

**DEVELOPMENT OF COLLABORATIVE FLIPPED INSTRUCTION
FOR FORM ONE MALAY LANGUAGE WRITING**

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**FACULTY OF EDUCATION
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FOR FORM ONE MALAY LANGUAGE WRITING**

Field of Study: INSTRUCTIONAL TECHNOLOGY

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ABSTRACT

The aim of this study is to develop a Collaborative Flipped Instruction for Form One Malay Language Writing through Design and Development Research. Declared a national language in Malaysia, Malay language is a compulsory subject in the national education system. Although many students in Malaysia have passed their Malay language papers on national examinations, their language skills, including writing, are evidences of conflict. Backlog issues related to Malay language writing are not limited to the writing skills themselves, but are also demonstrated by the low rate of technology integration in its writing instruction. Comprised of three phases – Needs Analysis, Design and Development, and Implementation and Evaluation, multiple methods have been used in each phase to achieve the objectives. During the Needs Analysis phase, Malay language teachers in Kuala Lumpur were interviewed, surveys were conducted among eighty-seven Form One students from national secondary school in Kuala Lumpur, and document analysis of writing artifacts and statistical documents was conducted. These triangulation methods have been used to analyze the needs in the Collaborative Flipped Instruction for Form One Malay Language Writing. The analysis of needs involved content, technology and infrastructure, as well as situational factors-focused on user needs and localized background issues. The aim is to inform the next design process. The Design and Development phase is the next step, using rigorous methods – an interview with four experts and a consolidated consensus of eighteen experts through the Fuzzy Delphi method. The development of the module was then proceeded based on the result of the design phase. The final phase is the Implementation and Evaluation in which the usability of the module was investigated through interviews with seven Form One students and their Malay language teacher at

the national secondary school in Kuala Lumpur. They were involved in the implementation of the flipped instruction. Results from the Needs Analysis phase have shown that tacit knowledge of the writing process is the main issue lingered around teachers, negatively affecting the development of writing skills among students. Besides that, individual factors coupled with pedagogy issues also contributed to the problems. The study also investigates the pattern of technology usage among students and teachers. There is, therefore, a need for research-based writing instruction, taking into account students' inclination towards social media technology. Meanwhile, the findings of the Design and Development phase identified the components and sub-components of the Collaborative Flipped Instruction for Form One Malay Language Writing based on expert consensus. Next, the findings of the Implementation and Evaluation phase investigated the flaws and strength of the module, as well as the suggestions for improvement from the users' retrospective. Implications and recommendations for future researchers and practitioners were then presented.

PEMBANGUNAN PENGAJARAN BERBALIK KOLABORATIF UNTUK PENULISAN BAHASA MELAYU TINGKATAN SATU

ABSTRAK

Kajian ini bertujuan untuk membangunkan Pengajaran Berbalik Kolaboratif untuk Penulisan Bahasa Melayu Tingkatan Satu dengan menggunakan Kajian Rekabentuk dan Pembangunan. Dimasyhurkan sebagai bahasa kebangsaan Malaysia, bahasa Melayu adalah satu subjek wajib dalam sistem pendidikan nasional. Walaupun ramai pelajar di Malaysia lulus dalam subjek bahasa Melayu, kemahiran bahasa mereka termasuk kemahiran menulis menunjukkan bukti yang sebaliknya. Walaubagaimanapun, isu yang berlanjutan dalam penulisan bahasa Melayu tidak hanya terhad pada kemahiran menulis, malahan terbukti kadar integrasi teknologi dalam pengajaran penulisan juga masih di tahap rendah. Terdiri daripada tiga fasa- Analisis Keperluan, Rekabentuk dan Pembangunan, dan Implementasi dan Penilaian, setiap fasa ini menggunakan kaedah pelbagai untuk mencapai objektifnya. Fasa Analisis Keperluan melibatkan temubual dengan dua guru bahasa Melayu di sebuah sekolah menengah kebangsaan di Kuala Lumpur, kajian tinjauan dalam kalangan lapan puluh tujuh pelajar Tingkatan Satu daripada sebuah sekolah menengah kebangsaan di Kuala Lumpur dan analisis dokumen yang melibatkan artifak penulisan dan dokumen perangkaan daripada pelajar Tingkatan Satu dari sebuah sekolah menengah kebangsaan di Kuala Lumpur. Kaedah triangulasi ini ditadbir untuk menganalisis keperluan dari segi kandungan, teknologi dan infrastruktur dan faktor situasi - seputar keperluan pengguna serta latarbelakang isu yang bersifat lokal- dengan tujuan menyediakan informasi untuk fasa rekabentuk. Fasa Rekabentuk dan Pembangunan adalah fasa yang berikutnya dengan penggunaan kaedah kajian yang sangat ketat dan

teliti - temuramah dengan empat pakar dan kesepakatan lapan belas orang pakar melalui kaedah Fuzzy Delphi. Berdasarkan keputusan daripada fasa rekabentuk ini, pembangunan modul dijalankan. Fasa terakhir ialah Penilaian yang mengkaji kebolegunaan modul melalui temuramah bersama tujuh orang pelajar Tingkatan Satu dan seorang guru Bahasa Melayu mereka di sebuah sekolah menengah di Kuala Lumpur yang telah mengikuti implementasi modul. Dapatan dari fasa analisis keperluan menunjukkan ilmu tersirat (*tacit*) dalam penulisan mungkin merupakan isu utama yang dihadapi guru dan pelajar, dan ini memberi kesan negatif terhadap pembangunan kemahiran menulis dalam kalangan pelajar. Selain daripada itu, faktor individu dan isu pedagogi turut menyumbang kepada permasalahan tersebut. Kajian turut menjejaki corak penggunaan teknologi dalam kalangan pelajar dan guru. Justeru, terdapat keperluan terhadap pengajaran penulisan berdasarkan penyelidikan yang mengambil kira kecenderungan pelajar terhadap teknologi media sosial. Selain itu, dapatan dari fasa Rekabentuk dan Pembangunan menyingkap konstruk serta elemen Pengajaran Berbalik Kolaboratif untuk Penulisan Bahasa Melayu Tingkatan Satu berdasarkan kesepakatan pakar dan menjadi asas kepada proses pembangunan. Manakala, dapatan daripada fasa Penilaian mendiagnos kelemahan dan kekuatan modul serta cadangan penambahbaikan melalui ujian kebolegunaan yang dilaksanakan ke atas pengguna. Implikasi dan cadangan untuk bakal pengkaji dan pengamal juga disediakan.

