (including this study participant) would end up with improvement in all the communication skills which are also fundamental to IL. Apart from staff collaboration, the other two practices: 'Active engagement' and 'Analogy' will impart IL skills of 'self-learning' and 'negotiating knowledge' respectively to the undergraduates. These IL skills are both useful while still in school and also when they graduate and become employees in the workplace.

4.4.3.5 The Practices of HTA2

The participant, HTA2, listed some practices which he said had been his guide in interacting with his students. They are: (i) IT-based assignment, (ii) Project supervision and (iii) Rehearsals. He explained the process of executing the practices from which the researcher understood the Project supervision to refer to dissertation and term paper. However, from the interview, the researcher was able to identify the IL component that may evolve from such practices as: (i) Exposure to information technology (IT), (ii) Scholarly writing and (iii) Information-knowledge sharing. The explanation on the practices and how the researcher identifies possible IL components are presented below:

IT- based assignment

The participant explained that he has seen the beauty in information technology (IT) and has mandated all his students to be prepared to receive several of his assignments from their email boxes. The students, according to him, should be told the truth that *"they have to spend their money and time going to cyber café or anywhere to get adequate information to prepare well researched assignments"*. He further explained

that it is the duty of all academic staff to *"compel students to move close to information technology by giving them (students) IT-based assignments".* By so doing, the students do not have a choice than to learn and find the means of accessing the internet to do and send their assignments. In order to achieve this, he said he organises a workshop once at the beginning of the semester to educate the students in his Department on *"how to surf the net [internet], navigate and identify quality information for academic purposes".* He said he also compelled all of them to open email accounts through which he sends their assignments.

He also explained that *"I have asked everybody to get email account to receive assignment".* Responding to a follow up question (do they also submit through this medium?), the participant responded: *"Ah, No! That will be too much in my box. They submit print-outs."* During class sessions, he explained, he would recommend to them *"websites and free databases that could provide information resources and also direct them to APA website to guide them in the referencing".* According to him, the *"students are used to writing the references when using hard-copy materials but they are not familiar with electronic resources*; perhaps a reason that informed the IT-based assignments. In response to yet another follow-up question (how are they responding to the practice?) the participant said:

> *They seem not to be enjoying it. My name is all over the campus as a man that gives stress to students but i appreciate the predicament of our staff and students in accessing the internet but i have to act like the Surgeon who must carry out a life-saving surgery. I have to close my eyes against the cost and pain involved so that i can achieve results*- HTA2.

There are some students who, according to the participant, do go back to him to ask for clarifications on the IT-based assignment that he had earlier given in class which proves to him that *"some students are benefiting from the practice".* He further suggested that *"every lecturer should force the students to go to the internet by giving them IT-based assignment because it will make the students computer literate by*

mastering the operations and use of the internet". Following his explanation, this researcher identified 'exposure to IT' as the IL component that may evolve from the practice. That is, when the lecturer (participant) takes the undergraduates through this practice, they are likely to graduate with adequate competence in computer use for information sourcing and decision making. This likelihood prompted this researcher to suggest that the practice may impart the IL skill of 'computer skills' to the undergraduates. While such computer skills would be useful to them for academic purposes, they will also benefit from them (skills) as employees in the workplace.

Project supervision

Project supervision refers to the guide that this participant put his students through during their end-of-programme dissertation. Students are assigned to academic staffs that play the role of supervisors guiding the students through the process of this scholarly writing. He explained that he believes that "*the skill of writing can be taught"* and what he does is to organise his project students into a small work group; irrespective of their various phenomena. They meet fortnightly and on every occasion, he picked the newspaper of the day and re-writes about five hundred words on the front-cover story, sports, entertainment or any news item of interest. It is such write-up that he gives to his project students to compare with the original story in the newspaper. He said he would also request them to identify the various aspects of 'effective writing' such as *"purpose, descriptive prowess, analytical presentation, accurate dating, setting-personality specification, and target audience"* which they have learned in their regular English language writing proficiency classes. They will thereafter discuss such aspects that were identified by them (students) before he would then challenge them to write their own piece of the newspaper story. He said *"the improvement is usually reflected in subsequent write-up and submission in their project work. They get familiar with the rudiments and*

they avoid common errors while writing their dissertation". In his response to a probe (why re-write something that is already published?), he explained that:

> *"That is more tasking! I'm taking them through the minefield. If you want to be a good actor, you watch good actors act. So, if you want to be a good writer, you read what they have written. I have introduced good writers to them but i need to show them examples of good scholarly writing"*- HTA2

This researcher considered the explanation of the practice and was of the opinion that undergraduates that are taken through this practice of Project supervision by this participant will be exposed to the process of scholarly writing hence the reason behind the identified IL component of 'Scholarly writing' which is very critical to undergraduate students. Furthermore, this practice under the tutelage of the lecturer (the participant) will engender an IL skill of being able to study and write effectively. This ability to study and write effectively becomes one of the IL skills which the undergraduates would acquire before graduating. They will benefit from the skill while still in school and when they eventually become employees in the workplace.

Rehearsals

This practice allows the undergraduates *"to convert their thoughts about their own world into a script"*. Their own world could be about ideas they have, about *"politics, teaching a theory to a set of students or communicating with a particular audience".* Upon 'converting' such thoughts into a script, according to the participant, *"the students are taken through the script by assigning roles to individuals who act out the 'message' in the script. Acting it out at this initial stage is the rehearsals".* This practice becomes resourceful because *"every student can contribute and share ideas"* on how best to realise the dream in the script. *"Rehearsals mark the stage where so much can be corrected and perfected".* During rehearsals, the participant said he assessed the contribution of the students on how best to interpret the script based on *"the ability to study the environment, the audience, mature mind for details, exposure to literary works,*

good command of communication skills and the stamina for physical exercises and display".

He further explained that rehearsals sharpen the thinking of the students thus preparing them to be able to respond to issues promptly. Commenting further, he said *"During rehearsals, you can test your ability and refine them but it would be late once you are on stage"* thus justifying why students always attend the session. In order to find out how the students may master the art of script writing, a question (Do you provide any special training for script writing?) was presented to the participant. He responded that: "*there is a course on script writing but script writing is an on-going exercise. You never finish a script until the play is staged or filmed. So many additions and refining can be done. So, you keep learning script writing"*.

This researcher considered the explanation provided in the interview with the participant and inferred that the practice may provide a forum for information-knowledge sharing. This is because apart from the lecturer, other members of the Department who attend the rehearsals are quite knowledgeable and experienced. When the students interact with such people, they will gain and share in the experiences of others. This therefore explains why the IL component that is identified is 'information-knowledge sharing'. Also, the researcher was of the opinion that the practice will rely on all communications (all the four language skills) skills to inform and share knowledge especially when *"good command of communication skills"* was listed by the participant an important skill necessary to effectively interpret a script. This further explains why the intended IL skill which may be imparted to the undergraduates is 'all the communication skills' - all the four language skills (reading, writing, speaking and listening) would be cultivated.

The summary of these findings is presented in the table below:

Table 4.10: Summary of Findings for HTA2

Practice	Identified IL component	IL skill intended
1. IT- based Assignment.	1.Exposure to IT	1. Computer skills
2.Project supervision	2.Scholarly writing	2. Study and writing skills.
3.Rehearsals	3.Information - knowledge sharing	3.All communication skills

Summary

The three practices listed by the participant and the subsequent IL components that were identified may be capable of making the students graduate from the College with possibly having the following IL skills: (i) computer skills (ii) study and writing skills and (iii) all communication skills. As explained under each practice, the undergraduates will be exposed, for instance, to how computer is used to complete assignment through the 'IT-based assignment' because the lecturer (the participant) gave them IT-based assignment that forces them to use the computer and internet. With such regular use, there is the possibility that they become conversant and master its use thus acquiring computer skills. Furthermore, the other two practices: 'Project supervision' and 'Rehearsals' may also bequeath to the students IL skills such as: 'study and writing skills' and 'all communication skills'; respectively.

4.4.3.6 The Practices of HEE2

HEE2 said he has a large class to contend with and this informed why he employed the practice of 'group assignment' to assess the learning experiences of his undergraduates. Other practices he also employed were: 'networking with colleagues' and 'cultural knowledge development'. Through group assignment, the IL component that was identified was that the lecturer was taking his students through the activities involved in 'harnessing and synthesising information' from sources that were consulted while completing the assignment as a group. Other IL components that were identified in the practices were: 'sourcing for information' and 'information transfer'. Each practice and the evolving IL component that may engender an IL skill are presented below:

Group assignment

The participant explained that *"continuous assessment is an important fragment in academic development of the undergraduates".* The assignment could take several formats (quiz, long essay, class participation, etc) and could also be as regular as weekly, monthly or bi-semester. He further explained that the class size could determine *"how often the assignment would be given because of the challenge of marking and giving feedback to the students".* The participant said he employed the practice of group assignment through which *"the students share the same marks of the group's score".* As such every group member works hard to boost the group's score. The participant said, *"At times, I insist that they create a table of value to tell me who did what in the group. Apart from knowing their individual contributions, I can also determine their strength and weakness"* and this information may inform him (lecturer) where to intervene to improve the students**.** In a follow up question on how he constitutes the membership of the group, the participant said he does not use any particular style but rather encourages a free grouping. He further clarifies that [he does] *"... not identify students with specific skills due to the large class size but simply let them to cooperate and learn from themselves. Students are freer to work among their peers because they see mistakes as fun but they feel making mistakes in the whole class will attract scorn and jest"*.

Some of the area of scoring includes "*depth of research, high application and respect for rules of grammar, effective communication, a good flow within and across paragraphs, and references/bibliography and acknowledgement".* These areas of scoring may assess how the students were able to 'harness and synthesise information' from sources consulted. Furthermore, 'harness and synthesise information' is identified as the IL component because the lecturer insists on individual participation but does not want such contributions (of group members) to be presented on individual basis. Rather, he wants to see well harnessed and synthesised information exhibited in *"a good flow within*

and across paragraphs"; one of the scoring criteria or guide. From this practice (group assignment), one could notice that the intended IL skills are: collating, reformatting, referencing and effective communication. These IL skills are intended because as the lecturer takes his undergraduates through this continuous assessment and returning their scripts to them (as feedback), the students would grow to understand how the lecturer awards marks; and what attracts good marks. They would also become skilful in working in a group even though their contributions would have been integrated into what makes the good presentation of the group. To achieve a good presentation like this, the students would have exhibited the skills to collate facts from all group members, present the information in a different format, do a detail reference of the sources they consulted and effectively communicate this in writing; as expected by the lecturer. When they continue like this under the tutelage of the lecturer (HEE2), one may think that they are being prepared with IL skills (collating, reformatting, referencing and effective communication) that are assets in the workplace. Such IL skills as these shall continue to play a role in the entire workplace-life thus qualifying them to be called life-long skills.

Networking with colleagues

The participant explained how he contacts friends and contemporaries on-campus and beyond to gather information for *"academic and other purposes".* His network of friends and colleagues are in *"academic associations, professional bodies, social groups, training and development programmes".* This practice is an opportunity for colleagues to learn from one another through formal and informal interactions; not anyone teaching anyone. The participant further explained that colleagues at these forums already have their opinions about some issues but their opinions do not become *"gospel truth".* Rather, such opinions are shared with colleagues who may learn from them, share their experience to shape such opinions or disagree out-rightly on the basis of superior scientific or proven facts.

In one of his responses, the participant said *"... I do send mails to friends on some issues in order to get more views on the matters and I equally receive similar requests from people asking me one question or the other about a particular issue in my locality or country".* Furthermore, this could also be seen from the view-point that everybody who participates in networking has something (information) to share. In a way, this could be considered as an informal training ground (forum) for colleagues. The participant was trying to explain what he gains from networking by saying *"... you see, you do not lose anything by networking rather you gain more, at least, by confirming what you have heard or read before. You can really get a novel idea from people and this may mark a turning point"* thus underscoring the worth of networking with colleagues.

The IL component that is identified in this practice is 'sourcing for information' while the IL skill that may evolve is 'formal and informal retrieval skills'. The practice involves people in the know who still require satisfying an information need. Their attempts therefore, to get (source) information for academic, social or professional purposes take them to their colleagues through networking; this is information sourcing.

As regards the IL skill that may evolve, the participant draws attention to the fact that the people he networks with are his colleagues. This means he may not use formal approach to retrieve information from them on all occasions. He may use informal approaches such short notes; text messages (SMS), non-verbal cues, phone calls, or anecdotes. He may also use formal approach by writing a formal request to organisations or associations of which he is a member to seek for information. In doing this, those engaged in 'networking' may be grooming themselves in 'formal and informal retrieval skills'. These skills are used on daily basis in the workplace as routines may require clarifications, confirmations or request for supporting documents from organisations or colleagues.

Cultural knowledge development

The participant explained that most communities in Nigeria are rich in indigenous information which has helped in filling the gap created by challenges and inability to access information from other sources. When access to information through internet and multimedia facilities became a challenge, the participant explained that he *"tapped from the cultural knowledge"* to satisfy his information needs. The participant explained this further when he said *"people in the community are endowed with some knowledge of how things happened or how things were done over the years. These people become information resources for us especially when we cannot locate such information in other sources".* The cultural knowledge involves how people conduct their entire life: marriage, health, textile, entertainment, communal dispute resolution, agriculture, education, administration, warfare, and a host of other matters relating to human existence. As people consult the indigenous and cultural information to attend to their information needs, *"The body of knowledge keeps responding and developing because the consultation encourages the custodians to search more into their archives (oral) to find out what information is available to meet the information needs of people"* thus improving the 'body of knowledge'. In response to a probe question (how do you verify the information from these oral sources?), the participant explained that *"there is a culture of trust in the communities which make people believe in what they see or hear".* He explained further that:

> *The lecturers take their students to these people and they share their stories, reasons behind some events, show artefacts and monuments to explain the development from 'before' to 'now'. I have done this several times. The lecturers usually encourage their students to believe the informants and not to doubt them because it is against the culture of the community to believe that the 'elders' can tell a lie or misrepresent information. These informants are celebrated for their high retentive memory. They are believed to have sworn to an oath with the deities of the community to ever remain faithful and truthful in their dealings*- HEE2.

This interaction with the participant explains the practice as 'cultural knowledge development'. Here, information or skill is transferred from great grand fathers to children in the oral forms. For example, some Nigerian names (Yoruba) indicate that a person or family possesses a particular knowledge or skill that is inherited from great grand fathers: Adegoroye (royal lineage), Awogbo (spokesman of the deity- health and religion), Oshundeyi (goddess of the river- motherhood and health), Ayangbade (family that is skilful in drumming), Agbekoya (lineage of farmers and hunters) and a host of others that are embedded in the cultural knowledge. This practice fosters knowledge development as the participant said he refers **"…** *to these people … to buttress the classroom discussion. It makes learning real and eventful…"* Perhaps, this justifies why some skills such as 'divination' or 'making sense from talking drums' still remained with some set of people or families in Nigeria. The IL component that is identified from this practice is 'Information transfer' from generations to generations. Information transfer is a routine exercise in classroom and workplace because it permeates interactions in dialogues, business meetings, teaching-learning contexts, training (seminar/workshop) and a host of other encounters. In the practice of cultural knowledge development, the transfer of information is from generations to generations in the oral forms. The information from generations was kept in people's memory (like a modern database). Upon request, such information is transferred to another generations. Irrespective of those (information users) involved, information transfer may be considered as a component of IL.

The IL skill that may evolve and bequeathed to undergraduates therefore, is the skill to 'understanding contextual value of information'. This skill helps in identifying the control of information as individuals may not own information in some communities. The information in request may be owned by the family or community. This understanding will determine the control of information and how much of such information can be

shared. Understanding the context and value of information will also prepare the user who requires the information to make appropriate citations and acknowledgement when representing the information. In relation to modern information use, organisations or databases have their search strategies or parameters for search terms. Undergraduates whom their lecturer (the participant) has taken through the practice of cultural knowledge development, with its attendant IL skill of understanding the contextual value of information, would be able to handle academic work as well as in the workplace where the skill is critical to the daily routines.

The summary of these findings is presented in the table below:

Table 4.11: Summary of Findings for HEE2

Practice	**Identified IL component**	**IL skill intended**
1.Group assignment	1. Harness and synthesise inf.	1. Collating, reformatting, referencing and effective communication.
2.Networking with colleagues	2. Sourcing for information	2. Formal and informal retrieval skills.
3. Cultural knowledge development	3. Information transfer (generations to generations)	3.Understanding contextual value of information.

Summary

Three IL skills: (i) Collating, reformatting, referencing and effective communication (ii) Formal and informal retrieval skills, and (iii) Understanding contextual value of information were intended to be imparted to the undergraduates through the three practices of the lecturer (the participant). The participant understands his environment and his students thus explaining why he chose the practices he felt would be more appropriate to prepare them for the workplace. These skills would be useful while in school as undergraduates and through-out workplace life; they could be referred to as lifelong skills.