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LIST OF SYMBOLS AND ABBREVIATIONS

4IR	:	Fourth Industrial Revolution
DDR	:	Design and Development Research
DSKP	:	<i>Dokumen Standard Kurikulum Pentaksiran</i>
FDM	:	Fuzzy Delphi Method
ISD	:	Instructional System Design
KBSM	:	<i>Kurikulum Bersepadu Sekolah Menengah</i>
KSSM	:	<i>Kurikulum Standard Sekolah Menengah</i>
SLR	:	Systematic Literature Review
SK	:	<i>Sekolah Kebangsaan</i>
SMK	:	<i>Sekolah Menengah Kebangsaan</i>
UPSR	:	<i>Ujian Pencapaian Sekolah Rendah</i>

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CHAPTER 1

INTRODUCTION

In this introduction chapter, the researcher presents the introduction of the study. It includes- research background, rationale of the research, problem statement, research purposes, research objectives, research questions, significance of the research, and operational definition, theoretical framework, and conceptual framework. The researcher then summarized the chapter.

1.1 Research Background

In this section, background of the study- describing Malay language education in general, chronology of Malaysia education system, Malay language in Secondary School Standard Curriculum (KSSM), and Malay language in Fourth Industrial Revolution (4IR) is presented.

Malay Language Education: Practices in Southeast Asia and Worldwide

Listed among five languages with the largest number of speakers in the world, Malay language- comprised of 250 million speakers; is mostly concentrated in the Southeast Asia- the Malay Archipelago, besides the Malay diasporas and also in foreign countries (Collins, 1987; Ku Hasnita Ku Samsu, Adlina Ab Halim, & Mohd Hafiz Sulaiman, 2013; Teo Kok Seong, 2011).

Malay language has become a national language in four countries in Southeast Asia – Malaysia, Indonesia, Singapore and Brunei and also being practiced as communicative tools in Malay communities in Southern Thailand, Mekong sub-region, Australia (Cocos and Christmas Island), Sri Lanka, Myanmar, Papua New

Guinea and South Africa. The scatters of Malay language speakers are also identified across the world including in Russia, South Korea, Japanese, Republic of China, Germany and Israel (Hashim Musa, Rozita Che Rodi, & Salmah Jan Noor Muhammad, 2014). The following text explores the role of Malay language in education with focus on practices in Southeast Asia and around the globe.

With its vast diversity of 740 languages and ethnicities, Indonesia needs a single language to unite its country. The Government of Indonesia, much of which came from the Javanese ethnic group, chose Malay as a national language and re-branded it as Bahasa Indonesia with a strong intention of uniting the country (Montolalu & Suryadinata, 2007). Indonesia's education system provides monolingual teaching with the introduction of *Bahasa Indonesia* as a medium, although there is an exception for the first three years of school age when vernacular languages are used in classes (Nababan, 1991). By 2013, the revised curriculum is enhanced with the implementation of standard content and modular approaches; and this revision includes the teaching and learning of *Bahasa Indonesia*. The education system in Indonesia is designed to produce Indonesian who is productive, creative, innovative and affective through integrated values, skills, and knowledge (Kementerian Pendidikan dan Kebudayaan Republik Indonesia, 2014).

On another note, Singapore strives to be a multilingual nation with Malay language is recognized as a national language along with three other languages – English, Mandarin and Tamil- while the language of instruction in their education system is English (Jones, Kosonen, & Young, 2009). Malay is taught as a mother tongue subject to Malay students and as a third language to non-Malay students (Aishah Md Kassim, 2008). Their Malay language curriculum is developed based on

the concept of *Arif Budiman*- which aims to create a virtue and wisdom human beings that will serve the nation (Ministry of Education Singapore, 2007).

Brunei is the next country that recognizes Malay as a national language and functions as an official language in both formal and administrative procedures as well. In the context of national education policy, both English and Malay are used as a language of instruction to encourage bilingualism between Bruneian (Jones et al., 2009). Malay language is the medium of instruction for the first three years of schooling and beginning from fourth years, the language of instruction is switched to English. However Malay language is still a core subject that must be learnt by all students in Brunei (Martin, 1999). In 2007, *Sistem Pendidikan Negara Abad ke-21* (SPN21) is introduced and the role of Malay language as a medium of instruction remain unchanged (Masuriyati Yahya & Che Zarrina Sa'ari, 2015).

Malay language usage among minor Malay communities and Malay diaspora is largely influenced by the native speakers and also the national language policy. In Southern Thailand and Sub-Mekong region, Malay language is used among *Pattani* Malay community in terms of oral communication and medium of instruction in traditional Islamic education institution (*Madrassah*) under the acclaimed Muslim scholars (Jones et al., 2009). Whilst, in Malay diaspora, such as Cocos Malay and South African Malay, Malay language is being spoken and acts as an oral communication tool in their community (Soderberg, 2014). In the context of globalization, Malay language is also taught as a foreign language in a number of countries such as Russia, South Korea , Japan, the Republic of China, Germany and Israel (Hashim Musa et al., 2014; Minsung & Puteri Roslina, 2010).

The role of Malay language in education is heavily depends on the government policy in the respective countries. In a country with Malay language as a national

language, the education system, at large, aware on the importance of it although bilingual is practiced (Aishah Md Kassim, 2008; Hashim Musa et al., 2014; Montolalu & Suryadinata, 2007). There are visible patterns where Malay language education in those countries aims to produce students who are not only competent in Malay language, but equipped with holistic self-development and integrate with technology knowledge.

However, the same can not be said among the minor Malay community, the role of Malay language in education is limited to traditional Islamic teachings, and mainly used in daily communication (Collins, 1987; Jones et al., 2009). Only recently, United Nation with the collaboration of University of Mahidol started their program on implementing Malay language curriculum in schools around Southern Thailand (Jones et al., 2009). Meanwhile, for Malay diaspora, Malay language remains a communicative tool and as a foreign language, carefully designed pedagogy of Malay language helps the learners to learn the language in a classroom setting. As for the latter, the use of the Malay language is often limited by school requirements and classroom spaces (Minsung & Puteri Roslina, 2010; Zaliza Mohamad Nasir & Zaitul Azma Zainon Hamzah, 2014). The next subchapter explores the timeline of Malaysia education system to give insights on transformation of Malay language curriculum in Malaysia.