4.4.3.7 The Practices of HEL1

The participant, HEL1, listed and explained three practices: firstly, that he relies heavily on print resources because they are easily accessible, relatively cheap and more convenient to share among staff and students. Secondly, on some occasions when it becomes necessary to satisfy an information need *"we visit localities to get appropriate information from royal courts and local people".* Such information, according to the participant, formed the bedrock of 'Orature' which happens to be his area of academic interest. Furthermore, 'Administration' is another practice which *"brings me and my colleagues in the department together to execute administrative routines, represent the Department at Management and other governmental agencies outside the campus".* These practices, the identified IL components and the IL skills that may be cultivated are explained further:

Heavy reliance on print resources

Books, journals, monographs, reports, bulletins, manuals, and other paper-based information resources are the print resources described by the participant as the resources upon which he relied. In response to why he preferred print resources, he said *"... my students would come back to give me excuses why they couldn't access internet and other multimedia resources. They will plead with me to give them references they can get from the library"*. Apart from this reason, he also explained that *"students can get used books and other print resources from colleagues and relatives"* thus creating a pool of print resources to rely on.

The lecturers in the Department are encouraged to donate relevant books, journals and other information materials to the *"departmental library"* to support the academic activities of staff and students. A visit to the 'departmental library' and an observation of the activities going on there showed that there are several paper-based resources which the students and staff were consulting. In response to a follow-up

question (why didn't you try this for electronic resources?); after the observation, the participant said *"... that is what we can easily put together to help the situation for now".* This response could be borne out of the high cost of acquiring computer systems and internet access before giving them as donation but donating used books and other print resources could be easier. With this pool of print resources, the lecturer takes his students through scholarship and continues to prepare them for the workplace.

The IL component identified in this practice therefore is the ability to use print media being the resources that are *"easily put together"* by the participant and his colleagues. By providing the print media, the participant who said *"I have told them the advantages of print media and what to look for when they are using them"* was already preparing his students on how to use print media. Furthermore, the IL skill that may evolve and be imparted to the undergraduates in readiness for the workplace is the skill to do an effective 'referencing and ethical use of information'. This is because in the process of taking them through the advantages of print resources and how to use them, the undergraduates would have become skilful on how to compile the references of the sources they consulted; hence achieving 'ethical use of information'. This way, the students would also avoid plagiarism and hence become an ethical user of information. This skill is a virtue in their current academic endeavours and an asset when they get to the workplace.

Visiting localities

HEL1 described this practice as a visit to localities where they could gather information from people who could not codify such information because *"they don't possess the autography to do so".* Such information has remained oral and *"stored in the memory of the custodians".* He further explained that there are many languages in Nigeria but only a few of them have autography; a reason why they are only spoken. According to him, "*Languages can only be codified if they possess autography but will*

remain in their oral form if they don't possess autography to codify them". He further explained that such communities without autography have their rich culture and whoever requires knowing about them and wishes to explore what information they possess would have to visit them in their localities. He also added that *"... by the virtue of my area of interest [Orature], my main source of information for research and teaching is by visiting the localities where the information is situated".*

The participant further clarified that information about Orature that is read in books or other media are in their secondary forms unlike when people in the localities render information as their primary sources. This seems more reliable and perhaps the basis for this practice. Most of the localities have their norms which visitors are expected to respect when visiting. Describing how the practice works, the participant said *"...when we are planning to visit a locality, i liaise with colleagues who are familiar with the community in order to study and master their norms. At times i do visit the place first before taking my students ahead".* This means that the participant would have tutored his students on the norms of the locality and how to respect them before they proceed on such visits to the locality. The IL component that was identified from this discussion is 'information sourcing and representation'.

This practice fosters the drive to identify an information need and consequently identify where to gather (source) the appropriate information to satisfy such information need. This component is critical to activities in the academic life of undergraduates as they shall continue to identify an information need and also determine the appropriate source to satisfy the need. In the course of completing this process (information need – information source) under the tutelage of the lecturer (participant) as explicated in this practice, the undergraduates are, by implication, being bequeathed with an IL skill of 'sourcing information from primary sources'. This skill may be useful in real-life and social contexts like the workplace where co-employees may need to benefit from the

unique experience of seasoned professionals in order to satisfy an information need. This intended IL skill also becomes an asset when the context of information environment has to be studied with care in order to source for information. The participant earlier explained that at times, he visits the place first before taking his students there. This is to get familiar with the information environment. It is informative therefore, that this precaution is quite useful when sourcing information from primary sources because people, communities or organisations have their peculiarities, norms and culture regarding information handling.

Administration

The participant explained this practice as the interplay of all staff of the Department, School (Faculty) and College to execute routine administrative tasks. These include: "*requests that are made and processed, applications for admission by candidates and appointment/promotion of staff, representations at Academic Board and Management meetings, representation to governmental and non-governmental agencies, consideration of reports on discipline, award and welfare of staff, examination and presentation of results, general administration and ad hoc Committees".*

In describing the practices, the participant said he is involved in many administrative routines affirming that *"…my role as HoD [Head of Department] takes me beyond teaching and research. I could be drafted into any administrative duty anytime; at times with a very short notice".* The participant also explained that he works together with colleagues from: other departments on campus, other campuses, agencies, countries as may be necessary to submit reports which form part of the process of policy formulation and decision making. The formal business transaction in administration requires that *"you study and follow the College administrative manual …"* in order to carry out administrative duties. Following the manual, *"you [member] will understand the rights and privileges of others"* thus making such a member (staff) accommodating

and a team player. According to the participant, as a *"member of administrative Committees and as HoD add up to my accumulated experiences in administration".* This is the experience that employees could also share with colleagues. This way, everybody will share the experiences they have, benefit from the experience and contributions of others and work collectively to achieve the common goal of the department, School (Faculty) and College as a whole.

The IL component that was identified from this practice is 'team work' as exemplified in the collective, interpersonal and group relationship that would exist when working in Committees, Boards or Teams. Furthermore, the IL skill that may evolve and cultivated in the participant and his colleagues through routine Administration is 'workplace collaboration'. In the workplace, as explained by the participant, his role involves working together with others to achieve a common goal. Being HoD, he listens to colleagues in the Department; he works with them in ad hoc Committees to achieve collective goals by sharing in their experiences and contributions. In the workplace, tasks are shared and executed individually by fulfilling a part of the process to achieving the common goal. When all the contributions of everybody are put together (collaborate) to achieve the common goal, one may infer therefore that every staff has achieved the goal; one man does not make the department. As they participate in (Administration), they may share the experience and skills inherent in 'workplace collaboration'.

The summary of these findings is presented in the table below:

Table 4.12: Summary of Findings for HEL1

Practice	**Identified IL component**	**IL skill intended**
1.Heavy reliance on print resources	1. Use of print media.	1. Referencing and ethical use of inf.
2.Visiting localities	2. Information sourcing & representation	2. Sourcing information from pry sources
3.Administration	3.Team work	3.Workplace collaboration

Summary

The three practices: (i) Heavy reliance on print resources, (ii) Visiting localities and (iii) Administration were intended to engender three IL skills: (i) Referencing and ethical use of information, (ii) Sourcing information from primary sources and (iii) Workplace collaboration, respectively. While students would learn from the activities of their lecturer (HEL1) as executed in the practices, staff and colleagues would also learn from themselves when they co-participate in Administrative practices. In the long run, the workplace would have employees (currently undergraduates) who possess the necessary skills to handle information and carry out the routines such as: referencing and ethical use of information, sourcing information from primary sources and workplace collaboration.

4.4.3.8 The Practices of HBV1

The Practices that were described by HBV1 in the course of the interview are: (i) Student Industry Work Experience Scheme (SIWES), (ii) Practicals (Hands-on), and (iii) Industry visits. From the explication of how the practices are executed, the researcher was able to identify the possible IL components that may evolve from the practices as: (i) classroom-workplace skill transfer; (ii) Do-as-i-do activities; and (iii) information sourcing and representation. The explanation on each practice and how the researcher arrived at the 'IL skill intended' is presented in more detail below:

Student Industry Work Experience Scheme (SIWES)

The SIWES is a Scheme required of every student in the School (Faculty) of Vocational and Technical Education (SVTE). Courses in the School (Faculty) are: Accounting, Business and marketing, Agricultural science, Fine and Applied Arts, Home Economics, Food and Nutrition. The participant further explained that *"... although the students in Computer Science are not in the School of Vocational and Technical Education, they are also expected to undergo SIWES. Students spend part of the semester*

in an industry where its operations and line of business is related to their course of study".

Lecturers (including this participant) are subsequently assigned in turns to supervise the activities of the students while at the industry. At each visit, working with the grading scale that is provided, the lecturer is expected to work with the interns (students) to ensure that *"they are able to transfer what they learned in class to their activities in the industry".* The supervisors, liaising with the industry, help the interns to achieve *"professional exposure"* by keeping a logbook of all their activities, new knowledge, challenges, recommendations and perceptions. According to the participant, *"The grading and observations of the supervisors coupled with the end of SIWES report to be submitted by the interns is what is examined by a Panel constituted by the Coordinating Office. A student found below average may be requested to repeat the exercise"*. Following this interview, this researcher was of the opinion that the College identifies the need to prepare the undergraduates to be fit for the workplace hence the practice of SIWES and assigning experienced hands, the lecturers, to groom the interns. With this opinion therefore, the researcher identified a related IL component to be 'Classroom-workplace skill transfer'. To further justify this IL component, this researcher is of the opinion that the regular visits of the supervisors in liaison with the industry supervisors may provide a "professional exposure" for the interns. This they do by ensuring that the students are applying the theories they learned in the classroom to their activities in the industry.

Furthermore, their end of SIWES reports may also identify questions or gaps which could be filled by the seasoned academic supervisors and experienced supervisors in the industry. More closely too, is the IL skill that this practice may likely impart to the students. These students whom were taken through this practice may master the identified and required 'workplace skills' and do things better than the students that were not

exposed to this practice. This therefore explains why the researcher identified the IL skill that students may gain from this practice as 'workplace skills'.

Practicals

This practice brings the students close to physical demonstrations of 'how' to translate the *"user's briefs into specific numerical details and sketched out as architectural drawings".* The participant further explained that architectural designs are about life and should be handled with care because whether the constructions are about roads, factories, estates, hospitals or warehouses, *"they are all about life".* He said *"there is a practical class for 'hands-on' and i show them how it is done"*. He explained that he *"demonstrate[s] to the students how to interpret measurements and construct the drawings".* From the interview, this researcher identified the IL component as 'Do-as- I - do' Activities' because the participant said earlier that he demonstrates the activities to them before they carry out their own construction.

As they watch the lecturer doing it the right way, the students may likely master how to do the right thing by imitating their experienced lecturer. This practical session of imitating the superior is the reason why this researcher suggests that the students may graduate with IL skill of being able to learn from professionals. The researcher identifies this skill as 'Novice imitating the professional'. Here, the students are described as novice while the lecturer (participant) is the professional. This skill will be useful to them while still in school and also when they graduate and gain employment in the workplace.

Industry visits

HBV1 explained that he takes his students on industry visits to see the end product of architectural drawings in forms of completed roads, buildings or structures. By 'industry', he explained, refers to *"anywhere they [students] can see examples of designs and constructions".* At times, they *"write formal letters to Estates Property Managers or colleagues in the industry to grant them interior design experience".* On such occasions,

the participant said he would educate them (his students) *"why particular designs or shapes are used rather than some other types which may be as a result of the landscape, the soil formation, utility and government regulations"*.

It is also an opportunity to see trends in the field of Architectural design and Building which *"may not easily be identified in the classroom".* According to him, *"there are several designs to show-case in the city because so many architects are contributing to that from all over the country and beyond but the classroom gives you [students]'text book designs' [designs in textbooks]"*. In his response to a follow-up question (shouldn't photographs or video suffice?), the participant said the *"fun and experience of being there is great"* thus explaining why he suggests regular industry visits to his students. He added that when they return from such visits, the *"students are expected to write reports and attach photographs which are kept in the department for future consultation by staff and students".*

Considering this interview, this researcher was of the opinion that students may gain the IL skill of 'sourcing information from primary sources' as in the industry visits. This IL skill may be cultivated as students are taken through this practice. However, an IL component that is identified which could nurture this IL skill is 'Information sourcing and representation' because the students have the opportunity of being at the site (industry) where they can see first-hand and gather any information which may be represented in their reports or further academic activities.

The summary of these findings is presented in the table below:

Table 4.13: Summary of Findings for HBV1

Practice	**Identified IL component**	**IL skill intended**
1. SIWES	1. Classroom-workplace skill transfer.	1.workplace skills
2.Practicals (Hands-on)	2.'Do-as- I -do' Activities'	2.Novice imitating the professional
3. Industry visits	3. Information sourcing & representation.	3. Sourcing information from primary sources

Summary

The participant, HBV1, listed and discussed three practices: (i) Student Industry Work Experience Scheme (SIWES) ;(ii) Practicals; and (iii) Industry visits. The explanation of the practices was the basis for the researcher to deduce what IL skill the undergraduates may gain from the practices. Likely IL skills are: (i) workplace skills; (ii) Novice imitating the professional; and (iii) sourcing information from primary sources. During SIWES, the undergraduates would have identified what skill is required of them at the workplace and this may encourage them to begin to engage in activities that may likely improve and sharpen such skills. Furthermore, the students would pay particular attention to such skills since they (undergraduates) know such skills are critical to their being employed or staying well on the job. In addition, the supervisors were also ensuring that the practice develops such skills. The other two practices- Practicals and Industry visits- are likely to bequeath to undergraduates IL skills such as: Novice imitating the professional; and Sourcing information from primary sources; respectively.

4.3.3.9 The Practices of HHV2

There are two practices which the participant shared with the researcher in an in-depth interview. They are: (i) Residential home management practicum (RHMP) and (ii) Field trips. She explained her roles in the activities leading to the practice which lasts between three weeks and three months. She also discussed the benefits inherent in field trips to justify her preference for the practice. In order to draw a link between the practices and information literacy, this researcher identified two IL components in the two practices: (i) 'Cultural hegemony' and (ii) 'Information sourcing and representation'. Detail explanation about the practices and the justification for the choice of IL components is presented below:

Residential Home Management Practicum (RHMP)

Students are arranged into groups of about eight each; considered to be a fair representation of a family in the context of the Nigerian society. The students are put together to live as a family for the duration of the practice. The participant further explained that each lecturer in the department is expected to compile a student profile right from the day of admission. The profile is a dossier of some sort which indicates the *"Strength Weakness Opportunities and Threats (SWOT) to determine the selection of students into the family".* Each lecturer (including this study participant) is expected to use the student profile to intervene, where necessary, to develop and improve skills leading to improved SWOT before the third year when students would commence the RHMP.

The participant also explained that, aside academics, the practice nurtures students to *"develop skills of tolerance, human and material resources management, counselling and parenthood".* The students are expected to *"role-play various aspects of the family in home management"* on the understanding that a perfect home makes a good community. The lecturers are the supervisors who visit the Home in turns to assess how each student (family member) is improving on his or her *"SWOT on a graded scale".* Responding to a question (what determines the pass mark?), the participant said: *"It is not about pass or fail but rather emphasis is on consistent improvement on the scale".*

On each visit, she said she goes through the daily record book to see how the activities of the day were conducted before she conducts a *"family meeting"* to address successes and challenges in the family. During such meetings, all family members - father, mother, children and relatives - are encouraged *"to express their minds freely"* on any issue. While some of the students may not respond, some seizes the opportunity to express their opinions. In her response to a question, (how was your last visit there?), the participant said:

> *What i do in some of my visits is to pick issues that i identified from the record book and scribble them on pieces of paper which i will roll-up. Then i call any student to pick and talk about it while i watch the reactions of others. This gives me an opportunity to assess their ability of spontaneity and public speaking*- HHV2

The roles in the family could be shuffled by the 'father'; the head of the family in order to give other students the opportunity to play different roles before the expiration of the practice. On such shuffle, *"the head of the family is expected to document and show transparency and be democratic in decision making as a way to clear doubts of favouritism or abuse of power".* The participant further explained that the practice was designed *"to sustain our long cultural values and belief system which children are expected to cultivate right from their parents at home; the first informal School for the children".* In other words, this presupposes that children, including the undergraduates, are expected to maintain or improve on what they learned from 'home' in order to sustain the cultural values. Responding to a follow up question (what exactly do you mean by cultural values?), the participant said:

> *[T]he moment we started looking with the 'oyinbo' [foreign] man's lens, we started thinking like him. Our people no longer see anything good around here [Nigeria], they crave for 'anything imported' … our culture preaches neighbourliness, tolerance, contentment, respect for elders, respect for culture, openness, and agronomics. This is our culture. This is our life*-HHV2

The practice also provides an opportunity of 'social interaction' among the students while living together and also when their lecturers (including HHV2) visit the Home. The participant said there were occasions when she had learned from the students' socio-cultural background, an opportunity that the classroom would not have provided: *"The students are from different cultural backgrounds and they bring this into their practice. I have learnt many things from them too"*. Responding to a follow up question (where does the family stay?), the participant said *"The department has an apartment that is provided for that purpose"* and this response informed why the researcher visited the Family House.