Education System in Malaysia: Pre-Independence to the Present Day

Penyata Razak (The Razak Report) was drafted in 1956 and later declared as Education Ordinance in 1957. This was the localized educational plan with the focus on fostering unity among multi-racial society in Malaysia. Based on Article 152 (1) in Malaysia Constitution (1963), Malay language is upheld as a national language and is

still relevant today (Nazri Muslim, Zaharah Hassan, & Abdul Latif Samian, 2011). By 1961, as a result of the educational review, *Laporan Rahman Talib* (Rahman Talib Report) was published and led to the declaration of the Education Act 1961- which witnessed the implementation of Malay language as a language of instruction at the national school (Hashim Musa et al., 2014). It was smoothly implemented until 2003, when *Pengajaran dan Pembelajaran Sains dan Matematik dalam Bahasa Inggeris* (PPSMI) was introduced which saw English as a language of instruction delivering mathematics and science subjects at national schools. In 2009, however, the then Minister of Education stopped the implementation of PPSMI and the Malay language resumed its role in the delivery of science and mathematics, except for Dual Language Program (DLP) classes under the new program *Memartabatkan Bahasa Malaysia, Memperkukuh Bahasa Inggeris* (MBMMBI) (Hamidah Yamat, Nur Farita Mustapa Umar, & Muhammad Ilyas Mahmood, 2014).

Post-2010 the global society witnessed aggressive demands; and technology is widely adopted in everyday life. Economy is projected to be more knowledge-based, digitally connected and demand new skills that embrace the advance of the 21st century. Malaysia is ranked number three among Asia's most emerging countries, and by 2025, we are projected to have a 7% increase in GDP, in line with the goal of becoming a powerful player in the 21st century (Wood, 2017). The new century economy requires workers who are skilled at their jobs and equipped with skills of the 21st century such as teamworker, effective communicator, critical thinker, digitally literate and strong leadership (Ministry of Education, 2013). Meeting these demands, it is fall upon education system to produce workers with the match qualities Wood, 2017).

The next subchapter delves into the latest Malaysia curriculum and later narrowed into Malay language curriculum, in specific. It is supposed to illustrate the inter-relation between the technology-laden future and curriculum of Malay language on facing the changing education landscape.

Malay Language in Secondary School Standard Curriculum (KSSM)

Education is a powerful feature transforming a nation and acts as a force to thrive the economy and changing the social landscape. Realizing the importance of education, Government of Malaysia has spent major chunk of nation budget estimated around RM54.6 billion on the education field (Ministry of Education, 2014) . Progressing with the worldwide current education trend and practices, the shifted paradigm of our own education field is inevitable. Thus, by the year 2013, Ministry of Education announced a new education plan, Malaysia Education Blueprint 2013-2025, serving the purpose of transforming the education through 11 strategic plans.

A careful research with collaboration of government, education experts, and respective institutions created this new education blueprint. Several phases of transformation or indicated as waves are planned under the blueprint with specific mission on preparing Malaysia as an educational hub in the region. Eleven strategic plans initiating new dimension on education including equal access to quality education with international standard leading to the development of New Secondary School Standard Curriculum (KSSM).

Introduction of the Secondary School Standard Curriculum or Kurikulum Standard Sekolah Menengah (KSSM) by 2017 points to a new benchmark in Malaysia for secondary education. It involves first cohort consisted of Form One students from all secondary schools in Malaysia in the year of 2017. This new curriculum

incorporates knowledge with the skills required by 21st century learners including creative thinking, leadership skills, bilingual skills, ethics and spiritual skills, and patriotism (Kementerian Pendidikan Malaysia, 2016a). Aspired by the 21st century education, KSSM implements transformative content, advanced pedagogy and continuous assessment in par with global education benchmark.

Malaysia Education Blueprint 2013-2025 (Ministry of Education, 2013) stated- student must be equipped with 21st century skill, unity and harmony inter-racial spirit, and communication skill as preparation for real world and global trends. Thus, students profiling listed resilience, good thinker, smart communicator, great team work, principle, inquiry, informative, patriotic, and caring as features that must be developed among students. Hence, pedagogy including teaching and learning process should be rejuvenated with the implementation of 21st century skill.

Additional goals for language subjects include- students are expected to be bilingual, Malay language is empowered, English is enhanced and learning of third language is encouraged. Besides the amendment of the curriculum itself, KSSM is also implementing 21st century pedagogy promoting student-centered learning with introduction of inquiry-based learning, problem-based learning, contextual learning, collaborative learning, constructivism approaches and STEM approaches. These pedagogical approaches are aimed for deep learning, contextual and experiential learning (Kementerian Pendidikan Malaysia, 2016b).

In line with government vision to leverage use of ICT on education, integration of technology in 21st century pedagogy is inevitable. Government are investing on technology by equipping school with internet connection, supplementing teachers with tablet and smart phones, and providing learning portal-VLE Frog besides introduction of several online databases for assessment, management and administrative purposes.

Integration of ICT in education, specifically during pedagogy session elevated digital literacy skill among students in our nation and equipping them for the 21st century skills demanded by society and working force worldwide.

Table 1.1 listed differences between the previous curriculum, *Kurikulum Baru Sekolah Menengah* (KBSM) and current curriculum, *Kurikulum Standard Sekolah Menengah* (KSSM) (Kementerian Pendidikan Malaysia, 2016, p.5).

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Table 1.1

Kurikulum Baru Sekolah Menengah (KBSM) and Kurikulum Standard Sekolah Menengah (KSSM)

Aspect	KBSM	KSSM
Curriculum Design	- Based on three areas: communication, human and nature, and individual development. - Based on learning outcomes.	- Based on six pillars: communication, physical and aesthetical development, humanity, self-appearance, science and technology (STEM), spiritual, attitude and values. - Based on standard content, standard learning and standard assessment.
Curriculum Document	- Curriculum syllabus. - Curriculum specifications.	Document of Standard Curriculum and Assessment or in Malay language <i>Dokumen Standard Kurikulum Pentaksiran</i> (DSKP).
Time Allocation	Minutes per week.	Hours per week.
Curriculum Organization	- Core subjects - Compulsory subjects - Additional subjects - Elective subjects	- Core subjects - Compulsory subjects - Additional subjects - Elective subjects
Assessment	School-based assessment.	Standard assessment.
Subject Rebranding	- ICT literacy program - Living skill - Technical elective subjects	- Foundation of computer science - Technology design - Professional elective subjects

Table 1.1 (Continued)

Kurikulum Baru Sekolah Menengah (KBSM) and Kurikulum Standard Sekolah Menengah (KSSM)

Cross-Curriculum Elements	• Language • Science and Technology (STEM) • Information Communication and Technology (ICT) • Nature Sustainability • Noble Values • Patriotism	• Language, Science and Technology (STEM) • Information Communication Technology (ICT) • Nature Sustainability • Nobel Values • Patriotism • Creativity and Innovation • Entrepreneurship • Global Sustainability
Pedagogy	• Inquiry-based learning • Problem-based learning • Contextual learning • Collaborative learning • Project based learning	• Inquiry-based learning • Problem-based learning • Contextual learning • Collaborative learning • Project-based learning • Constructivism approaches • STEM approaches
New Subjects		• Korean • <i>Semai</i> language • Vocational for Special Needs

Language education is evolving with the commencement of KSSM. Malay language curriculum is developed based on the National Education Philosophy or *Falsafah Pendidikan Negara* (Awang Sariyan, 2004b). National Education Philosophy listed several keys on Malay language curriculum stressing on the expansion of the language among students, capability to use the language with correct grammatical structure, language for the knowledge purpose, and developing thinking skills through language curriculum (Ministry of Education, 2013). This language curriculum is also developed based on the needs for the following language skills: listening, speech, reading, and writing (Tuan Jah Tuan Yusof, 2012). Malaysia Education Blueprint 2013-2025 demands new skills; thinking skills and digital literacy skill to be embedded on curriculum and pedagogy and this action affects Malay language curriculum at large (Kementerian Pendidikan Malaysia, 2016a).

The changes on Malay language education under KSSM involve several aspects as follows; curriculum design, curriculum documents, contact time, curriculum organization, focus of pedagogy, and assessment (Kementerian Pendidikan Malaysia, 2016a). New curriculum framework is developed based on six pillars: communication, physical and aesthetical development, humanity, self-excellence, Science and Technology (STEM), and spiritual, attitude and values. Cross-curriculum elements indicate role of Malay language as a knowledge language across the content exploring various themes; Science and Technology (STEM), Information and Communication Technology (ICT), nature sustainability, noble values, patriotism, creativity and innovation, entrepreneurship, and global sustainability.

Curriculum and Assessment Standard Document or in Malay language: *Dokumen Standard Kurikulum dan Pentaksiran* (DSKP) is a new curriculum document under KSSM. The goals for Secondary School Malay Language Curriculum

(DSKP) are to produce students with language competency, able to communicate for their needs, knowledge acquisition, skills, information, values, ideas and social contact in daily life. KSSM for lower secondary level (Form 1-3) focus on elevating language skills acquired during upper primary to higher level and preparing for upper secondary (Kementerian Pendidikan Malaysia, 2016b).

The DSKP delivers the teaching and learning of Malay language for Form One in thematic approach. This approach encourage assimilation of knowledge from other discipline into Malay language education. Follows are the eighteen themes on DSKP for Malay language Form One (Kementerian Pendidikan Malaysia, 2016a)- Cleanliness and Health, Safety, Unity, Art, Culture and Aesthetics, Patriotism, Science, Technology and Innovation, Green Technology, Agriculture, Economy, Tourism, History and Heritage, Sport and Recreation, Industry, Education, Language and Literature, Career, Integrity, and Politic and Administration.

Standard assessment is prepared for assessing the level of language competency among the students. Students are assessed by their level of competency in five levels with competency level 1 for very limited competency to 5 for excellent competency. Specific description of competency requirement follows each of the level. Table 1.2 shows the standard assessment of competency level for Malay language in secondary school based on standard assessment under KSSM in details (Kementerian Pendidikan Malaysia, 2016b,p.26).

Table 1.2
Standard Assessment of Competency

Competency Level	Description
1 Very Limited	Student demonstrates a very weak and limited level of language knowledge and competency with more guidance and practice on language skill is needed.
2 Limited	Students demonstrate a weak and limited level of language knowledge and competency with minimal guidance and practice on language skill is needed.
3 Satisfactory	Student demonstrate a satisfactory level of language knowledge and competency with capability to express ideas and grasping basic thinking skill without need of any guidance on language skill.
4 Good	Students demonstrate a good level of language knowledge and competency, proficient on applying language knowledge, capable to express ideas, mastering critical thinking skill and practice minimal self-directed learning on language skill.
5 Excellent	Students demonstrate an excellent level of language knowledge and competency, very proficient on applying language knowledge, capable to express ideas clearly and detailed, effective communication, applying complex language knowledge, mastering critical and creative thinking skill and practice self-directed learning on language skill.

Malay Language and Fourth Industrial Revolution (4IR)

The introduction of KSSM demands new perspective on pedagogy. It is also forecasted that by 2015-2020, education paradigm will moving from traditional teacher-based learning to hybrid and student-centred learning (Johnson, Adams Becker, Estrada, & Freeman, 2015). Incorporation of 21st century skill into pedagogy is interrelated with developing 21st century learners as aspired by our national education system. Learning approaches that able to nurture the 21st century skills such as collaborative learning, project-based learning, problem-based learning, constructivism approach, and inquiry-based learning are encouraged to be practiced in classroom.

The wave of Fourth Industrial Revolution or well known as 4IR indirectly affected how the education should be shaped to surpass the highly automated and

digitized workforce in future. In a highly automated work environment, human survivals are strongly driven by their 'humanity' abilities which are irreplaceable by automation and robotics. In a report published by World Economic Forum (2016), technology disruptive makes its way into our life through society, employment, business, governance and education- t thus several skills are highly sought after that can only be delivered by human beings. These sets of hybrid skills are visualized on the Table 1.3, displaying the importance of basic 'human-based' skills and clustered together with high technology skills for future life. Based on Table 1.3, we can conclude that the world still needs human beings to manage the world and technology itself in the midst of high futuristic years with heavy dependence on revolutionary technology. This may sound ironic but technology certainly has limitations when it comes to providing skills for humanity. Humanity is said to be providing moral compass for a highly automated, digitized future (World Economic Forum, 2017).

Advancement of technology creating new educational path. Ubiquitous learning will flourish, cloud technology booming will lead to abundance of instructional data including instructional videos; made accessible through digital repositories such as social media and MOOCs. The use of technology tools, contents and devices for learning purposes among students will become more normal in the education sector. This highly digitized learning environment gives better teaching and learning space. Technology integration, coupled with student-centric learning, welcomes wide potential for exploring knowledge besides building student characters.