Following the interview with the participant, this researcher was of the opinion that the practice, among other intentions and goals, has an IL component that could be described as an attempt to sustain the 'Cultural hegemony' of the Nigeria society. In the Nigerian society, the control and authority is totally surrendered to the head of the family to manage; though with utmost transparency. This was displayed in the activities in the practice especially when the participant said that students are expected to improve on skills that can sustain the cultural values. Such skills are also improved by grading and assessing them as they improve on the SWOT. It is this thinking therefore that prompt the researcher to infer that the IL skill that this practice may impact on the students is that of 'leadership and control'. While such IL skill will be useful as they interact with friends and colleagues during class and other academic activities, the students will benefit from such skills in the workplace perhaps as team players.

Field trips

HHV2 compared the local weaving industry before the advent of textile technology to justify why she takes her students on field trips to the *"natives who still use the indigenous knowledge to produce textile and fabrics".* She further explained that the experience of going to a cotton plantation to see the *"harvesting and processing of cotton until it gets to the weavers is quite educative"* and that it shows the students the historic development in the industry. Going on field trips, according to the participant, *"creates an affinity for the locality, the people and their endeavours"* which the students remember more easily than having to read it up or be told in the classroom. Her descriptions seem to show that learning become more concrete when experiences could be tied or associated with the theoretical classroom discussions but one thinks this could be achieved through photographs or documentary videos. In her response to a question on this reflection (shouldn't the experience with photographs and videos suffice?), the participant said:

> *These people do not want their activities documented and that is why they refused cameras or voice recorders but they [natives] have so much [for visitors] to learn from. On our visits, we can ask questions, feel or touch some things there*- HHV2

The participant further shared her experience on her visit to a food processing company where her students said *"they were seeing the raw materials for the first time".* They said they have seen it in adverts and illustrations but they were seeing the raw materials during the visit for the first time. She further explained that *"field trips help the students to get firsthand information from sources"* thus enriching their academic life and make learning more meaningful. She said she usually prepare her students ahead of the visits in order to *"observe appropriately to maximise the opportunity".* According to her, "*some students may be overwhelmed by the site visited and they lose the opportunity of learning from the trip"*. She acts as the trip guide because she understands the locality or industry they are visiting. According to her, *"most times it's not my first trip there. So i'm able to prepare them ahead about the culture of the place or rules and regulations about the industry".*

Upon return from such field trips, the participant said she usually mandates the students to write their reports which are discussed in class; especially for the benefit of those students who could not make the trip. Responding to a follow up question (shouldn't all students make the trips?), the participant said *"the trips come with some documentation and travel expenses. The cost, at times, is challenging but it's [field trip] good for students. But not all can make it"*. In identifying what IL component may evolve from field trips, the researcher carefully went through the entire interview and inferred that 'information sourcing and representation' could be an IL component. In the same token, when students are taken through the experience of accessing information in its natural habitat, they will be sourcing information from its primary source. Also, the students would understand how to relate with information at its oral form. This practice may enable students develop the skill of sourcing information from its primary source.

Such skill will also assist the students to represent the information to their colleagues in forms of reports or through other media. This skill is therefore presented as 'sourcing information from primary sources'. The summary of these findings is presented in the table 4.14 below:

Table 4.14: Summary of Findings for HHV2

Practice	Identified IL component	IL skill intended
1.Residential Home Management Practicum (RHMP)	1. Cultural hegemony.	1. Leadership and control
2. Field trips.	2. Information sourcing and representation	2. Sourcing information from primary sources.

Summary

The two practices: (i) Residential Home Management Practicum (RHMP) and (ii) Field trips were discussed to show what IL components could evolve from them. From the explanation of the participant, the researcher was able to understand that, apart from the IL components, undergraduates are likely to develop two IL skills from the practices. Such IL skills are: (i) Leadership and control; and (ii) sourcing information from primary sources. These skills will be useful to them in their academic activities as they source for information from primary sources and attain leadership roles in the class; group-work or group-assignments. Also, the skills will be an asset for them in the workplace when they become employees who may have to lead colleagues and contemporaries to source for information in their primary sources. Thus, these skills may be referred to as lifelong skills as they shall be useful throughout life.

The summary of the practices of all the participants; presented in this chapter, is presented in table 4.15 below:

Table 4.15: Practices of all Participants

Participant	HTE1	HIS1	HEA1	HCS2	HTA2	HEE2	HEL1	HBV1	HHV2
Practices	1. Micro-teaching 2.Group work 3.Teaching Practice	1.Practical sessions (Hands-on) 2.Indigenous knowledge sharing 3.Assignment	1.Participatory assessment 2.Group work 3.Micro-teaching 4.Case study 5.Academic colloquium	1.Active engagement 2.Staff Collaboration 3. Analogy	1. IT based Assignment. 2. Project supervision. 3. Rehearsals.	1.Group assignment 2.Networking with colleagues 3. Cultural knowledge development.	1.Heavy reliance on print resources 2.Visiting localities 3.Administration	1. SIWES 2.Practicals (Hands-on) 3. Industry visits	1. Residential Home Management Practicum (RHMP) 2. Field trips.
IL component	1. Public speaking & ethical presentation 2. Synthesis 3.Professionals grooming the novice	1.Team work 2.Building on local knowledge to achieve LCE 3. Citation & acknowledgement	1.Assessment 2.Synthesis 3. Public speaking & ethical presentation 4.Information sourcing & representation 5.Information-knowledge sharing	1.Task-based participation 2.Information-knowledge (experiences) sharing 3.Building on cultural values	1.Exposure to IT 2.Scholarly writing 3. Information – knowledge sharing.	1. Harness and synthesise inf. 2. Sourcing for information. 3.Information transfer (generations to generations)	1. Use of print media. 2. Information sourcing & representation 3.Team work	1. Classroom-workplace skill transfer. 2.'Do-as- I -do' Activities. 3. Information sourcing & representation	1. Cultural hegemony. 2. Inf. sourcing & representation
IL skill	1. Citation & acknowledge-ment 2. Content analysis 3. Sustaining the norms in the community of practice	1.Workplace collaboration 2.Negotiating knowledge 3. Study & Writing.	1.Objective & analytical mind 2. Collating & representing inf. 3.Citation & acknowledge-ment 4.Gathering inf. from pry sources 5. All Communication skills	1.Self learning 2. All communication skills 3.Negotiating knowledge	1. Computer skills 2. Study and writing skills. 3.All communication skills	1. Collating, reformatting, referencing and effective communication. 2. Formal and informal retrieval skills. 3. Understanding contextual value of information.	1. Referencing and ethical use of information. 2. Sourcing information from primary sources. 3.Workplace collaboration	1.workplace skills 2.Novice imitating the professional 3. Sourcing information from primary sources	1. Leadership and control 2. Sourcing information from primary sources
MDC	OBS & INT	OBS & INT	OBS & INT	OBS & INT		INT	OBS & INT	INT	INT

Key- * MDC = Mode of Data Collection.***OBS** = Observation. ***INT** = Interview. ***LCE** = Learner-Centred Experiences

4.5 Summary of the chapter

This chapter presented the findings of the research. All the findings were also presented such that they reflect the answers to the research questions: 1, 2 and 3. Direct quotes of both the questions that were fielded to the participants and their verbatim responses were presented to show the transparency of the researcher as the 'data collection instrument'.

CHAPTER 5: DISCUSSION

5.1 Introduction

This chapter presents the discussion of findings presented in chapter four. In order to present the discussion effectively, the objectives of this study would have to be represented here in order to put the discussion in perspective. Apart from the objectives of the study, it is also important to mention that the theoretical model which guided the study would be briefly explained to refresh the perspectives of the study as an attempt to understand how IL evolves in the workplace among employees.

Firstly, the objectives of the study:

- The main aim of this research is to understand the activities and co-participation of academics in the workplace in Nigeria by exploring how IL evolves in the practices they engage in.
- **The specific objectives are:**

  -To examine the perception of Information Literacy among academics in Nigeria;

  -To explore the information environment within which the academics in Nigeria practice; and

  -To identify how academics in Nigeria engage in practices that may prepare undergraduates with information literacy skills for the workplace.

Secondly, a theoretical model (WILM) was suggested after a critical literature review; as presented in Chapter two. The model was used as the conceptual framework for this study among academics; as employees of a work setting. The focus here is not what they teach or how they teach; as earlier stated in the scope of the study. Rather, it is about 'how' IL evolves in 'what' they do apart from teaching and research; that are already reported in studies. WILM guided the study to understand: how information literacy evolves in practices in the workplace, the environment that necessitated some of

the practices, and how the participants co-participated in practices as they carrying out their tasks one of which is to prepare undergraduates for the workplace. The conceptual model is re-presented below:

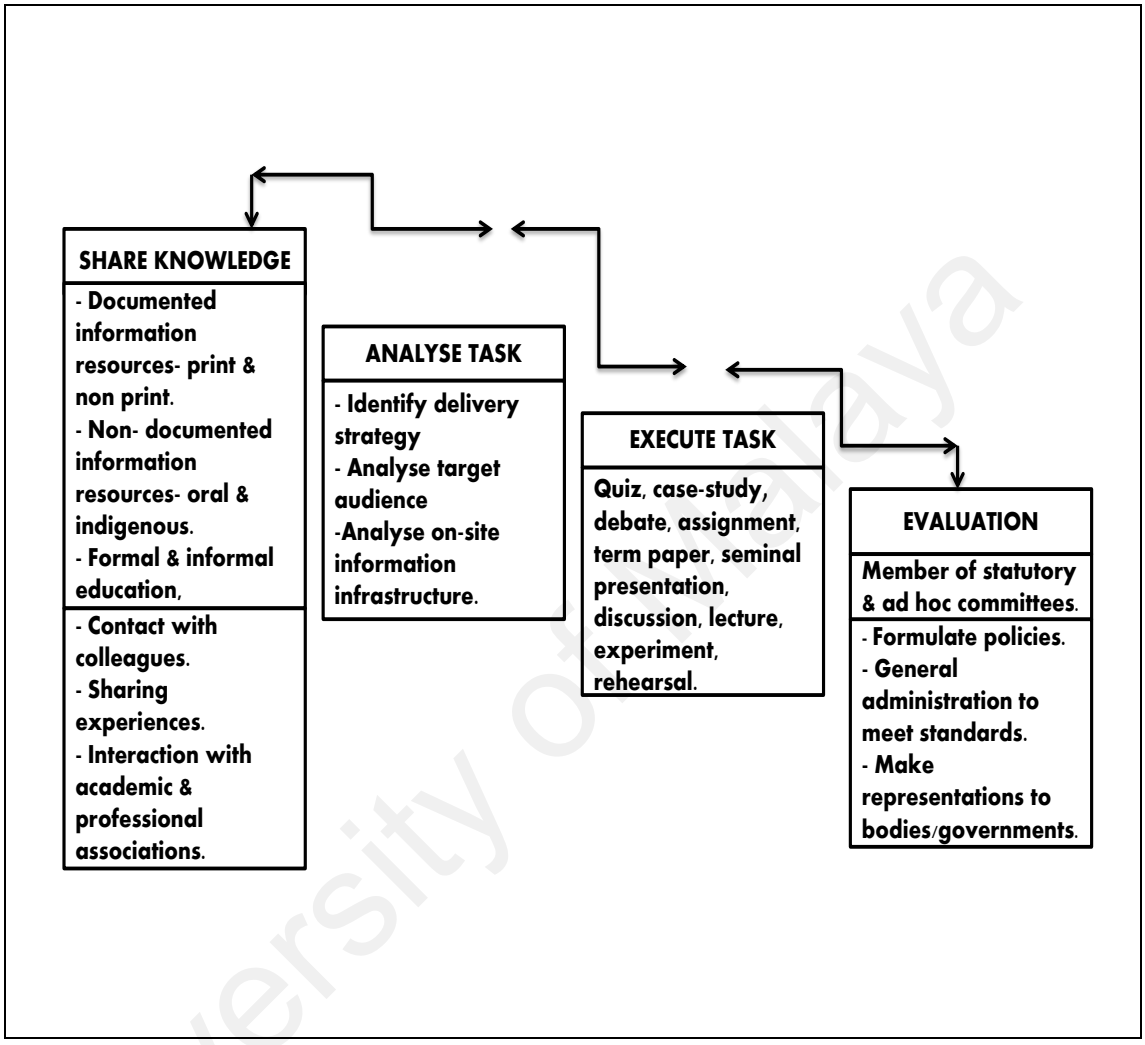

Figure 5.1: Workplace Information Literacy Model (WILM)

Figure 5.1 above shows possible tasks and practices that academics engage-in at the workplace. Since the model was theoretically developed, it was trialled out as a guide for this study. The findings, earlier reported in chapter four, will be discussed here to establish how much the model facilitated or hindered the understanding of how IL evolves in the practices of academics in the workplace. However, before the discussion, a little insight into the peculiarity and nuances of the workplace is, once again, reiterated.

The discussion in this chapter is presented under the following emergent themes that frame the understanding of the phenomena in the social context of the workplace. Also, the themes are discussed in relation to the workplace IL model (WILM) to show its adequacy in supporting workplace research. The discussion is presented below:

- Employee training and development;
- Skill acquisition;
- Assessment;
- Information infrastructure;
- Conceptions of Information literacy; and
- Administration.

5.2 Employee training and development

The findings indicate that the academics engage in capacity development of themselves in order to be better prepared in terms of information and knowledge. This was evident in practices such as the 'teaching practice workshop' and 'academic colloquium' where, as colleagues, they discuss relevant issues. The theme of training and development was also evident in the various academic and professional associations they belong. Such associations organise local and international conferences through which they meet colleagues from other institutions thus serving as their source of information and capacity development. While HEE2 said *"Networking is a resource in academics ... and I also attend workshops and seminar"*, HCS2 submitted that *"staff and colleagues"* are her sources of information and knowledge. This finding attests to the conclusions of earlier studies (Cannon, 2008, Orvis & Leffler, 2011, Johnson & Beehr, 2014, Úbeda-García, Claver Cortés, Marco-Lajara, & Zaragoza-Sáez, 2014, Long, Ajagbe & Kowang, 2014) that employees do not only require training, they could also share experiences and knowledge with themselves to improve performance in the organisation.

Performance, in this case, may be seen as their interaction with departmental colleagues to abreast trends, the College at large and their undergraduate students, in particular, with the hope of preparing them (undergraduates) for the workplace. In the opinion of HCS2, they collaborate in the department to design and facilitate the entrepreneurial programme. She said *"...we started holding workshop series among ourselves to trade ideas and prepare ourselves for this new thinking [newly designed Entrepreneurial Skill course]";* a fact which further underscored the strength in collaboration among academic members in improving staff quality.

It is important to mention that the theoretical model which shall henceforth be referred to as Workplace Information Literacy Model **(WILM)** guided and helped the researcher in understanding this finding because it was mapped on the 'Share knowledge stage' of the model (please see 'Share knowledge stage' of the model in Figure 5.1). However, the reality as depicted by the findings was that the cost and circumstances of travelling to attend conferences was a challenge to some participants. This challenge therefore made the in-house workshops, skill trainings and other interactive practices viable means of sharing information, experience and knowledge. That they were not cowed by such challenges and still work themselves around any possible difficulty is an attestation to Lloyd's (2010, p. 101) description that the 'IL in educational [classroom] settings is incongruent with the actual account of practice of IL in the workplace'. Also, the academics are in the know and have knowledge to share to develop the novice employees or share experiences with contemporaries thus underscoring the prediction of the 'Person-Job fit' -within the frame of fit theory- that an organisation would do better by recruiting persons that are fit for the tasks of the workplace (Goodman & Svyantek, 1999, Scroggins, 2008). Though being fit for the tasks does not stop at the point of recruitment, it becomes clearer that the academics

were able to identify their information need and attach themselves to academic and professional fora to develop themselves to meet such information needs.

One of the essences of information literacy (IL) is to identify an information need and be in control of decisions to satisfy such information need. With an IL component like this, one may think that their subsequent interaction with their colleagues and students would be to develop them (students) the way they have developed themselves. If this drive is sustained, the undergraduates would be prepared adequately for the workplace while the academics would also be better off in the information-knowledge sharing.

5.2.1 WILM and Employee training and development

The workplace information literacy model (WILM) suggests that the employee will acquire information and gather experience through tasks such as: sourcing information from print and non-print, non-documented information sources-oral and indigenous- formal and informal education, contact with colleagues, sharing experiences and interaction with academic and professional associations. Using the model as a guide, the researcher was able to understand the various sources of information which the participants rely upon for information. Also, the WILM facilitates the understanding of how participants took part in practices such as trainings, workshops, or conferences; being their source of capacity development. In the course of the study however, additional practices such as SIWES and Teaching Practice were mentioned by the participants as a source of developing the undergraduates. The academics are also involved in assessment and supervision of these practices; their participation in pre-exercise workshops is also a source of capacity development. Considering this participation, it is intended that these two major practices will be added to the model (WILM) thus suggesting a modified model in future.