Table 1.3
Core Work-related Skills in the Fourth Revolution Industry

Abilities	Basic Skills	Cross-functional Skills
Cognitive Abilities • Cognitive Flexibility • Creativity • Logical Reasoning • Problem Sensitivity • Mathematical Reasoning • Visualization	Content Skills • Active Learning • Oral Expression • Reading Comprehension • Written Expression • ICT Literacy	Social Skills • Coordinating with Others • Emotional Intelligence • Negotiation • Persuasion • Service Orientation • Training and Teaching - Others
Physical Abilities • Physical Strength • Manual Dexterity and Precision	Process Skills • Active Listening • Critical Thinking • Monitoring Self and Others	Resource Management Skills • Management of Financial Resources • Management of Material Resources • People Management • Time Management
		System Skills • Judgment and Decision-Making • System Analysis
		Complex Problem Solving Skills
		Technical Skills • Equipment Maintenance and Repair • Equipment Operation and Control • Programming • Quality Control • Technology and User Experience Design • Troubleshooting

It is a challenging question for instructional designer on how Malay language education should be revamped so that it will stay relevant as a national language retaining its unique and rich culture representation and at the same time being able to become a powerful knowledge tool in the future?

The answer could be on technology-integrated pedagogy that takes advantage of state-of-the-art social media and technology tools to deliver instruction in the writing of the Malay language. Secondary school students are identified as generation Z- with these characteristics: digital native, born into an interconnected world, quick decision-makers and highly connected people; they would prefer maneuvering technology for education (Cilliers,2017). As the latest census on Malaysia's population, there are 25.7% equal to 8.3 million people are classified under Generation Z. Thus, understanding their technology preferences would tremendously aid on adoption of new technology-based education among them (Department of Statistics Malaysia, 2019).

Among the innovative approach on education is flipped instruction. Flipped instruction exploiting robust of social media and traditional face-to-face learning (Jonathan Bergmann & Sams, 2012). Although there are many definitions and typology of flipped instruction- the main ideas of it is lectures are pre-recorded and watched before the class sessions while in-class sessions should be fully utilized for any active learning session. This feature provides students with opportunity to be prepared and equipped themselves with upcoming lesson. Thus, students will be more confident and engage to the content during classroom sessions (Siti Hajar Halili, Rafiza Abdul Razak, & Zamzami Zainuddin, 2015). Flipped learning is stated to offer many advantages to students and these will be supported by the literature reviews done in Chapter Two. In the next sub-chapter, rationale of selecting variables of the study will be discussed thoroughly.

1.2 Rationale of the Research

Malay language curriculum is developed based on the National Education Philosophy (Awang Sariyan, 2004a). It underlined the importance of language education in expanding language potential as God has granted. It should serve as a branch of knowledge and act as a subject or medium of the acquisition of knowledge.

The purpose of the Malay language curriculum is also to produce students who are capable of communicating and using the language with a proper and correct grammar structure, who are capable of using the language in their quest for knowledge and expanding their thinking skills (Pusat Perkembangan Kurikulum, 2013). It is therefore important for all Malaysians to be able to understand Malaysian language skills in terms of their role as a national language, formal language and language of knowledge in our country (Nik Safiah Karim, Awang Sariyan, Ahmad Haji Tahir, & Muhani Hj Abdul Ghani, 1988). In addition, the implementation of the Secondary School Standard Curriculum (KSSM) among Malaysia's Form One students by early 2017 requires more research to support and enhance school practices.

Writing is the world's most complex language skills and high percentage of struggling writers detected. This issue affects all students in the world, with only 27 per cent of Grade 8 students, equivalent to 13-year-old students in the United States of America, reaching the level of competent writers and more than 50 per cent acquiring basic writing skills (National Center for Education Statistics, 2011). For children to become a proficient writer, they need an effective and deliberate writing instruction, and this often conducted in school settings (Williams & Beam, 2019). However, there is a discrepancy and lack of linkage to systematic writing instruction, which appears to have contributed to this writing crisis. It is important because the pattern is detected throughout the world through empirical studies.

Roselan Baki (2003) in his study stated that Malay language writing is also facing the same writing exigency and it affected many students and clearly evidenced when they entered secondary school. Nawis Ismail (2002) further stated that for Malay language, writing requires highest level of cognitive function. These skills involve mastering the grammar of the language coupled with complex process of finding and synthesizing the contents before translating it into a writing product (Abdul Rasid Jamian, Shamsudin Othman, Azhar Md Sabil, & Juanes Masamin, 2016; Seyed Foad Ebrahimi & Mohsen Khedri, 2013). Malay language writing let the students express themselves through writing (Mariam Md Saad, 2011; Pusat Perkembangan Kurikulum, 2016). By learning to write, students will be able to voice their opinions, knowledge, creativity, ideas and feelings (Juriah Long, Raminah Haji Sabran, & Sofia Hamid, 1990; Pusat Perkembangan Kurikulum, 2016). This ability will help students exploring world and disseminating their inner voice to others. It will help them later on their career where writing contributes to, at least 20% of job requirement -such as completing job application form, writing letters, completing written assignments, writing memo or reports and others (Anderson, 1991). With the latest report from World Economic Forum (2016), basic skills such as written expression is also listed as a core work-related skill needed for embracing the Fourth Industrial Revolution. Thus, writing skills should not be neglected as we are embracing revolutionary digital era.

Writing is a collaborative nature, as stated and elaborated by Haring-Smith (1994). Collaborative approach should be able to support the tiresome writing process – which, ironically, has often been carried out personally instead of in a group. Realizing the benefits of collaborative learning, the writing process should be enhanced by the abundance of inputs coming from the members of the group.

Collaborative learning, among others, stimulates leadership skills, enhances teamwork and improves communication skills. In addition, in line with the national educational aspiration-constructivism that underpins the collaborative approach-both are 21st century pedagogy promoted by the Ministry of Education to be practiced in the classroom. These approaches benefit students indirectly by developing a number of skills such as cognitive, content, process, social, system, problem-solving and resource management skills.

Mundane methods for teaching and learning Malay language writing could be reshaped by bringing together digital and analog platforms for generating ideas, collecting facts, collaborating and producing compositional objects. Taking into account that most secondary students are identified as Generation Z-digital natives and technology-savvy, the use of social media should not be sidelined. With the latest data on ICT usage and the Malaysian household application released by Department of Statistics Malaysia (2019), 96.5% of Malaysian used ICT for social media sites, it is definitely worth to integrate it into Malay language pedagogy.