5.3 Skill acquisition

Practices such as 'Practical sessions (Hands-on)', 'micro-teaching', 'SIWES' and other practices that were reported by the participants were all designed to develop the skills that will prepare the undergraduates for life after graduation; particularly in the workplace. These skills were identified and described as relevant in executing tasks in the workplace by Goodman and Svyantek (1999) as Knowledge, Skills and Abilities (KSA) of the employee.

This need for a workplace skill prompted the study by Li and Hung (2010) which affirmed the mediating role of such skills in achieving improved job performance. For example, a participant who took her undergraduates through a 'practical session' on how to dissect a duck is instilling the skill of repeating such dissection into the students. The students did not just read it up or listened to the participant. Rather, they saw and actively participated in the dissection during the practical session. They will be able to repeat such practice with little or no supervision. While it goes with a common cliché that 'practice makes perfection', the role of practice in skill acquisition was also amplified in the earlier studies of Domínguez-Flores and Wang (2011) and Hanewald (2012). Perhaps the way the information environment was constituted for the participants gingered them to look inward to evolve practices that would prepare themselves and their undergraduates with life-long skills.

Almost all the practices reported by the participants have their corresponding information literacy skills that undergraduates benefitted from which would also be useful to them in the workplace. A practice such as 'Indigenous knowledge sharing' is likely to impart an information literacy skill of 'negotiating knowledge' especially when Lloyd (2010) has hinted that IL is a collective and interactional practice in the workplace. In addition, a participant who was justifying his practice of 'Group work' said 'students learn better in a group and they will be able to contribute freely among

their peers'. When the academics sustain practices like these, there is the likelihood that their undergraduates would have acquired IL skills such 'collating and representing information'; a skill that is an asset in the workplace where leaders are learners (Cheah, 2014).

5.3.1 WILM and Skill acquisition

The 'Analyse task' stage explains the activities of employee to involve identifying the strategy to identify a task, analyse target audience and appraise on-site information infrastructure. The WILM guided the researcher to explore the practices of the academics and discovered that the information infrastructure was minimal and inadequate to support some tasks. These inadequacies influenced the choice of delivery strategies of the participants as evidenced in some of the practices that were reported. These challenges and inadequacies were earlier reported by Dadzie (2007), Akanni (2008), Obaro and Asaba (2010), ASUU (2013) and Onwe and Ezekwe (2014). However, that the academics are working around the challenges further support the fact that information literacy can evolve more from practices that are thought-up by a group of people for a particular context; a position earlier made by Dorner and Gorman (2011).

The way a skill would evolve in undergraduates or employees may substantially have a lot to do with the people, the community (context) and information gap they long to fill. For information literacy to evolve further, components of IL may be injected into the practices of the communities thus making such skill acquisition and development context-sensitive. One modification that the research made to the model is in the 'Analyse stage'. It was discovered that the reality in the workplace has placed the responsibility of analysing the task on the organisation. As such, a task is specified and analysed by the organisation even before an employee is recruited. In some other occasion, the task is analysed and used as recruitment yardstick at the point of

employment; to recruit who fits the task. This discovery runs in tandem with a submission of one of the few workplace researches that 'information need may not be identified by the employee to execute a task' (Hepworth & Smith (2008, p. 226).

In relation to Hepworth and Smith's opinion, 'analysing a task' may not be necessary before executing the task. The important thing as evidenced from the findings is a task needs to be executed and the ability to execute is assumed to be one of the requisites for being at the worksite; a person of knowledge. In the opinion of Winterton, et al (2005, p. 42), "employee has the 'know-how and know-what' to share with colleagues to execute task". While WILM helped to explore the practices adequately, it may be modified to reflect actual workplace practice rather than the classroom orientation that has permeated and influenced a lot of existing IL models. By modifying it therefore, WILM may not have the 'Analyse stage' again, although further testing of the model would determine this.

5.4 Assessment

This theme looks more like a classroom label though; it accommodates the findings about the activities of the participants in the workplace which challenged them to look for a way of getting feedback from their undergraduates; yet preparing them ahead for the workplace. Large class-size as also reported by Dadzie (2007) was one of the challenges of the participants which made them to resort to practices such as participatory assessment or group work/assignment for examples.

These practices brought them closer to the students' learning development, break down the barriers of large number and yet bequeath to them (students) information literacy skills such as 'objective and analytical mind' (from the practice of participatory assessment) and 'Content analysis' (from the practice of group work/assignment). These skills would be useful to them while in school and at the workplace. Perhaps the academics responded to the call made by Dadzie (2007) that

"Librarians [academics too] need to shift their focus from general library orientation and related instruction using traditional learning methods to a set of critical thinking skills involving the use of information to meet the objectives of IL" (p. 273).

These findings also suggest that the participants are confirming how much of IL skills they have imparted to their students while also assessing the ability of the students to exhibit the skills intended by the practices. This is because 'assessment' here is beyond the usual numerical and statistical measurement; depicted by Lloyd (2014, p. 99) as moving "beyond the domain of text… when examining the social and embodied aspects of information literacy practice in action". Assessment here requires more detailed approach and the academics are able to forge ahead through observation, interaction with students, comparing their interactional relationship among members of the group and more importantly allowing the undergraduates to be part of knowledge negotiation. This peculiar need that prompted these practices was also amplified by Lloyd (2014, p. 100) when she recommended a context specific research practice: 'Interview-to-the-Double (ITTD)'.

In justifying and appraising the value of Group work as a practice, HEA1 was of the opinion that *"Students learn better in a group and they will be able to contribute freely among their peers"*; a fact that was corroborated by Naidoo and Raju (2012, p. 43). Naidoo and Raju recommended 'group work' as a practice when they studied the impact of digital divide on information literacy training in tertiary education context in South Africa. The interactional relationship and or psychological inducements that would make students contribute freely in a group work is worth harnessing by education and curriculum planners, LIS researchers and Librarians in an attempt to reconceptualise how IL could be imparted to undergraduates being prepared for the workplace.

This finding further shows that the IL skills of 'collating, reformatting, referencing and effective communication' could be imparted into learners through group assignment as explicated in the practices of HEE2. Assessment therefore, has so much value but the finding warns that it has to be done with caution by relying on the 'culture of trust' as actions and activities could be misinterpreted or beclouded by some inadvertent circumstances peculiar to social settings. However, the 'culture of trust' as suggested by the findings was also one of the recommendations of Van House (2010) to tap from the value in social practices since "sharing information requires that users and providers trust one another" (p. 100).

5.4.1 WILM and Assessment

The model provided guide to explore the various strategies that an academic could employ to execute tasks such as Quiz, case study, debate, assignment, term paper, seminar presentation, discussion, lecture, experiment and rehearsals. The findings affirm that these practices are used by the participants in their interaction with their students and colleagues. However, more practices, especially those that involve co-participation such as group work, group assignment and participatory assessment were reported. This stage of the model actually mirrors the realities of the academics' world of interacting with students; a reflection of the earlier made point that there is the dominance of the classroom context (Virkus, 2011) on most existing IL models. Except for the newly added practices, which of course could depend on contexts, the model was a guide to exploring the practices, to a large extent, about the interactional relationship of academics.

The findings indicate that the practices in the 'Execute Stage' of a particular context- workplace- may be different because the employee is expected to execute a task that is peculiar and intended to meet organisational goals. In this case of the academics therefore, the organisational goal, in the argument of Lumande, Fidzani, and

Oluka (2013), is to prepare undergraduates for the workplace. The practices in the 'Execute stage' of a dairy factory, for example, or the practices in Veinot's (2007) Electricity Distribution Company would be different from those of the academics because of the specific organisational goal.

However, the 'Execute stage' of the model compares favourably with the specifications for assessment of IL canvassed in models like ACRL; as discussed by Hunt and Birks (2004), SCONUL and CONZUL (earlier cited) which have recommended incorporation of IL practices across curricula. It is worthy of note therefore, that WILM moved a step further by considering the students not only as learners but as part of the knowledge construction process. This is because they are believed to have experience to share with colleagues in the same group during interactional relationship while executing group tasks.

5.5 Information technology infrastructure

This theme accommodates findings about the way the information environment was constituted for the academics. The findings establish the lack of internet access in the offices of the participants, a worrisome inadequate electricity supply for regular routines, minimal current information resources in the library and above all the inadequacy in the classrooms. The findings affirm that information technology infrastructure makes it almost impossible to share or interact with multimedia resources. The undergraduates whom are supposed to be prepared for the workplace, where multimedia and digital resources would be used for routines, should be exposed to such resources right from their school days. Apart from ASUU (2013) that highlighted similar inadequacies as critical factors in grooming quality undergraduates, Rafalow (2014) also complained of inadequate technology for the learners in his Observation case study. While some participants were of the opinion that the College has provided an ICT Centre, other participants did not think it was an ideal situation for all academics

that need internet access to go to the ICT Centre to meet their various information needs.

In an earlier work by Obaro and Asaba (2010), the inadequacy of ICT infrastructure in tertiary education in Nigeria was highlighted but things have not really changed despite Obaro and Asaba's recommendation that there should be increased government investment in tertiary education to salvage the situation. The findings further explore the trend of resorting to mobile phones and Androids to access the internet. This finding was earlier reported by Grimm (2012) that Smartphones are becoming more user-friendly and portable. Grimm further suggested the designing of Smartphone applications that could assist teaching and learning in Estonia. Although it was a way of accessing information resources, it was challenging; going by the complaint of the participants that "*The internet is not there. All these MODEM [referring to phones, Androids and MODEM] are reap-off even for us academics"*- (HEL1). One imagines, however, that if the cost of maintaining such appliances is challenging for the academics, as it is a *"reap-off",* the undergraduates may find adequate information access more difficult; especially when students and academics are expected to rely on more robust Broadband internet access that is campus-wide to meet their ever-increasing academic endeavours (Kennedy, Judd, Churchward & Gray, 2008).

This challenge brought out the ingenuity of the academics as they had to engage in practices-earlier discussed- that are not relying on electricity, internet or any element of the information technology infrastructure to prepare the undergraduates; at least life must move on. One of the strengths of this study therefore is the provision of insight into what the participants were doing to get around the challenges of information infrastructure unlike previous studies (Omekwu, 2006, Naidoo & Raju, 2012, Onwe & Ezekwe, 2014) that identified the challenges and only recommended what to be done.

This study went further than that by exploring what is *being done* while expecting the situation to improve.

5.5.1 WILM and Information technology infrastructure

The model directed the focus of the research and explores how the information environment was constituted. The research question: 'How is the information environment constituted for academics?' was expected to understand the relationship between the social environment and the practices of the participants towards the task of preparing undergraduates for the workplace. This model assumes that information literacy should be context-related and thus does not share the opinion that one IL model can fit all environments. While the existing IL models assume there is a 'standard' information environment -ACRL Characteristics of best of practices- where people can source information to meet their needs, this model guided the research through to discover how the environment facilitates information access, sharing and construction.

The model, WILM, also helps to probe into 'how' information is accessed and consumed rather than merely the 'what'; which would have been a listing. The model went further to find out 'how' participants are coping with the list of available resources or minimal information sources thus leading the researcher to understand the justification for the participants' practices. In the 'Execute stage' of WILM for example, in attempts to explore how 'quiz', 'debate' or 'seminar presentation' are practiced, the model probes into the information environment and discovered that 'large class' was a hindrance to effective class discussion among students and that 'debate' was usually rowdy and yield little results. It was this challenge that informed practices such as *"field trips"* (HHV2), *"industry visits"* (HBV1) and *"visiting localities"* (HEL1).

It was the hindsight of this stage of the model that elicited the practices and highlighted the information literacy skills that may evolve in such practices. This explains, again, that IL would have to be reconceptualised, as advocated by Andretta

(2012) and Matin (2013). Such call would further underscore the need to refrain from the thinking that there are right or wrong ways of going about completing tasks that may evolve IL skills. Information literacy, especially in the workplace, is interactional and experiential. How people experience interactions with information to attend to their information need is not a question of right or wrong to be checked-in-box, rather, as shown by the findings, it has to be deictic and according to individuals. It may not be wrong therefore to conclude that WILM will spur further research in the information literacy in the workplace as it comes handy as a model that facilitates the understanding of workplace contexts.

5.6 Conceptions of Information literacy (IL)

There were various ways in which the participants conceive information literacy (IL) apparently due to their academic and professional backgrounds. They all saw IL from different standpoints although the diversity makes IL looks promising and multi-faceted; as observed by DaCosta (2010) who studied the perception of academics relating to IL in the US and UK. Other earlier studies (Johnson & Webber, 2003, Weber & Flatley, 2006, and Boon, Johnson & Webber, 2007) which sought the perceptions of academics also reported that academics had different conceptions of information literacy depending on their academic and professional interests. This emergent theme discusses findings which conceive IL as: use of information technology, new media, and problem solving.

(i) Use of information Technology (IT)

Information literacy is conceived as the ability to use information technology to achieve educational goals. Using the computer system was identified as a critical element in this conception. This was captured by HTE1 as "*ability to make use of computer and computer-affiliated or associated technology in enhancing teaching and learning".* This conception also shows that information technology is much entangled

with computer literacy since being able to use computer system is central to using the computer system to access information resources for educational purposes. This explains how learners search through electronic and online databases to satisfy their information need to attend to their academic pursuits. HEL1 summed it up thus "IL *is the depth of our involvement of how we use IT as a tool to extract information"* which further shows that information technology (IT) is also a twin of computer system in terms of information access. The argument therefore of those who cannot use IT or whose environment provides minimal opportunity for using it becomes lost when Naidoo and Raju (2012) emphasises that information technology is crucial to educational attainment.

Learners, as advised by Naidoo and Raju, would have to get computer literacy first before venturing into information literacy training (p. 43). As good as this piece of advice, Manuel, (2002) and Keneddy et al., (2008) have wondered if all those who sit and fiddle with the computer systems are doing so for educational purposes thus challenging the theoretical tripod that sustains the opinion of 'using technology for education goals'. However, the place of technology in learning in the case under study was minimal due to challenges of technology infrastructure but as argued by Dorner and Gorman (2011) and Lloyd (2014), there is so much local knowledge that supports learning; as also shown in some practices of the academics that were earlier discussed in this study.

(ii) New media

The employees could complete some tasks much easier in the present time than decades ago. Reaching out to colleagues to benefit from their wealth of experience, connecting with fellow academics to share in their experience and using such accrued knowledge to impart on colleagues and students; all these can be explained within the frame of the new media. The difference that facilitates this 'old' and 'new' medium is

the new technologies of which the internet is one. In the conception of HTA2, "*The new media has to do with convergence of different medium [media] in sourcing, retrieving, and treating information".* The skill that is instrumental to effectively achieving all these -sourcing, retrieving and treating information- is said to be information literacy thus making IL ubiquitous in modern human endeavours. However, the new media is described with many terms such as 'new literacies' by Leu, Forzani, Burlingame, Kulikowich, Sedransk, Coiro, and Kennedy (2013, p. 219) who justified the 'internet' as being central to the entire life endeavours.

New media also runs through the conception of IL as "*an appendage of IT"* (HEL1) which explains further that information literacy would be attained upon attainment of information technology. The academics' workplace activities among their contemporaries and or with their undergraduates would be facilitated with the new media. Identifying the new media as a central need for everybody means that individuals and the community would need to strive to acquire them (new media) to actively participate in information consumption for work, scholarship or play. Since it is a range of media, employees and users would have to get all that could make them excel at whatever they do thus raising the question of "what competencies young people and adults need for successful life and work in the 21st century"(Virkus 2011, p. 15).

It is important to mention here that, as prompted by Leu, et al, "Being literate today does not necessarily ensure that one will be fully literate tomorrow since new technologies will always appear, regularly requiring additional new literacies" (p. 219) The conception further emphasises the place of IL as the ability to identify the need for a new knowledge and the readiness to bring in experience (background knowledge) to acquire the new knowledge or new literacies; as they may be termed at the time. One may therefore consider such skill as a lifelong skill embedded in information literacy.

(iii) Problem solving

The ability to solve a problem was conceived to be information literacy. Identifying a problem is almost in all endeavours of life because the need for information is to fill a gap necessitated by lack of information. A problem may be solved by either sourcing information from friends (oral), via online databases (digital), through prints (physical and e-resources) or relying on experience (tacit and non-documented knowledge). This conception of 'problem solving' was also one of the conceptions of IL discovered among the UK academics by Boon, Johnson and Webber (2007). Problem solving actually permeates all other conceptions since the ability to identify quality information to meet an information need would be to solve a problem.

The importance of 'the problem' has made some IL models - Big6, PLUS - being referred to as 'problem solving model'. For other participants who did not expressly conceive IL as problem solving, their conceptions could yet be linked with 'problem solving'. For instance, being able to use IT (one of the conceptions) is indirectly solving a problem of using today's technology for information sourcing to satisfy an information need. Using the 1989 ALA definition of IL for example, the identification of a problem is central to identifying the information need required to solve the problem. Likewise, Lloyd's (2010) insight into the workplace that problem identification could have been done by the supervisor or organisation, and not necessarily by the employee, still underscores, to a large extent, the prevalence of 'problem solving' in IL discussion.