Flipped instruction is a blended learning that exploits robust social media on the Web 2.0 and traditional face-to - face learning (Jonathan Bergmann & Sams, 2012). Flipped instruction frees time in the classroom, and teachers will be able to focus on students individually. More time will be allocated to collaborative learning. The rationale behind exploring the flipped instruction as an instructional approach is based on the above-mentioned advantages. It is therefore a great opportunity for educators to make use of this advantage for better teaching and learning experience. Entering into the Fourth Industrial Revolution, the definition of 'writing' and the nature of writing instruction must be re-designed with the infusion of technology.

1.3 Problem Statement

Although many students in Malaysia have passed their Malay language papers on national examinations at 93.9 per cent in 2016 (as shown in Table 1.4) and 96.6 per cent in 2019 (Kementerian Pendidikan Malaysia, 2019) their language skills including writing show contradictory evidences (Masyuniza Yunos, 2015); Nadzrah Abu Bakar, Norsimah Mat Awall, & Nor Hashimah Jalaluddin, 2011). This trend is also detected among the 8th graders in America, with only 27 per cent of them passing the competency level and advanced English writing skills (National Center for Education Statistics, 2011). The astounding number of those struggling with writing is quite alarming and, in a local context, this pattern almost describes our students as well, and it is clearly not isolated cases.

Table 1.4
Analysis of Malay Language Subject in UPSR 2016

Paper	Percentages (%)					Candidates	GPMP
	A	B	C	D	E		
Malay Language Comprehension (SK)	23.8	35.5	21.7	13.5	5.6	338,571	2.41
Malay Language – Writing (SK)	24.1	26.2	26.6	17.0	6.1	338,602	2.55
Malay Language – Comprehension (SJK)	15.7	24.5	23.7	25.4	10.7	101,903	2.91
Malay Language – Writing (SJK)	19.2	18.5	24.8	19.3	18.2	101,906	2.99

Source: Lembaga Peperiksaan Malaysia (2016)

Writing involves a number of processes: pre-writing, writing and post-writing (Alamargot, Lambert, Thebault, & Dansac, 2007; Marohaini Yusoff, 2004; Pusat Perkembangan Kurikulum, 2016; Za'ba, 1965). Writing is completed in an iterative, and working memory involved during the process (Juriah Long, Raminah Haji Sabran,

& Sofia Hamid, 1990). Inability to master this skills with its procedures are the major factors contributing to poor writing products among secondary school students (Abdul Ghani Bin Jalil, 2016; Noraini Bidin & Zamri Mahamod, 2016; Nurul Aisyah Abdullah, Zamri Mahamod, & Nor Azwa Hanum Nor Shaïd, 2016; Roselan Baki, 2003). Thus, it is no surprise when students are found struggling to produce good Malay language writing even though they are in a secondary school.

Apart from writing skills, students often lack content knowledge of writing (Abdul Rasid Jamian, Shamsudin Othman, Azhar Md Sabil, & Juanes Masamin, 2016; Arfah Buang & Azizah Ahmad, 2014; Nurul Aisyah Abdullah et al., 2016). Deficit on the content knowledge is interrelated with the reading habits and this often resulted to inability to expand the plot and incoherence in idea organization on essay. It is evident from the argumentative essay, which called for vast knowledge of specific content compared to narrative and descriptive essays (Azah Abdul Aziz & Jumaeyah Zainalabidin, 2015).

Individual factors such as low motivation and the perception that writing is boring have also been identified as contributing to weak writing performance (Elbow, 1981; Nurul Aisyah Abdullah et al., 2016; Roselan Baki, 2003; Zheng & Warschauer, 2015). Since writing is a cognitive process with selected skills such as reading, re-reading, evaluating and synthesizing; low motivation will dampen the writing process and low quality writing will be produced (Zheng & Warschauer, 2015).

As a global issue, most of the writing instructions came from non research-based approaches and mostly based on tacit knowledge of teachers (Pathak, Liu, Hester, & Salinger, 2019). Unfortunately, this trend has affected our local shores, with most educators teaching Malay language writing based on their own learning experiences instead of the actual writing process suggested by empirical writing

models (Abdul Ghani Bin Jalil, 2016; Che Zanariah Che Hassan & Fadzilah Abdul Rahman, 2011; Marohaini Yusoff, 1989; Marzni Mohamed Mokhtar, Roselan Baki, & Fadzilah Abd Rahman, 2013; Nurul Aisyah Abdullah et al., 2016; Roselan Baki, 2003). The majority of teachers followed these traditional teaching techniques: to discuss the content of the essay and to proceed with the writing of the essay by the students (Marohaini Yusoff, 1989, 2004; Roselan Baki, 2003). These teaching techniques neglect evidence-based practices, therefore, the actual writing skills are often underdeveloped and students continue to produce bad essays (Roselan Baki, 2003). Derrick-Mescua (1985) cited that Malay writer tends to apply various organizational ideas and their writing is narrowed down due to examination-oriented education system. This trend however inverted in most of the western country when they started to apply process of writing into their writing instruction and this trend started to gain attention among researchers and educators in Malaysia (Ansarimoghaddam & Tan, 2013).

Another factor that contributes to low writing skills is the practice of old pedagogy during Malay language classes in spite of government initiatives of 21st century pedagogy. Integration of ICT on Malay language pedagogy is relatively low compared to other subjects (Abdul Rasid Jamian et al., 2016; Zulkifli Osman, 2015). The old practice of teaching and learning the Malay language at school does not 'capture students' interest thus influence their performance on subjects. Students often perceive writing lesson as a boring and redundant process (Masyuniza Yunos, 2015). It is also stated that technology-integrated pedagogy without proper planning has also often produced minimal changes in Malay language learning among students (Zulkifli Osman, 2015).

Educators and researchers have taken a number of approaches to overcome the problem of writing instruction. Collaborative writing across language and themes is one of the approaches. Haring-Smith (1994) in her work stated that writing process itself is a collaborative process, but that the often-practiced approach to writing instruction is teacher-based and individual learning. Most collaborative writing studies have been conducted in the context of English Language Learning (ELL), such as in Ansarimoghaddam and Tan (2013); Challob, Bakar, and Latif (2016); Khoii and Arabsarhangi (2015); Mohammad Khatib and Hussein Meihami (2015), Handayani, Cahyono, & Widiati (2018), Anders (2016); Chu et al., (2017), and Storch (2005). However, only a few documented studies on collaborative settings on Malay language learning found such as in Rafiza Abdul Razak (2013) tackling on Malay language literature study (KOMSAS), Zuraidah Saidin (2011) exploring digital platform in collaborative writing in Singapore and Lai Lee Chung (2017) focused on development of collaborative writing module for upper secondary students in Malaysia. Currently, a study on collaborative Malay language writing for Form One students implementing Secondary School Standard Curriculum (KSSM) has yet to be found.

Documented studies on technology integration for Malay language writing are comparatively low compared to other languages. Among the technology used is as follows; utilization of iPad in Malay language writing among elementary school students in Singapore (Daing Noor Ashikin Bahnan, 2014), reflective writing through blog among secondary school students in Singapore (Arfah Buang & Azizah Ahmad, 2014), iMindMap software for expository writing among primary school pupils in Brunei (Noradinah Jaidi, Yusri Abdullah, Suraya Tarasat, & Sri Kartika Rahman, 2014), integration of ICT (Youtube, Prezi and Powerpoint) on writing instruction among Form Four students in Malaysia (Zulkifli Osman, 2015) and administration of

flipped learning on writing among primary school students in Singapore (Wahindah Suhari, Wan Alfida Suleiman, & Zuraidah Saidin, 2015).

One of the innovative ways of learning using inter-myriad of digital and brick and mortar platform is flipped instruction. Initially, flipped instruction is derived from the same concept of flipped learning. Bergmann and Sams (2012) explain the concept of flipped learning as ‘that which is done traditionally at class is now done at home, and that which is traditionally done as homework is now completed in class’ (p.27). Flipped Learning Network (2014), an online portal for professional flippers defined flipped education as:

..pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter’ (p.1).

Majority of the works on flipped education were documented on higher education institutions (Anders, 2016; Balzotti & McCool, 2016; Blau & Shamir-Inbal, 2017; Ekmekci, 2017; Fazilawati Harun & Supyan Hussin, 2017; Feng, Chen, Liu, & Song, 2016; Hsieh, Wu, & Marek, 2016; Hwa-Seon Kim & Kyeong-Ouk Jeong, 2016; Kim, Park, Jang, & Nam, 2017; Lee, Lim, & Kim, 2017; Nwosisi, Ferreira, Rosenberg, & Walsh, 2016; Pugsee, 2018; Ranalli & Moore, 2016; Sletten, 2017; Void, Braun, & Lundesgaard, 2016; Yildirim, 2017; Yoshida, 2016; Yu & Wang, 2016; Zamzami Zainuddin, 2017; Zanariah Ahmad, 2017). Less study was documented on secondary school (Abdelrahman, Dewitt, Alias, & Rahman, 2017; Petrovici & Nemesu, 2015) and primary school (Lai & Hwang, 2016; Siti Hajar Halili & Sumathy, 2018; Tsai, Shen, & Lu, 2015; Wahindah Suhari et al., 2015). A fewer were documented on

professional teacher training as reported in Illka and Lockwood (2015) and Rafiza Abdul Razak, Dalwinder Kaur, Siti Hajar Halili, and Zahri Ramlan (2016).

The majority of the study dealt with STEM learning, including ICT, engineering and medical (Alharbi, 2015; Almodaires, Alayyar, Almsaud, & Almutairi, 2018; Blau & Shamir-Inbal, 2017; Fazilawati Harun & Supyan Hussin, 2017; Foldnes, 2016; Hayashi, Fukamachi, & Komatsugawa, 2015; Killian & Woods, 2018; M. Kim, Jung, Siqueira, & Huber, 2016; Li, Lou, Tseng, & Huang, 2013; Pugsee, 2018; Sohrabi & Iraj, 2016; Yildirim, 2017; Yoshida, 2016; Zanariah Ahmad, 2017) and less on humanities and social sciences field including language education (Anders, 2016; Balzotti & McCool, 2016; Ekmekci, 2017; Illka & Lockwood, 2015; Rafiza Abdul Razak et al., 2016; Siti Hajar Halili & Sumathy, 2018; Wahindah Suhari et al., 2015; Yoshida, 2016; Yu & Wang, 2016; Pérez, Collado, Del Mar García de los Salmones, Herrero, & San Martín, 2019).

There is currently a lack of research on collaborative flipped instruction in Malay language writing among secondary school students in Malaysia. In line with the national aspiration to produce 21st century learners with IR4.0 traits besides revamping pedagogy under the new KSSM, this study is proposed to develop Collaborative Flipped Instruction for Form One Malay Language Writing.

1.4 Research Purposes

Developing Collaborative Flipped Instruction for Form One Malay Language Writing is the main goal for this study. This study employed Design and Development Research (DDR) with ASSURE Instructional System Design model.

For phase one, this study is conducted to analyze needs of teachers, students, contents, technology and infrastructure in Collaborative Flipped Instruction for Form One Malay Language Writing.

For phase two, this study is aimed to design and develop Collaborative Flipped Instruction for Form One Malay Language Writing. It is also intended to consolidate experts' consensus on design of Collaborative Flipped Instruction for Form One Malay Language Writing through Fuzzy Delphi Method. It is then followed by development of the Collaborative Flipped Instruction for Form One Malay Language Writing.

For phase three, this study is intended to evaluate the usability- in regards to strength and weakness of the Collaborative Flipped Instruction for Form One Malay Language Writing and suggestions from the users' retrospectives.

1.5 Research Objectives

Based on the purposes stated, the objectives are listed according to phases as follows;

Phase 1: Needs analysis

1. To analyze the needs in Collaborative Flipped Instruction for Form One Malay Language Writing in generally and specifically-
 - i. To analyze the needs of the teachers.
 - ii. To analyze the needs of the students.
 - iii. To analyze the needs in content.
 - iv. To analyze the needs in technology and infrastructure.

Phase 2: Design and Development

2. To design and develop Collaborative Flipped Instruction for Form One Malay Language Writing in general and specifically;

- i. To design Collaborative Flipped Instruction for Form One Malay Language Writing through consolidated consensus of the experts.
- ii. To develop Collaborative Flipped Instruction for Form One Malay Language Writing.