The linear or complex approach to solving a problem is merely a description of how to go about it but not in any way challenging the existence of a problem to be solved. In the Nigerian context, education in its entirety is viewed from the point of view of 'problem solving' thus underscoring the position of Dei (2002) that:

> The current socio-economic context has made it imperative for parents, students and educators to stress the relevance of education primarily in economic terms. Parents cannot afford to send their children to school if the economic returns do not relate to their investments- (Dei, 2002, p. 337).

Furthermore, when a participant said that an "*individual ... can meaningfully use a given message or information to positively turn around things " (HEE2),* he was using 'turn around things' to mean solving a problem in the community; especially a problem that is central to the community such as a local irrigation strategy or weather forecasting using indigenous knowledge. This conception transcends the language of communication in some communities thus drawing attention to the possibility of embedding IL training into indigenous practices of communities (Antweiler, 1998, Dei, 2002) to make the inhabitants more information literate as also recommended by Tavares, Souza Costa and Hepworth (2013) in their collaborative work for citizenship development.

5.6.1 WILM and Conceptions of Information Literacy

The model took the researcher back to the first stage- share knowledge stage- to get insight into the attributes of the participant. It guided the researcher to explore the participant's perception, the task he or she is expected to perform, and to examine whether his or her perception matches or at variance with reports in previous studies. The model was helpful because it provides the possible medium of direction and opportunity for the participant to bear out his or her mind while the researcher catches on the vital sentences or terms to frame how IL is perceived.

The model represented the academic as one who could have read widely and interacted with colleagues from various backgrounds. This position provided rich data for the researcher and eventually became the basis for further discussion. Although other existing models would have guided the researcher on this aspect, the limitation of

presenting the employee as a 'teacher' who tells those who do not know (learners) made the some existing models somewhat inappropriate. For WILM, the employee knows but others (employees) know too; they are not 'learners' to listen to the master. Rather, they are all employees who co-participate to share knowledge hence guiding the researcher to understand that they (academics) have their own ways of perceiving information and this is not considered right or wrong. It is the way they perceive and interpret their world and how they relate with others- contemporaries and undergraduates.

5.7 Administration

This theme provides the understanding that the participants were seasoned employees and they brought such experience into the discussion. They called the researcher's attention to what is missing in the policy document of education that Nigeria has adopted; Nigerian National Policy on Education. However, the appropriateness or otherwise of the document is out of the scope of this research but became important as the data analysis affirms that all the participants mentioned it in their interview sessions with the researcher.

The National Policy on Education is fundamental to the curriculum of education at all levels; especially at the College of education. These two-way factors (i. National Policy on Education, and (ii) Curriculum of Education), to a large extent, may determine how academics would discharge their responsibilities since their tasks and practices may be dictated or influenced by the National Policy on Education on one hand, and the Curriculum of Education on the other. Also tied to these factors is the ICT Policy of the Country. Again, the effect of such Policy would trickle down to individual academic institution. Taken together, the National Policy on Education, the National Policy on ICT and the Curriculum of Education are critical determinants of how academics discharge their tasks at the workplace.

However, the pioneer and popular doctoral research of Bruce (1997) did not report experiences that bother on 'Administration' or 'Management'; neither did it feature in Boon's et al (2007) study of Academics in the UK. This researcher thinks the reason may probably be because the developed economies like Australia and UK; respectively could have closed the developmental gaps in Education Policies thus explaining why their curriculums sustain such economies to date (Central Intelligence Agency, 2013). Conversely, these gaps are still noticeable in the area of inadequate funding of education; as reported in the findings of this research.

The findings also affirm that one workplace setting where an employee is free to determine how best to discharge his duties; though with little supervision of the employer, is in tertiary institutions. The participants referred to this as 'academic freedom'. While this 'freedom' has its good intention of "designing courses and assessment approaches" (Smith, 2005, p. 189), the participants were worried with the supervising role of the College Administration as some "colleagues" hide under the 'freedom' and do little in their teaching; especially when the performance indicators have shifted focus to 'Scholarly Publications'. The participants also challenged the Administration to look at other practices that are not documented, yet have a far reaching effect on preparing the undergraduates for the future. This position and call bother on the Supervision of the academics by the College Management; this is also beyond the scope of this research but worth reporting. In addition, this research did not intent to assess the competence of academics or adequacy in supervising them by the College but the issues could provoke a direction for future research work.

5.7.1 WILM and Administration

The rules and regulations that guide: appointments and promotion of academics, accreditation of courses by statutory agencies, financial manual of the institutions, and day-to-day administration of the academic departments are all embedded in the Administration. The model provided a guide to under-study various aspects of the College Administration to understand how the participants are engaged in various practices. Most of the administrative practices and decisions were taken at meetings which the researcher was not allowed to observe. The argument here was that the membership of the Meetings and Committees was not restricted to Heads of Departments, some are not academic staff and yet some others are government functionaries on the Governing Council of the College. While the observation of these administrative meetings would have added more understanding of what practices academics engage in at such high-profile interaction with information, it could be taken that this study has highlighted yet an aspect of the workplace that requires a special strategy or research tool to identify how IL evolves in what goes on for several hours per day in a gathering of seasoned professionals.

The 'Evaluation stage' of the model reflects the administration of the organisation but gaining entrance to observe the sessions was difficult. This stage is important because WILM guides that 'policies are formulated' here. Rules and codes could be adjusted here too. What this means for IL is that there would have been so much evaluations of arguments, inferences, deductions, and convictions before a new policy could emerge or an existing rule be adjusted; these would have been possible information practices through which IL may evolve in the workplace. Other existing IL models would not have provided this research direction because they do not reflect the realities in the workplace; the way WILM has done.

5.8 Reflection on the discussion

The experience, academic, and professional interests of the academics, as reported in previous studies, may be the reason for their different conceptions of information literacy (IL). This study takes a step further to discover that information literacy could have an attitudinal and cultural inclination; as expressed by a participant. People in the Nigerian community prefer to ask for information rather than search for information. The community has a long tradition of oral transmission of information as a way of sustaining their cultural history. This is still exhibited in the ways people search for and fulfil their information needs; their own way of 'searching' for information is by asking, perhaps because the access to information resources is minimal and the habit of listening is preferred to the culture of reading. In addition, the information environment did not make access to information resources an easy, cheap or institutional priority thus making the 'asking' to gain prominence.

The participants expressed different perceptions of IL. Apart from that, they were engaged in twenty-two (22) practices through which they co-participate to prepare their undergraduates for the workplace. Also, many challenges were pushed were said to be caused by the Government and the College Administration but, as mentioned earlier, that is beyond the scope of this research to ascertain or discuss.

The Workplace Information Literacy Model (**WILM**) guided this first empirical study in workplace information literacy among academics in Nigeria. Being context-specific, the model helps in understanding the perceptions of academics, explore their challenging information environment, and understand the 'why' behind their practices; intended to prepare undergraduates to become information literates. Other existing IL models and frameworks would not have supported the study for the following reasons:

- Existing models and frameworks are designed with the school/educational setting in focus;
- The conceptualisation of existing models is to facilitate information searching for academic purposes;
- None was developed for research in workplace IL among academics in Nigeria; and
- They exhibit very little understanding of workplace practices and perception of academics.

Building on these limitations, WILM enables the researcher to understand that the employee, the participant, is a person of knowledge and ready to share such knowledge in order to execute tasks by co-participating in such tasks; as explained in 'share knowledge stage'. However, the 'analyse stage' may be re-modified as the study has shown that tasks in the workplace may not necessarily be analysed by the employee before execution because the analysis could have been done by another employee or the Management of the organisation. Re-modifying it therefore would be contingent on more empirical evidences as the researcher invites more researches to further test WILM.

Taking a look at the research objectives, once again, after the discussion here presented, none of the questions is not answered. All the research questions have adequately guided the study to elicit abundantly rich data that supports the study to make clear conclusions and recommendations. Although the study has its limitations, as shall be presented in the next chapter, the findings remain a landmark in the domain of LIS and a spring board to launch more workplace studies of information literacy. While this researcher is not claiming these findings could be generalised for Nigeria and the world, philosophy, theory and procedures were made clear enough for informed decision anywhere in the world. This clarity would further facilitate transferability and replication of the study in other communities.

CHAPTER 6: CONCLUSION

6.1 Summarising the research in one paragraph

This research examined the conceptualisation of IL and identified the limitations in existing information literacy (IL) definitions, models and standards. The limitations formed the basis for a conceptual workplace IL model (WILM) which was trialled out as a guide for this research; among academics in Nigeria to: firstly, identify their perception of IL; secondly, explore how their information environment is constituted; and lastly examine the practices through which they prepare the undergraduates ahead for the workplace. In comparison, workplace nuances make the classroom of learners strikingly different because 'knowledge sharing' of experience and abilities is a virtue in the workplace while the classroom nurtures learners to possess information searching skills to enable them excel in their academic endeavours. As a practice research, the qualitative case study relied on the purposefully selected nine (9) Heads of Departments for in-depth semi-structured interview and un-obstructive non-participatory observation as modes of data collection. The data analysis was recursive, constantly comparing and subjected to the 'second opinion' of the external audit. The findings have established that the strategy of preparing undergraduates for the workplace could be multi-faceted and that more attention should shift to how abilities may be cultivated through the practices of academics reported in this research. While it is hoped that this study would boost scientific production in LIS, further recommendations and conclusion of this research are presented in the following sections.

6.2 Contributions of the study

There are several contributions the study has made to the domain of information literacy (IL) in LIS, to Nigeria as a country, and to the entire world of Research and Development (R&D). These are discussed below as: conceptual contribution, practical contribution, and contribution to future work.

6.2.1 Conceptual contribution

The research, through an extensive literature review, brought out the limitations of existing definitions, models and standards to further establish the fact that information literacy (IL) should be undertaken with context-related holistic approaches at conceptualising IL. With this exposure, the domain has received yet another recent call for reconceptualising IL to suit the challenges of information access in developing countries. The information society status underpinned existing definitions and models of IL thus challenging their appropriateness for other communities with different information cultures. The call for reconceptualising IL for the workplace is renewed from a first-hand researcher of this work.

In additional to this call, the research developed a new model which reflects the 'real' activities of the workplace among academics. The model, Workplace Information Literacy Model **(WILM)** did not exist before; it is original and has added to the theory and philosophy of information literacy in LIS. The new model, among other things, helps the understanding of the workplace practices and could whet the appetite of researchers now for workplace studies. Apart from being an operational model, WILM could be a guide to research and development (R&D) in the workplace IL.

Contributing to the on-going intellectual debate on perceptions of IL, this research has provided fresh source of information for reasons to lay further debate to rest. Information Literacy (IL) as a concept is interpreted differently by individuals and organisations because they differ in opinions, experience, context, academic background, profession, trade, digital-divide challenge, and a host of similar factors. Rather than continue the debate, the research has advised that more efforts be concentrated on how information is experienced to fulfil a context-related need. One 'appropriate' definition may not fit it all. Likewise, one standard model may not be imported to all climes. The research has affirmed that there may not be one answer to making individuals become information literate.

6.2.2 Implications for practice

The research demonstrated an articulated response to SCANS report which invited researches to focus on how information literacy is manifested in the work settings and the degree to which it enhances workplace productivity. As this researcher has provided more understanding of the practices of academics in the workplace, it is hoped that other researchers would follow suit with more researches. Conducting this qualitative research on academics came at a price of rescheduling meetings at their convenience and having to accommodate their eruditions that were at times a deviation from the focus of discussion. However, these were managed adequately and have provided a road map for other researchers. Subsequent researchers would find it less challenging as this research has prepared a 'soft landing' by avoiding the identified 'birth pangs'. In addition, it would be a source of direction for 'workplace-classroom', 'faculty-librarian' and 'sponsored projects' on collaborative efforts towards workplace IL research for national development in all countries; perhaps.

6.2.3 Implications for future work

The Workplace Information Literacy Model (WILM) was developed after an extensive literature review and was used as a guide for the exploration of the workplace. Since this is its debut, more researches are invited to provoke further discussion to improve it. It would be too early in the life of the model to consider it as 'perfect' but as it is subjected to future researches and public scrutiny, it may become robust to guide researchers in various fields of work. It was only tested among academics, more researches are invited to test it among blue-collar professionals in farming, fire service, vault inspection, waste management, catering service, and to mention but a few.

In the course of the research, there were viable attractions to push the work beyond its scope but were resisted because of the limited time and resources. One of such viable areas of research which future work may be directed is longitudinal tracer studies. This would investigate the correlation between workplace performance and the IL practices that the undergraduates were exposed to when they were in school. Such studies would assess how much of IL skills they take into the workplace and the impact of such (IL) in the workplace. In other words, studies could investigate what practices are relevant to a community over a period of years' exposure to trends and technology. Better still, one of the practices of the academics could be chosen and broken down into phases of implementation in order to explore the human and materials resources involved in executing the practice; with the objective of assessing inputs that could enhance IL development over a period of time.

The research gained insight to the thoughts of the academics and would here present one of their opinions. The opinions are presented in form of questions for future work. The questions are: (i) To what extent is the Management supervising the 'academic freedom' of the academics to ascertain that all (academics) are engaged in practices that would yield a desired goal for the community/society? (ii) How are these

practices evaluated for the purposes of performance on the part of the academics? (iii) What collaborative model would industry experts and academics adopt to engage and prepare the undergraduates for the 21st century workplace? Future work in answering these questions would further broaden the scope of LIS as an interdisciplinary domain of knowledge.

Lastly, the top echelon of the administrative arm of the study site seems to be restricted; non-members could not be admitted. It may not be unlikely that there would be much information practices going on in those meeting chambers. The policies and decisions that are made there are critical to the administration of how the information environment would be constituted for employees to execute their tasks. For research to facilitate adequate understanding of such arm of the workplace, this researcher suggests future work to be in collaboration with a member of such high profile Councils, Boards or Committees. As a research paradigm, an experiential research is suggested in order to elicit rich data from the participants who are likely to be seasoned academics and professionals.

6.3 Research limitation

This researcher would sound over-ambitious to claim that his research has no limitation; a study where he chose the problem and research design, determined the research participants, justified preference for the study site, and yet claim that the research has no 'limitations'; that claim is, in itself, a limitation of the research. This research, like many in literature, has its limitations and they are presented under: methodological, conceptual, and resources limitations.

6.3.1 Methodological limitation

Every research has its strengths and weaknesses. Firstly, the strength of this study lies in the opportunity of maintaining an eye contact through the face-to-face interaction while the researcher dug deep and around the phenomenon. There are non-verbal cues in the eyes that added more meaning to sayings and doings. The method also afforded the researcher the opportunity to return again and again to the participants to cross check and confirm statements in order to have their candid, personal and heart-felt opinions. This virtue is almost impossible with survey or any other quantitative research approach. Having eulogised this qualitative research method, its weaknesses are listed below:

Homogeneity of the participants

The participants were all Heads of Departments. Their opinions were personal to them and may not be true for other academics on the same campus. In addition, their opinions may not represent the opinions of all academics in tertiary institutions across Nigeria. The findings therefore, may not be justifiably generalised for the academics in the workplace in Nigeria. As a qualitative case study, the extent to which the findings may be generalised on a larger and heterogeneous population has been a question yet to be answered. This limitation is therefore, acknowledged. In addition, the undergraduates have interactions with other academics; apart from the selected participants. As such, they (other lecturers) could have also imparted some IL skills to the students through other practices.

Sample size and mode of selection

The number of participants in comparison to the staff strength on-campus at the research site may cast doubt on its adequacy of representation. Although the Head of Department (HoD) is the administrative arrow-head, whether his or her opinion could represent the opinions of all members of the department may not stand up to scrutiny.

Furthermore, there were several methods of selecting research participants but this researcher identified the participants through 'purposive selection'. This selection was adopted perhaps to suit the research objectives that were determined by the researcher. Therefore, this may limit the extent to which the findings may suit the research objectives and general perspective of other researchers. In addition, the findings were contingent on the assumption that the participants gave their honest opinions; otherwise this becomes a limitation of the study.

6.3.2 Conceptual limitation

The Workplace Information Literacy Model (WILM) was developed after an extensive critical literature review and was used as the guide for conducting this research. This researcher may agree with a healthy critique that the model was not tested elsewhere by any research before being used for this research. Another conceptual limitation is also the adoption of one of the definitions of IL out of several existing ones; especially when no earlier researcher has used the definition as a basis of an empirical research. The 'Evaluation stage' of the model could not be tested adequately as the researcher could not gain access to 'team players' who constitute the membership of most of the high profile Council, Boards and Committees. Although the rich data provided by the Heads of Departments were helpful and invaluable, data from such individuals at the higher decision-making levels would have provided a robust basis for understanding the fourth stage of WILM; Evaluation Stage.

6.3.3 Limitation of resources

There are qualitative data management software abound for qualitative research such as this. With a long list to choose from, one major limitation was the cost of acquiring a one-year License for Nvivo 10. However, doing a manual data analysis turned out to be a worthwhile exercise. It brought this researcher closer to the data, became familiar with different opinions (voices) in the data and could recall who said

'what' at what point. At times, the researcher relives some of the events again when alone and smile or nods in soliloquies.

Time was another resource that was limited. Conducting this research was time consuming and laborious. Even though methodology literatures have mentioned it enough, the researcher experienced the reality when interview appointments were cancelled or rescheduled. At times they were rescheduled at so short notices that the researcher would have been on his way to the venue. Again, the time to listen to interview recordings, transcribing them, review the interview sessions of the day, going through observation field-notes, doing the data analysis and confirming with the participants; who may not be ready to read anything at that time. The time was burning; the researcher missed his meals several times and lost the appetite to eat again. In the long run, these limitations were managed and the end-product has out-weighed the limitations. Also, the limitations become a guide for future research work while the ensuing findings have given basis for understanding how IL evolves in the practices of academics.

6.4 Recommendation

The recommendation of this research is presented under: (i) Research and Development (ii) Practice, and (iii) Community development. Each section is explained below:

6.4.1 Research and Development (R&D)

The research joins and builds on earlier studies on workplace IL to increase scientific production in this area which has been fairly low (Wang, et al., 2011) .The findings in this research showed that there is more to be unravelled to foster the understanding of workplace information literacy. The workplace information literacy model (WILM), developed in this research cannot be said to be in its perfect form.

There is still room for its improvement which could only come through additional scientific inquiries. Such further research would test the viability of the model to support research in other blue-collar jobs (Veinot, 2007). Apart from establishing the holistic and multidisciplinary nature of information literacy, this research also invites LIS researchers to explore 'town and gown' synergy for societal development; such studies would push the boundaries of IL studies, provoke new concepts and ideas, and nurture technological and conceptual modalities.

6.4.2 Practice of librarianship

The packaging and organisation of information resources started with librarianship (Ranganathan, 1931, Sen, 2008) thus justifying why librarians were in the assumed best position (Rader, 2002) to teach how to search and use information resources. But trends and technological advancements have brought in the new media within the frame of Internet of Things (IoT). The perceptions of people about information literacy (IL) would continue to reflect their interest, context, and information need; there are bound to be varied perceptions. Teaching of IL therefore has to reflect these differences to make faculty-librarian collaboration a worthwhile venture or if institutions choose to incorporate IL across the curricula. Whatever choice is made should be a factor of the new users and the 21st century workplace. At the workplace, little attention is placed on 'information need' before executing a task (Hepworth & Smith, 2008), whereas so much attention is placed on teaching how to identify information need. This study has shown that there has to be more ways to preparing the students for lifelong learning.

Librarians should see the new users and new workplace as the new challenge that is facing all professions; which every profession is adjusting to: news websites have challenged journalism and publishing, Smart phones have challenged photography, to mention but a few but interestingly, all the professions are bracing up for the challenge.

Likewise, librarians and librarianship have to see the dissemination of knowledge to enhance information literacy (IL) as interdisciplinary, collaborative, holistic and multi-faceted in approach and design to prepare undergraduates to become information literates for the 21st century workplace. Re-conceptualising IL to suit this new 'thinking' is therefore, one of the recommendations of this research.

6.4.3 Community development

This is the call to decision formulators, government functionaries, managers of tertiary institutions, and donor agencies to take a second look at policy documents guiding education in developing countries. The term and discussion of information literacy (IL) began in 1974 because information technology (IT) had enhanced the creation of information; information explosion. Since then, IT had continued to extend the borders of information explosion. Today, an individual creates information and disseminates it to a mass audience. The developed countries call it 'information society' and they have developed policies, curricula and funding to sustain the information society status.

On the other hand, the developing countries describe the opposite of information society as 'digital divide' (Mutula, 2013). This means that IL would continue to be a critical element in 'surviving' in an information society. As a first-hand report from a developing country, the education sector should be highly funded if gaps in the digital divide would be closed soon. Government at all levels, donor agencies and philanthropists should fund projects that would provide adequate information technology infrastructure. This way, tertiary institutions would be able to constitute a learning corridor that would link the workplace with the 'ivory tower'; where high impact researches and knowledge-sharing from seasoned academics could be initiated and sustained. The Community, Society and the Nation may benefit greatly more from

this but the stake holders- managers at all levels- would have to resolve to capitalise on the findings of this research as a guide to Community development.

6.5 Last line

In summary, this research explored the phenomenon of information literacy (IL) from the perspectives of the academics. Their perceptions of IL and the way their information environment was constituted formed the basis to understand that academics know what to do (knowledge) and how to do it. The 'how to do it' was exhibited in their practices as they co-participate in the workplace and interact with their undergraduates in order to prepare them for the 21st century workplace. The sub-field of Workplace IL in Library and Information Science (LIS) is relatively young and the few researches have been on knowledge workers; there is the need for more workplace studies in blue-collar enterprises too, perhaps to further test the model- **WILM**- or investigate how industry experts could share their work experience with novice employees to evolve information literacy; workplace skills.

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List of publications and paper presented

List of publications

Jinadu, I. & Kiran, K. (2014). Information literacy at the workplace: A suggested model for a developing country. *Libri*, 64(1), 61-74.

List of paper presented

Jinadu, I. & Kiran, K. (2014). Shut down the university! The ultimatum for quality undergraduates. Paper presented at the 6th Qualitative and Quantitative Methods in Libraries International Conference held at the Kadir Has University, Istanbul, Turkey between 27-30 May, 2014.

Jinadu, I. & Kiran, K. (2014). Recasting information literacy for the workplace: Bringing the practices of academics into focus. Paper presented at the 2014 Postgraduate Research Excellence Symposium (PGReS 2014) held at CONCORDE HOTEL, Shah Alam, Kuala Lumpur, Malaysia on 15th May, 2014.

Jinadu, I. & Kiran, K. (2013). Information Literacy: Definitions and models for research. Paper presented at the 2013 Postgraduate Research Excellence Symposium (PGReS 2013) held at ARMADA HOTEL, Kuala Lumpur, Malaysia on 22nd May, 2013.

Haastrup, E. A. & Jinadu, I. (2012). Knowledge and behaviour of students who are library users towards colleagues living with HIV/AIDS. Proceeding of the 4th International Conference on Libraries, Information and Society (ICOLIS 2012) held at Armada Hotel, Petaling Jaya, Kuala Lumpur, Malaysia between 20-21 November, 2012.

APPENDIX A

_____

_____

Dear sir/madam,

Letter of request for your participation in my research

I am indeed very grateful for your time and interest in my research work designed to investigate the issues surrounding information literacy in the workplace.

Employers of labour, workplace stake holders and concerned citizens have drawn the attention of researchers to inadequacies in workplace- skills noticed in employees. Some employees do not have the requisite skills to source, recreate and manage information to the advantage of the workplace. There may be several issues around this problem but this research intends to understand the process of training the undergraduates to become information literates in the workplace.

Academics form a part of the professionals who train employees for the twenty-first century workplace. As such, your practices in the process of preparing undergraduates to become information-literate employees informed the reason for seeking your participation in this research work. Also, the research intends to share in your experience in relating with colleagues and students in your routine practices.

It is important to mention and assure you that your responses shall be handled with utmost confidentiality while your participation is considered anonymous. Also, your time and commitment shall be considered very useful to the success of this work even though you are free to withdraw your participation anytime you deemed it necessary.

Kindly note that the interview and observation sessions will surround three broad research questions:

- What is the perception of academics about information literacy?
- How is the information environment constituted for academics?
- How do academics engage in practices that could prepare undergraduates with information literacy skills for the workplace?

Kindly tick this box as a sign of giving your consent for participation: ☐
You may leave this letter in your 'Out box' for me to pick or reach me for any further information on the following phone numbers: 08055678602 or 07065508169.

Yours faithfully,

Jinadu, Iliasu.
Research student.

APPENDIX B

CONSENT FORM

I _____ have adequately been informed by the researcher about the topic of the research and my role as a participant. I am also aware of the assurances that my contributions shall be made confidential and anonymous without any prejudice to the good intention and objectives of the research work.

Signature _____

Signed this day _____

Name _____

Department _____

School _____

APPENDIX C

Interview guide

A. General questions

1. Could you please tell me your responsibilities (routines) as HOD?

2. I know academics are starting, doing or completing a research. Which of your work would you like to share with me?

B. Conception and understanding of information literacy (IL)

1. How do you perceive the term information literacy (IL)?
   *__Probe for misconceptions__
   __*Other descriptions or terms other than IL__

2. How would you say IL is relevant to your duties?
   __Probe for practices that enhance delivery of duties__

3. What difference(s) do you think undergraduates with IL skills would make in today's workplace? __Probe for understanding of 'workplace' as different from 'classroom'__

4. How do you think academics should prepare their students to become information literate?

C. Sources and access to information.

1. What are the sources of your information?

2. Kindly describe your access to these information sources.
   __Probe for specific search skills__

3. How do you handle situations where the information you need are not available or too much?
   __Probe for strategies to handle either situation__

4. What is the information need of your students?
   __Probe for perception of the Net generation / digital natives.__

D. Practices to prepare undergraduates to become information literates.

1. Kindly list some of your practices or activities/engagements that you think your students could benefit from. Also explain how such benefit will impact on the workplace.
2. How do you think these practices/activities will make your students information literates?
3. Could you please share your conviction or otherwise that academics can prepare undergraduates to be information literates?
4. What are the prospects or challenges you envisaged in preparing students to be information literate?

General question- (a) Kindly share a question you expected me to ask which I did not.
(b)Do you have any piece of advice for me as a researcher?

APPENDIX D

Observational field note. Date----------

1. Event for observation
   _____
   _____
   _____
   _____
2. Venue_____
   _____
3. Time started _____Time ended _____ Total duration_____

APPENDIX E

Jinadu, Iliasu
Department of Library and Information Science,
Faulty of Computer Science and Information Tech,
University of Malaya,
Selanghor, 50603,
Kualar Lumpur,
Malaysia.
May 14th, 2013.

The Registrar
[redacted]

Dear Sir,

LETTER OF TRUST

I am indeed very grateful for granting me the opportunity to carry out my PhD research in the College by interacting and sharing in the experience of the academic staff as they get engaged in their routines practices. As I earlier assured you, sir, I promise that the research and all the processes leading to the final thesis shall be handled with utmost confidentiality. Particularly, the name of the College or any of her staff will not appear in any part of the thesis.

Once again, thank you very much for giving me this opportunity to use the College as my research site.

Yours faithfully,

Jinadu, Iliasu.
PhD Research Student.

APPENDIX F

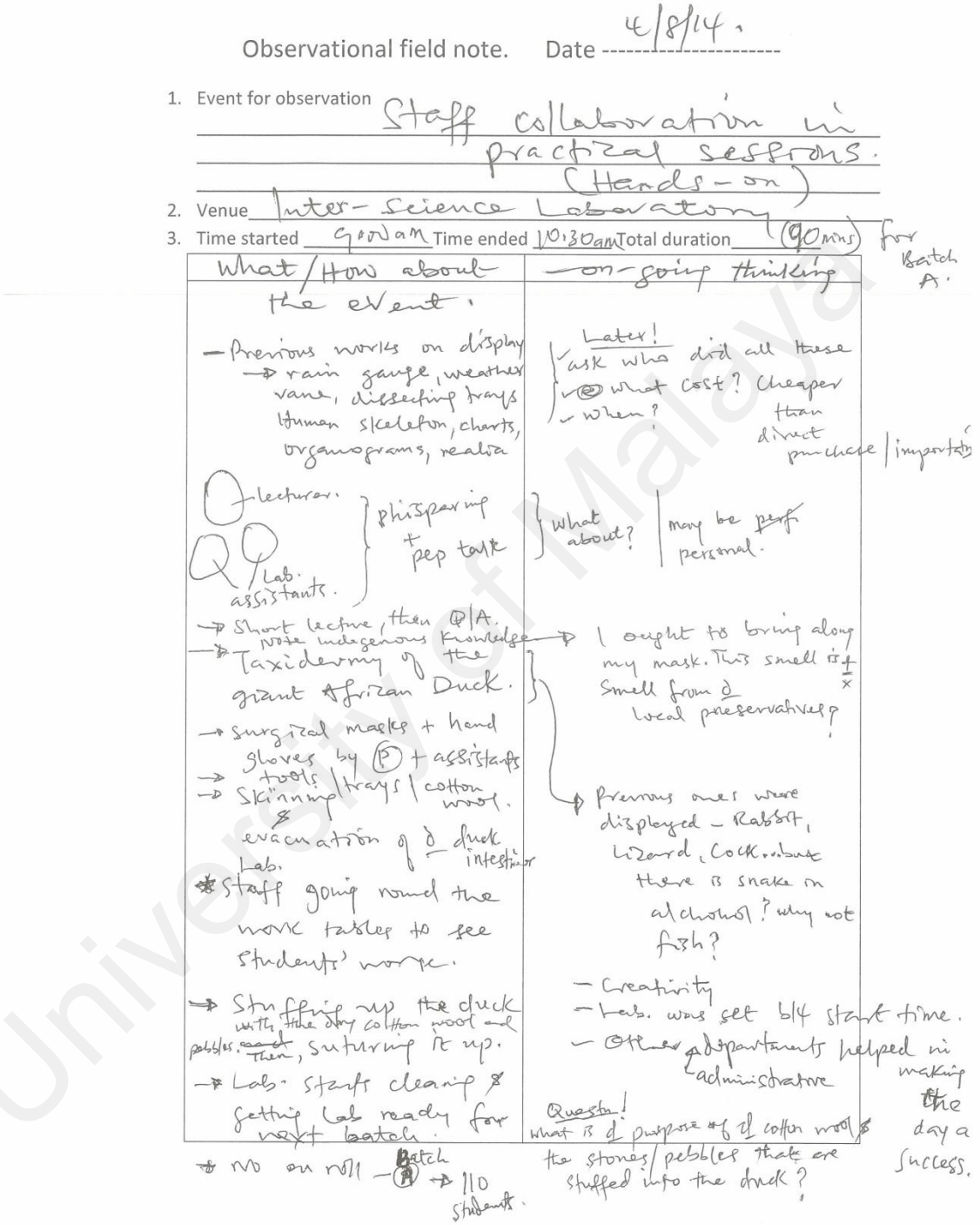
Themes	Sub-themes	Meaning
Administration	National Policy on Education	National policy on achieving the goals of education for the development of the society. It is a critical document in designing the curriculum for all tiers of education.
	Curriculum	Guiding document for the teaching -learning practices that lead to the award of the Nigeria Certificate in Education (NCE).
	Workplace-classroom relationship	Classroom teachings to sustain best practices in the workplace.
	ICT policy	National policy on acquisition and use of ICT for national development.
	Academic freedom	Free will of academics to develop courses, determine best delivery strategies and method of assessment that suits a set of students.
Assessment	Participatory assessment	Practice of cultivating feedback among academics, College management and students.
	Assignment	Form of assessing teaching-learning interaction between academics and their students.
Conceptions of IL	Education technology	Using technology to meet the needs of teaching and learning by staff and students
	Knowledge pyramid	All and each step that must be learned before moving to the next step/phase in learning.
	Other literacies	Literacy other than 'information literacy (IL)' such as writing literacy, adult literacy, etc
	New media	New media is the real-time generation of new and unregulated content. (The Oxford Online English dictionary).
	Problem solving	Using information to satisfy a particular need.
Employee training & Development	Academic colloquium	Academic forum to discuss and cross-fertilise ideas.
	Teaching practice Workshop	Workshop that trains all participants (academics, students & External examiners).
	Meetings and formal gathering	Formal gathering with a controlled membership.

APPENDIX F (continued)

Themes	Sub-themes	Meaning
Information infrastructure	Virtual learning environment	Experience of access to digital learning resources without necessarily coming together; physically.
	Information resources	Sources, means, items, or people that provide information to satisfy any information need.
	Information Facilities	Means of sourcing for information such as: Library, ICT centre, and cyber café.
	Internet access	Medium of accessing web resources by staff and students.
	Mobile phones	An alternative to computers and laptops to conduct learning and to get internet access.
Skill acquisition	Micro-teaching	Practice of peer to peer teaching to master the skills in teaching methods.
	Practical sessions	Practical sessions (hands-on approaches) in order to make learning more permanent.
	Indigenous knowledge sharing	Practice of sharing peculiar local knowledge and experience.
	Teaching practice	One semester practice of internship in a school setting to prepare would-be teachers for the real-life of the classroom.
	SIWES	Students Industrial Work Experience Scheme to prepare students ahead for the real-life workplace setting.

APPENDIX G

SAMPLE OF FIELD NOTE- HIS1



Observational field note. Date 4/8/14.

1. Event for observation Staff collaboration in practical sessions. (Hands-on)
2. Venue Inter-Science Laboratory
3. Time started 9.00am Time ended 10.30am Total duration (90 mins) for Batch A.

What/How about the event.	on-going thinking
– Previous works on display → rain gauge, weather vane, dissecting trays human skeleton, charts, organograms, realia	Later! ask who did all these what cost? Cheaper than direct purchase / important when?
lecturer. Lab. assistants. phisparing + pep talk	What about? may be ~~perf~~ personal.
→ Short lecture, then Q/A. Note indigenous knowledge → Taxidermy of the giant African Duck.	I ought to bring along my mask. This smell is ± × Smell from d local preservatives?
→ surgical masks + hand gloves by (F) + assistants → tools / trays / cotton wool. → Skinning evacuation of d duck Lab. intestine	Previous ones were displayed – Rabbit, lizard, Cock... but there is snake in alcohol? why not fish?
* Staff going round the work tables to see students' work.	– Creativity – Lab. was set b/4 start time. – Other departments helped in administrative making the day a success.
→ Stuffing up the duck with the dry cotton wool and pebbles, each then, suturing it up.	Question! What is d purpose of d cotton wool & the stones / pebbles that are stuffed into the duck?
→ Lab. staffs cleaning & getting Lab ready for next batch.	
* no on roll – (A) Batch → 110 students.	

APPENDIX H

SAMPLE OF TRANSCRIPT - HEE2

Routines of HoD

As d head of dept, I am to provide academic leadership in the dept. The dept has 12 regular staff and two part-time staff. What we do is to essentially train specialist teachers in early childhood care and education. This is one of the new courses that the National Commission for Colleges of Education (NCCE) just introduced into the NCE curriculum. We (the dept) started Early Childhood Education here in the College three years ago and we are graduating the first set at the end of 2012/2013 academic session. So, essentially, as the HOD I should provide the platform for academics in the dept to interact with students on all approved courses that are taught and those involving practicum . Also, I listen and attend to students' requests and complaints and finding ways of resolving them. It is also the responsibilities of the HOD to organise periodic assessment of students and keep records of the students. All students of the dept have their records in files in the dept. As the HOD, I provide academic time table for departmental activities which, like I have said, include lectures, workshops, lecture series, em… emm… we meet sometimes with students to discuss major challenges bothering on their courses , exams and em ... practicum. As the HOD, I am a member of the academic board which qualifies me to attend academic board meetings. And i was elected the Chairman of the Committee of HODs in this academic session. We have 36 functional academic departments and I am the Chairman of the Committee of HODs. By the position, I am a member of the Extended Management of the College.

What is your perception of Information literacy?

There is no doubt that the impetus to human existence and understanding is the ability to share information ah … ah… even from the mere knowledge of whom you are … the other person gets to know whom you are by getting information about yourself and this is "enrichened" (enhanced) by the level of knowledge of the person who is providing the information and the ability of the receiver to interpret information. In general life, information is the basis for human survival and em... we all know that in any conflict situation wherever it exists either amongst or … amongst countries of the world or within states in a particular nation we always refer the cause of such em … bickering to a breakdown in information. From that perspective we see that when there is free flow of information there is harmony, there is peace, there is understanding and there is development. On the other hand where there is a break or interference in information at any level, there is the likelihood of misunderstanding, likelihood of chaos, the likelihood of underdevelopment, the likelihood of war cannot be ruled out in such an instance. In academics, the flow of information is particularly important because one of those things that engender development in academics is the ability of one who knows to be able to share information with those who really need such information and that is the essence of research. A researcher is a person who has … may be low level of knowledge in an area of study or in an area of life and so when he undertakes a research what he is actually looking for is information that will guide him to take responsible decision, do you get what I am saying? From that point we cannot rule out the fact that the basis of human existence and the engine that drives human prosperity is availability and unhindered information.

What is the link between information availability and information literacy?

I think that eh … eh… information as I can see it is a way of passing … literacy itself is the ability to use information meaningfully em to … to be able to interpret and use the idea that has been passed on to a person meaningfully. You see when we talk about the "illiterate person", I think such a nomenclature does not even exist because there is nobody who does not have an idea of something whether positive or negative but when you talk about "literacy" some people will equate literacy with the ability to read and write whereas some other people will say ability to read and write "what". The mere fact that a person cannot scribble things on paper should not ordinarily make him an illiterate because he can pass on a message, the information that can actually turn bad to good, and from good to better. So, literacy in that understanding is the ability to meaningfully use information to project development. And so when you talk about information literacy I think that it is very far from the conventional understanding that a literate person is somebody who can read and write but that IL would mean an idea of a person or an individual who can meaningfully use a given message to turn around things positively. I don't know whether I am sounding reasonably with that interpretation or its em … em …

An illustration to support my perception of IL

There was em … em … a Professor who came out to castigate an individual who is regarded as vast (wide knowledge) as an illiterate and several people disagreed with the position of the Professor on the grounds that the individual in question has so much knowledge in a particular field which the Professor does not have. And when you look at it, may be the Prof was trying to equate literacy with the ability to read and write a particular language so that anybody, for instance, who cannot read and write English language, is regarded as illiterate. So, when the issue was put to test, the number of persons who benefitted from the counselling, lectures and admonitions of the individual who is said cannot read and write in English language were more than those who benefitted from the Professor. And people have argued that when you look at the contributions of that "illiterate" person to the field where he is considered as a scholar, he has been able to turn round so em… em … and has been able to influence a lot of thoughts and because the Professor is not a specialist in that area (field of study), he may not consider worthy enough. What we are saying is that information literacy is itself an understanding of using a particular idea to turn things from good to better and to the best. The issue at stake (illustration recounted) is that of Professor Soyinka and Sheik Gumi. Sheik Gumi was very vast in Islamic legal system but cannot read and write in English except in Arabic and Hausa languages. Professor Soyinka is a Nobel Laurel who writes and speaks English language fluently. So, there was an issue and Professor Wole Soyinka referred to Sheik Gumi as an illiterate. So, literacy is not the same with reading and writing English language but (rather) the use of an idea to better *(improve)* situations in the society and they cited many instances to support how Sheik Gumi has influenced the Islamic legal system.

How do you see IL in your society and other developed societies?

Information literacy is a universal idea. Everywhere in the world, people will always have an idea to exchange. One, we can say that in terms of context and quality the information that is available to each society may differ. For instance in Nigeria, we are still struggling to have the FOI Bill, that is, Freedom Of Information, passed into law. Whereas in other cultures

(countries), there is no information regarded as classified as confidential whether in government, whether in industry, whether in academics but in some third world and developing countries like Nigeria there is still so many classified information and so information literacy cannot really be on the same pedestal in all human societies if there is still hindrances to the availability of information. So, while it is possible that ideas which are propagated in information can help to… to… improve human relationship, human ideas, human societies at all times, but we also know that the quality and quantity of information that is available at any of these human communities is different. For instance in Nigeria if you must take some government information you have to go through series of approvals for you to get them whereas in other… eh… em… for instance in Australia *(a visitor came in and the interviewee could not complete this line of thought).*While we accept that information literacy can help solve the problems of humanity, but it is also dependent on the quality and quantity of information that is available. Also, the level of sophistication in the interpretation of information em … em… because each idea has a facial value and an inherent value. So, Information processing differs at different levels of access. If for instance a particular community decides to … to… okay for instance we all know that solid minerals have been a source of income in many countries because of the level of processing. For instance in Nigeria we have crude, we have gas. Yes! the gas in Nigeria which is even more than crude oil, instead of turning that resource to a mine, we are flaring and that is because the capacity to process the available information is low whereas in other countries such an endowment has brought in a lot of values, a lot of wealth, a lot of good life into the community. So you can see that two communities have the same endowment, they have for instance in Australia eh … em… this petroleum resources, I am just assuming, I don't know, they have been able eh ... eh… if a society decides to process more genuinely because of the capacity it has its more likely to produce a better effect than a society that has facial process and understanding of the usage of that endowment. The same thing goes with our (Nigeria) education system. Given the right facility, a human being or an academic can compete favourably with his peer anywhere in the world but where the opportunity is not even, it is not likely that we will expect the same level of output from the two different people in different situations (societies).

How do you mean by where the opportunity is not even ? You see let's be so sure of what we are talking about, we are talking about IL yes, eh... there is this saying that you do not give whatever you do not have. So if for instance our limitation is on available materials … texts and you do not have access to the internet, whatever your contribution on an issue is may still be far… far backward compared to the contributions of your colleague elsewhere who has internet facility and whose training is such that almost at every second of his thought is getting a backup of refinement from current things that are happening in the world. So there is a level to which the human ingenuity can take him but the human ingenuity can go beyond what you can envisage within the immediate society if he has the opportunity to share his ideas with people around the world. That is where the issue of opportunity comes in. You know that in the third world countries, one of the basic problems we have is one: we have limited information on issues happening globally, we have limited capacity to process to be able to compete favourably with the larger world. These things are not divine; they are impediments that are borne out of one: the type of society we have created for ourselves.

How does technology hinder or enhance the activities of people in the third world? You see, technology is the drive for efficient information. When we talk of efficient information we

are talking of the ability to cross-compare the adequacy of the information from any part of the world and technology is that drive to make it possible to share and link with others without physical contact. From the comfort of your office you can network and do a conferencing and this is only possible through a virile technological base which most African countries are lacking.

Information Technology in Pre – 1999 in Nigeria – if you want to assess the impact of information literacy in Nigeria, you will go back to the pre-1999 before we had the GSM services even though the first set of GSM lines were rolled out in 2001 but we have started feeling the impact of the Global Satellite Mobile telecommunication around 1999.Before then quite a number of our activities were done manually; you want to see or talk to your son in Ibadan *(a close-by capital city in Nigeria)* for instance you have to write a letter and post or look out for somebody to deliver your message to him. Now to the more specific academic work, nowadays we have internet- enabled ICT centre and we (academics) are all registered as users with a default email address. So, most of the information for Heads of departments and academic staff are passed through their mails. In the department, our meetings are not scheduled through memos any longer. What we do is to send such through SMS or we do mails to one another and its making things to… one: within a twinkle of an eye you call colleagues to a meeting and iron out issues which would have taken a longer time to discuss. Two; we also encourage our students to submit their work through the net (internet) and so irrespective of wherever they may be e-learning is encouraged. Also, by the existence and availability of these ICT devices, even the phones we encourage our students to be able to talk to us. You will recall that the student that just left is one of our students who have just graduated but requested for my phone number in order to be in contact with me. All these were not possible pre-2000 and so things are now more electronically powered than those times of the manual one. As the HOD, our storage and retrieval system is a little bit better now because we *(the department)* now have a computer system and a laptop with which all the students' profile, their results, everything about their bio-data, we have them in electronic form and whatever happens we can retrieve their particulars and get in contact with them. Also, our *(departmental)* results these days are not manually processed. We have a system of computing by electronic device. Results are no more posted on notice boards again. Students can access their results from the internet and print. It makes thinks to be a little faster. As a member of Management, circulars and notifications are sent via mails. There is a meeting of management that is coming on Monday (today is Friday) and I got the notification in my mail box yesterday. So, these are some of the improvement that technology has brought to the sharing of information.

Given the difference in technological strength in different contexts (countries), what will be your perception of IL? You see, em … em … let me give you a scenario, I am a student of child psychology and you see we have what we refer to as developmental milestones. Developmental milestones are the expected levels that the average person should attain at a point in time. That a child does not attain a particular level at a point in time does not mean that that point does not exist. One child may start to walk may be at 9 years old , may be another child walks by 7 or 8years, he is already doing it *(walking)* you know, the fact that ,in our environment ,we still have challenges with information literacy does not mean that the definition of that term is faulty; it's not. Information literacy is using ideas to better *(improve)* situations. If you say … em … there is no doubt that the quantity of information on an issue to an average Nigerian may not be comparable to what we have in developed societies such as

America but that does not mean that an average Nigerian will not do as well as how an American will do but what we are saying is that the limitation to perform to expectation can be traced to what is available and that does not mean that IL in an environment will be different from IL in another environment.

How do you think our undergraduates with IL skills will be better or otherwise in the work place? There is no doubt that if you compare the graduates of our time *(about 30years ago)* and those we are having now, one: there is reasonable development in the ability to manipulate tools that will provide better information than in our own time. Now, but the fact is that you want to ask what is the focus of the average Nigerian in terms of IL? What type of information are they accessing; is it the one that is beneficial to himself (him), to the society or to the workplace? There is no doubt that technology has brought in its good and bad and when people generally talk about the fact that yes! We have better access to information these days. We have to look at what type of information are the adolescents likely to access if given the freedom to do so. From research, what we have seen is that there is very little patronage of beneficial knowledge by adolescent of our time. The reason is not farfetched; one: the undaunting nature *(alarming rate)* of unemployment is making so many people lose focus of the reality in Nigeria. We have very large (high) level of unemployment; go to an average family: there is unemployment, there is underemployment, and there is disguised employment. Somebody who is working but cannot feed from the earning (total emolument). For instance, somebody has an NCE (Nigeria Certificate in Education - basic teaching qualification in Nigeria) and the best job he could get pays N7, 000 monthly (RM140.) when the government has recommended the minimum salary of N18, 000(RM360.) but the employer pays N7000 and that is the best he could get for now. That type of employment is what we call disguised employment. There is also underemployment where graduates even Phd holders are drafted to work as truck drivers, I think you remember the celebrated case I am referring to (a popular company advertised for truck drivers and Phd holders applied). Yes, there is somebody who has a Phd in Psychology and he can work in almost every place of calling but where there are conscious advert requesting that Phd holder become a truck driver, which is a case of underemployment. Not … em … we don't have to look at the salary and opportunities that are attached even if the salary is fat, it is still underemployment because he is doing a job for which he was never trained and it is not as if there are no needs for him in the society but there is no opportunity for him to be employed. That is what we call underemployment and there are cases of people who cannot find anything to do. This explains why government is doing so many things to colour the face of unemployment such as the SUREP, NAPEB (government programmes to alleviate the problems of unemployment). This is the issue of unemployable graduates that is creeping into our dictionary. This term refers to graduates who, despite the amount of information literacy they have gathered over the years, still not making them fit for employment but I don't want to be too general. Out of a thousand you may find one or two. The problem is not the system that produces them … the problem … I mean … em even those of us who are employed today passed through this same system and we have seen that a quite number of our people (colleagues) who go outside (overseas) also compete favourably with the outsiders and do well. We know Nigerians and Africans who are overseas and doing well and most of them started their studies in Nigeria. So, what I am saying is that most adolescents of our time looked for information that will douse the frustration which the society has forced on them. When you look at today's adolescents they are looking at pornography, they are looking … they are looking for a way to get out of poverty at all cost

and that is why we have a lot of crimes in our environment. Those who cannot go into crime will now begin to look for information sites that would bring down their thoughts of the reality that they had expected. So quite a number of our employers would need to retrain, build capacity for these individuals to be able to fit into their workplace. I think just yesterday, there was information that the Nigerian government is trying to provide a synergy between the graduates that are available and the industrial needs of employers. So, at a point it may be very necessary for institutions: universities, Colleges, polytechnics to go and ask employers for the specific things (information/skills) they need. The information that we (academics) provide in universities and Colleges at times are too general and broad to the specific needs of industries. For instance, I am a student of Early Childhood Education. We have to go and ask those who have (run) Crèche, Kindergarten, and Nursery to ask them what they want (in employees).Go and ask them for what they want. What they want is somebody (employee) who, when given these infants, can replicate the roles of the surrogate mother. They do not need an employee who can cite many references in Curriculum, No! Somebody who welcomes the child in the morning and child feels happy because he/she won't miss the mother. It is somebody who fits in as the mother (surrogate mother) irrespective of the gender. But what we are doing (in Colleges) in most cases, is developing the intellectual base of the individual in such a way that when he/she finds himself playing a motherly role as a care-giver, he would never feel satisfied. He feels underemployed. But really that is what the industry requires because if a mother is going to leave her child in your care, what she expects is that, till she comes back, the child should not cry, the child should not be dirty, the child should not have the sense of wanting to go home. But almost immediately the mother leaves the child, she (child) is crying to go and in the frustration of the care-giver he or she (the care-giver) does not have that skill to bring or radiate the emotions of the mother in the child. So, when a person is employed to do such a job, the employer has to do another step-down (retraining) to build the capacity of the individual to be able to fit into that need and this is a very big challenge. It is not all employers who want to do a second training because they (employers) know that once you (employee) have the skill (soft skill), you become a better person, you become more available for better offering (job opportunities) .So the employer will think if the employee is retained, he could leave the employment for a better-paid one and his (employer) efforts will be wasted. So, employers will leave their employees to continue to live with that ignorance and em … em ... it is a whole lot of challenge on the information they have as graduates**.**

Is it the institutions that should influence the curriculum or is it curriculum developers that should design a curriculum that fits the society? - You see, what I know is possible is that there must be a relationship between the industry and the institutions. You cannot produce what I don't need and you expect me to buy it. If I buy, it is either I under-buy or I don't but at all. It is the institutions that should be reaching out. You see, curriculum is a dynamic and functional instrument. When we talk about dynamism, it is something that changes with needs Yes, parents will come and tell you I want a surrogate mother to take care of my child and so that is why em … emmm… not a mother that will give sedatives for her to sleep off. You see, kindergarten or nursery is basic and fundamental work in Basic education. Any child that has that opportunity… *(Students came and the respondent couldn't continue the line of thought*). So there should be cooperation between industry and institutions; whichever way. When institutions are conducting researches, their researches should not just draw from the air (blues). Researches should draw from the needs of the society, (needs) of the industry. So, when as an institutions, we just woke up and ah … just pick a (research) title and start our

research without confirming that the research findings will benefit the industry. This is why the industry is not patronising our research findings because they are not drawn from the needs of the society**.**

How do you think academics can prepare our undergraduates to be information literates? – To be information literate (to prepare our undergraduates to be information literates), one: there has to be a whole lot of restructuring of the curriculum. Restructuring! I don't mean everything we are doing (now) will go; institutions will have to look at the needs of the department, may be what they talk about in the financial parlance, ROLLING PLAN. We can have something like a rolling plan. Okay within the next three years, what is going to be the needs of the society, then we can draw up a training module that will address those ones (needs). As that is progressing, when we come up with a training module, we can start the evaluation so that we can project into what will be the needs of the society immediately after that one (the training programme). So when we talk about curriculum that is running for fifteen, twenty or thirty years, we are just fantasising; we are not been realistic. It is only when we are able to match the expectation of the society with our training plan that we can reduce unemployment. The other one (strategy of preparing undergraduates to be IL) is that information or education should not be synonymous with engagement or work. For instance, information is about having a general idea of improving things wherever you find yourself. The fact that you train as a medical doctor does not mean you must be employed as a medical doctor. Yes! You have ideas and information about medicine, generally but you may also decide, instead of being a medical doctor, you can come up with publications in medicine. Like Gani Fawehinmi's legal firm that publishes law reports. Those who write the reports are lawyers who have the prerogative (qualification and requisites) to appear in court everyday or to struggle to get "charge and bail" , Okay, instead of everybody rushing to look for a criminal to bail, let us sit down and collect judgements across (the country)and then sit down and review them. Then guide people on how to use or interpret them. That is one. After writing, another set within that class of people (lawyers) will publish it, another set can engage in consultancy of training and explaining the operations of the review but if the focus is that everybody that goes to school must be employed by government or an employer, we will not get out of this problem of unemployment, underemployment, disguised employment. So, education should provide people with opportunity for self-development but again, we must put a proviso that the society's role in self reliance is also very critical. For instance, there must be support services that people can provide. For instance, how are people able to produce turkey meat (poultry) at the ridiculous price they are selling to the Nigerian market? It means, … for instance if you and I decide to go into the breeding of turkey, by the time the birds are ready for market, we will discover that we cannot sell at the price at which they are currently sold into the Nigerian market even though they are imported from all parts of the world. That means that there is a service that those producing (breeding) in other countries are getting that people in our own environment (Nigeria) do not have. It may be in terms of the specie of the birds to race, the formula for feeding them, and perhaps the management staff but we are not getting such support thus making things more expensive. So, if you try it once and one is not breaking even, the business will crumble. Look at where rice is coming from (countries from which rice is imported from), if you want to buy our own local rice, the price will be more expensive than the once imported from Thailand. This means that there is a service which

makes the production in Thailand cheaper. The society must recognise that it has a supportive role to play for education to raise a generation of self-reliance graduates.

How do you source for the information you use as an academic and HoD?

We network. Networking is a resource in academics because there is nobody who knows all. Networking is one major factor. The other one is mentoring. You choose people who are your mentor and you can race issues in their presence and they share their ideas that are viable. Another one is the manner of our relationship with our students and colleagues to share all shades of opinions, I read on issues in the department, I also attend workshops and seminar, I am also on interventions provided by International Organisations such as USAID, UNICEF. I also surf the internet where I get lots of ideas about issues at hand.

What happens if you could not get a particular information that you need from the internet?- We have subject associations .For instance there is Association of Childhood Education Practitioners, this is an association of experts in Early Childhood education. We also have Counselling Association of Nigeria and we have meetings, share ideas through different sources. We have publications that come quarterly where one could test the veracity of information that you have. There is departmental seminars, meetings and workshops where we exchange ideas.

What is the information need of your students (digital natives)?

You see, quite a number of students can be described as vegetables. It is just about two or three percent of them that have the inbuilt zeal to access information from any source on their own. Quite a lot of them depend on what the lecturer said, some depend on what a few colleagues have gone to search for or for instance, I was in class today, we were discussing and we needed to identify the governor of a state. This is quite elementary but in a class of hundred and twenty (120), it was only one person who made an attempt even though the attempt was not good enough. I then asked them to check their browsers, I mean their checkers (through phones). Quite a lot of them could not access the internet through their phones. So, a good number of students may be about two to three percent have this information literacy zeal. A number of others are like vegetables. They depend on others to survive. I think the reason for is that information technology is an upcoming skill in our environment. It's upcoming. For instance, one would expect that from the Kindergarten, the interaction with the computer will be encouraged but if you go to quite a number of our public schools, access to use such facilities is still limited. And most of the students we teach today in this College are products of public schools. So, interaction with such devices is still low but a few of them probably because of their background and environment and have these devices at home are doing well in information sourcing but the percentage is very low. Even if you go to our ICT center some of them (our students) cannot send their mails. They still say 'help me do it', 'help me out' but I know with time they would improve.

What are the practices or activities that you take the undergraduates through to prepare them for the workplace?

One, lecturers in every field or subject area should identify possible areas where their trainees can work after graduation. For instance in Early Childhood Care Education (ECCE), a graduate in that field can work successfully in twenty skill areas that would be relevant to his or her

training. For instance, if I am training students as graduates of Yoruba language (a major language in Nigeria), that department should identify areas where the graduates can function. For instance, the graduate can function as a Yoruba language teacher, can work as a specialist in composition of Yoruba Poetry, writer of books (author) on issues in Yoruba language and culture, a trainer who trains people about Yoruba language and Culture. For instance, there are lots of intermarriages these days. Some of those who inter-marry do not understand the culture they are marrying into and they need a language trainer. Now once we can identify where our graduates can work, the department should let them interact with professionals in that field; to understand the expectations of the industry/field of interest. This is the idea behind industrial training, but in many other fields, this interaction is not encouraged until the student has graduated from the department. So if you are going to be a teacher, the student should have a roaster for school visits and observation. Some students will graduate from the College only to say she/he does not want to teach. This is because there was no interaction with the industry.

Secondly, there should be occupational counselling services in our institutions in order to prepare students (undergraduates) for challenges of the workplace. This service will bring them closer to the trend in the workplace. Also, we should try to infuse skills into our teaching. What we have nowadays is to celebrate the teacher and not the learner. People say that teacher is very good and everybody is talking about him but how many teachers are talking about their students? Because we don't impact any meaningful skill in them but if for instance I have five students and (… phone call). So, we should emphasise skills so that students can be remembered and appreciated for having a special skill that the teacher can also celebrate. Today, what we celebrate is the competence of the teacher, yes! Everybody is looking onto the teacher. The teaching is not learner centered it is teacher-centered. We are not preparing the students to be able to do learner-centered activities. A teacher (lecturer) should tell the students the topic to be discussed in the next class. Allow them to gather as much information as possible on the topic. Agree on a working definition of human development for instance, that could be drawn from available information that was gathered by the students. Let the class flesh it up by leading the discussion while the teacher is only a facilitator. That way, it is learner-centered rather than what we have now, I mean teacher-centered. Once they know that you are going to ask question and they know that it is their responses that will form the content of what they will take back home, everybody will want to prepare. But the preparation these days is left with the teacher. So, they (students) don't even cross-check the genuity (genuineness) of the information the teacher is passing because they (students) feel he knows all. The teacher too has regimented the students to a particular textbook for the course. How do you ever think only one textbook can sufficiently provide information for a course? It is only in Nigeria that we do that. So, students should be prepared in such a way that at least in the first year: they should be able to source for information, two; you must be able to present or deliver, three; you must be able to compare, then four; you must be able to expand. But today that is not part of our training. It is the teacher that does all these and once he does not come with every package, he is not seen as doing the right thing …eh… something like spoon feeding system.

Do you have any general comment/question?

In our environment, you should understand that we have challenges in the area of information technology to access quality and quantity of information, how have they (developed countries)

been able to overcome the challenges of quantity and quality of information. **Response**- Electricity is not a problem, internet access is not a problem, funding of education is a priority of government.

Kindly list some practices and activities that you engage-in to prepare your students.

Remember I told you about the number of students I have in class. Quite large but we have to manage the situation as it is. Sometimes last year when I returned from a week-long conference in South Africa, I was trying to introduce a strategy of evaluation that a participant discussed in one of our plenary sessions but you see the class size here is the problem. Even there in SA, they don't have the number of students we have in here. In one of our visits around town, the number of students in class was fairly manageable. **(So, what are your practices here in Nigeria as an academic?).** Ok, I rely on group assignment as a continuous assessment tool and this takes care of the hassles of these large numbers. In Education general classes [Education courses offered by all students] students are drawn from departments to form the class so that a lecturer can handle that size but even at that the number is too much for a class although Management has promised to address the issue. I also employ networking with my colleagues as I mentioned in our previous discussions. Yes, the virtue in our cultural knowledge development. You see, our rich customs have been there for us. It's not only me, you know. Other lecturers do visit the local communities and tap from the goodies in there in terms of their [localities] cultural knowledge. **(Please explain each of them)** -**Group assignment-** As HoD, part of my administrative responsibilities is to ensure that my colleagues are doing the right thing at the right time. If continuous assessments scheduled to hold during d mid-semester aren't conducted, I want to know why because that is not the academic calendar. The lecturer is at liberty to choose the best option of continuous assessment (CA), you know. It's not everybody that's confronted with the large class issue but the lecturer determines what is ok for him or her. For me, I employ group assignment as a mode of CA. You see, apart from the advantage of seeing the whole class through smaller groups, you (i) can conduct it repeatedly because the marking is less stressful. Just imagine having to mark long essays from over 200 students. I can't afford that twice in a semester for all my courses. But when it's a group assignment, I give some weekly, monthly and some eh … twice in a semester. Somehow, the class size and what exactly I intend to assess in the students are contributing factors to how often the assignment would be given because of the challenge of marking and giving feedback to the students. At times, I give long list of questions that would require simple and short answers but the answers could be found only if they [the students] work as group. Usually we discuss Early Childhood Care and I ask them to find out what operates in different localities, provide addresses, name of proprietors, numbers of children in there, etc. So, they can only get the answer within the short time of submitting the assignment if they work as a group irrespective of whether the questions are in the form of quiz, term paper or long essays, debate, essay competitions, eh… eh…etc. What I do is simply ensure that everybody is contributing to the group but you may think that is difficult to know, right? Not so difficult. Look, students are students. They want to pass. So, the score to pass is also the trick to get them involved. During submission, I ask them to identify the group leader because there is an additional 5marks for being a group leader. This encourages all of them to aspire to be a group leader even though I have said no student can be a leader more than twice in a semester in the same course. So, through the group leaders, I usually find out the challenges they encountered during the process of completing the assignments. Through our personal chat, I usually

discover those who were absent and those that contributed actively. So, during presentation, when questions from their colleagues are not directed at them or they dodge answering questions, I put my questions directly to such people [students]. I have done that over time and they have come to realise that there is a way I know students who weren't active in their groups. So, they don't have a choice than to participate actively. At times, I insist that they create a table of value to tell me who did what in the group. Apart from knowing their individual contributions, I can also determine their strength and weakness. We've been together for some time now and they know that the members will share whatever mark is awarded to the group. Most of them usually want to put in their best to make their groups score well since they know the principle is that the students share the same marks of the group's score. The students, given the opportunity, do not like this method because they prefer to put in their best to their personal work and earn the reward for that but that's not how knowledge develops. Some of the students are brilliant but may not be able to interact well in group. When they graduate, they would have to work for a living and at that time you cannot work alone. Even if you are the employer, you cannot also play the employee. So, there is no way you won't work in a group in the office after graduation. (**How do you determine the membership of the group?)** You know the class is large and there is the possibility of friends being in the same group but I know some of them are brilliant especially during their class participation. As regards the group, I don't use any particular style to group them and I may not identify students with specific skills due to the large class size but simply let them to cooperate and learn from themselves. Students are freer to work among their peers because they see mistakes as fun but they feel making mistakes in the whole class will attract scorn and jest. From experience, the students are benefitting more from this form of assessment and since continuous assessment is an important fragment in academic development of the undergraduates, we have to keep reviewing the best option available in the circumstance that confronts us. CA is fundamental and also provides feedback for the lecturer to ascertain adequacy in terms of performance. (**What is your scoring pattern? I mean how do you determine a pass or fail in the assignment?**) The entire CA structure is 40 marks while the sit-in exam is 60 marks. So, my coverage for the 100% of the 40marks bothers on depth of research, high application and respect for rules of grammar, effective communication, a good flow within and across paragraphs, and references/bibliography and acknowledgement. This pattern is reviewed once in a while to reflect the type of CA. For example, when I give forum for class debate, the scoring usually tilts towards presentation yardsticks such as audibility, presenter- audience- eye contact, and something like that. [**Rescheduled to continue later**]. **Networking with colleagues-** Contacting friends and colleagues on campus or in other institutions is one thing that is common among us as academics. We organise and attend conferences, lectures, workshops, etc to enlighten, educate, share ideas because there (at such events) we learn as we interact with others. We learn as we travel around whether for administrative, academic and other purposes. This is an informal means of learning. At this stage of life, this is one of the few ways to learn. How does a teacher teaches a grand Pa how to 'eat well' but the grand Pa can actually learn how to eat well by listening to somebody relaying his or her experience about how to eat well. Such learning is fun, friendly, participatory, and unstructured with classroom rules. Here nobody is teaching the other anything but there is a whole lot of learning going on in there. This kind of interaction is usually provided in academic associations, professional bodies, social groups, training and development programmes. In fact em … em … you see, you do not lose anything by networking rather you gain more, at least, by confirming what you have heard or read before. You can

really get a novel idea from people and this may mark a turning point. So, it's either you are helping somebody to get better informed or you are picking up new ideas by sharing in somebody's experience. It's really a resourceful way to learn and this is why I say it's my source of information and for academic, professional and administrative development. As colleagues at these forums, we already have our opinions but others can share their opinions too and such opinions do not become a gospel truth. People share such opinions for others to learn. This connection or networking as we usually term it provides me with the opportunity to share in their experiences to shape further opinions or disagree out-rightly on the basis of inadequate superior scientific proofs. In some occasions, I send official letters to my associations to get confirmation or make enquiries and at times I do send mails to friends on some issues in order to get more views on the matters and I equally receive similar requests from people asking me one question or the other about a particular issue in my locality or country. Cultural knowledge development- Yes! I mentioned that because our communities and our people have so much information that are just there for the asking. You know, they have their ways of life, marriage, hunting, festivals, governance, disciplinary measures, marriage, health, textile, entertainment, communal dispute resolution, agriculture, education, administration, warfare, so many my dear friend. When internet hasn't been discovered, when books weren't published, when communication wasn't this easy, the locals were living their lives and they still do. These information are still there. When circumstances forced us [information seekers and users] to venture into the communities, I discovered there is a lot that could be tapped from the cultural knowledge. The locals do not have the whole information in processed forms like we have in our modern databases but I have turned to these people at some points. You see, we have our genealogy, customs and rich traditions. These our undergraduates understand this background and relate well with it. So, it's a nice idea if we can be using such information to buttress the classroom discussion. It makes learning real and eventful for both the students and the lecturers. **(How do you verify the information from these oral sources?)** Like I said earlier, I have been visiting these locals for quite some time now and the information or explanation I get from one community corroborates the information from another community on the same matter. Apart from that there is a culture of trust in the communities which make people believe in what they see or hear**.** As a visitor over time, I have come to share in their belief system although I sometimes don't really like the dirty and unkempt environment, the truth in their details have not been in doubt. I think they can be trusted. Some of my colleagues also visit them. So, the lecturers take their students to these people and they share their stories, reasons behind some events, show artefacts and monuments to explain the development from 'before' to 'now'. I have done this several times. The lecturers usually encourage their students to believe the informants and not to doubt them because it is against the culture of the community to believe that the 'elders' can tell a lie or misrepresent information. These informants are celebrated for their high retentive memory. They are believed to have sworn to an oath with the deities of the community to ever remain faithful and truthful in their dealings. Sometimes ago when I went there with some colleagues who visited from Ghana, the informants were explaining the traditional birth system and the tools that they were using then. They brought out the artefacts and ornaments. You see, it's not as if they are advertising or encouraging people to come and patronise traditional birth system in this time and age but they were convincingly telling us how the system was. It's just like telling you how people were trekking to Mecca those days. Would you therefore prefer to go to Mecca now on camels rather than fly first class? The people in the community are endowed with some knowledge of how things

happened or how things were done over the years. These people become information resources for us especially when we cannot locate such information in other sources. In some of the communities, they have created some check points to protect the artefacts due to the turn-out of visitors coming to them for information. As more people consult the indigenous and cultural information to attend to their information needs, the body of knowledge keeps responding and developing because the consultation encourages the custodians to search more into their archives [oral] to find out what information is available to meet the information needs of people.