Phase 3: Evaluation

3. To evaluate usability of Collaborative Flipped Instruction for Form One Malay Language Writing from the users' retrospective in terms of;
 - i. Strength
 - ii. Weakness
 - iii. Suggestions

1.6 Research Questions

Based on the objectives stated, the research questions are listed according to phases as follows;

Phase 1: Needs Analysis

1. What are the needs in Collaborative Flipped Instruction for Form One Malay Language Writing in general? And specifically;
 - i. What are the needs of the teachers in Collaborative Flipped Instruction for Form One Malay Language Writing?
 - ii. What are the needs of the students in Collaborative Flipped Instruction for Form One Malay Language Writing?
 - iii. What are the needs in terms of content in Collaborative Flipped Instruction for Form One Malay Language Writing?

- iv. What are the needs in terms of technology and infrastructure in Collaborative Flipped Instruction for Form One Malay Language Writing?

Phase 2: Design and Development

- 2. How Collaborative Flipped Instruction for Form One Malay Language Writing should be designed and developed in general? And specifically;
 - i. What are the consolidated experts' consensus on designing Collaborative Flipped Instruction for Form One Malay Language Writing?
 - ii. How Collaborative Flipped Instruction for Form One Malay Language Writing should be developed?

Phase 3: Implementation and Evaluation

- 3. What are the users' retrospectives on usability of Collaborative Flipped Instruction for Form One Malay Language Writing in general? And specifically;
 - i. What are the users' retrospectives on the strength of Collaborative Flipped Instruction for Form One Malay Language Writing?
 - ii. What are the users' retrospectives on the weakness of Collaborative Flipped Instruction for Form One Malay Language Writing?
 - iii. What are the users' suggestion on Collaborative Flipped Instruction for Form One Malay Language Writing?

1.7 Significance of the Research

Collaborative Flipped Instruction for Form One Malay Language Writing applied flipped learning principle. Flipped learning is a hybrid learning and started to gain popularity by 2012 (Bergmann & Sams, 2014). However, there are little documented

studies on collaborative flipped instruction for Malay language writing. This study is significant in serving as guideline to develop flipped instruction for Form One Malay language writing. It should be able to provide documented and empirical data on the instructional module development. All of these findings should be able to help the ministry to extend their works on developing 21st century pedagogy in line with Malaysia Education Blueprint 2013-2025.

Flipped instruction promised to deliver new way of learning- where learning is ubiquitous, flexible and student-centered. The development of flipped instruction should be able to expand the collaborative skills, enhancing writing skills, and nurturing 21st century learners' characters on the students.

Finally, this study also explores a major opportunity for flipped instruction on Malay language education – a combination of blended learning via the social media platform and classroom learning, where the teacher serves as a learning facilitator. It is consistent with national objectives: to leverage technology in education, to create borderless and unrestricted learning and explorative learning experiences, while at the same time expanding thinking and self-excellence (Kementerian Pendidikan Malaysia, 2016).

1.8 Operational Definition

The terms used in the study is defined operationally as follows;

Development

It is a phase in Design and Development Research in which the objectives of the learning, learning module, learning content and learning activities are designed and developed (Amani Dahaman, 2014a; Chin Hai Leng, 2009). This study suited

definition of product and tool research- a subtype under design and development research; as Richey and Klein (2009) stated; *design and development process used in particular situation is described, analyzed and final product is evaluated* (p.30). In this study, it focus on design and development phase of Collaborative Flipped Instruction for Form One Malay Language Writing.

Collaborative Writing

Cambridge Dictionary (2017) defines collaborative as involving two or more people working together for a special purpose. It is also defined as a variety of educational approaches involve joint intellectual effort by students, or students and teachers together (Smith & MacGregor, 1992). In a specific description of collaborative writing, Ansarimoghaddam & Bee (2013) stated it as a process of social negotiating among several writers for the purposes of constructing meaning, knowledge and content of the text to be written with regards to the grammatical accuracy, lexis and also discourse. Describing elements of collaborative learning, O'Donnell and Hmelo-Silver (2013) listed equal participations, mutual influences, and interdependences are crucial on determining successful collaboration. Whilst, Paulus in Chu, Capio, van Aalst, and Cheng (2017) listed three principles of collaborative writing: mutual respects for members' contributions, group work is conducted through effective negotiation, and collaborative works are enhanced through cycles of exploratory talks (p.171).

Flipped Instruction

Flipped instruction is applying concept of flipped learning and it is classified as blended learning (Jonathan Bergmann & Sams, 2012; Siti Hajar Halili & Zamzami

Zainuddin, 2015). The philosophy behind it is to let the learning occurred at the prior time of the class usually by watching instructional videos at home, and assigned works (usually referred as homework) is done on the class (Nwosisi et al., 2016). However, exact definition for flipped learning is stated by Flipped Learning Network (2014) as follows;

..pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter' (p.1).

They later added for flipped learning to success it is essential to incorporate these four pillars during the process: flexible environment, learning culture, intentional content and professional educator.

While, instruction is defined by Smaldino, Lowther, Mims, and Russell (2015) as any intentional effort to stimulate learning by the deliberate arrangement of experiences to help learners achieve a desirable change in capability (p. 25). In this study, instruction is referred to Collaborative Flipped Instruction for Form One Malay Language Writing. It is based on Secondary School Standard Curriculum (KSSM). Meanwhile, Killian and Woods (2018) described flipped instruction as a combination of asynchronous instructional technology and corresponding in-class activity with applied learning (p.332).

Form One

Form One students are children who are 13 years old. In this study, Form One students are receiving education in Sekolah Menengah Kebangsaan (national secondary school)

in Kuala Lumpur. They are comprised of female and male and coming from variety of ethnic, religion and socio-economy status background.

Malay Language Writing

Zaaba (1965) described writing as composing related and coherence sentences with a story to tell. *Each of the sentences comprising correct and structured words so that audiences should be able to understand the meaning behind the writing* (p.1).

Awang Sariyan (2004), Marohaini Yusoff (2004) and Zaaba (1965) listed several steps of writing as follows- pre-writing, writing, and post-writing. Meanwhile, essay writing often involves following components- sociolinguistic on understanding the rhetoric, objectives and audiences (Awang Sariyan, 2004; Hashim Othman, 2005; Za'ba, 1965), ideas representation in which includes coherence of the ideas and its supportive elements with cohesiveness (Awang Sariyan, 2004), grammar with the focus on the correct use of language rules- including correct use of words, spelling, punctuation, tenses, morphology and syntax (Hashim Othman, 2005; Juriah Long, 2010).

1.9 Theoretical Framework of the Research

There are two theories involved- Interactionism Theory from language perspective and Sociocultural Theory from educational perspective.

Interactionism Theory

Theory on language acquisition focused on four main areas-cognitivist, behaviourist, mentalist, and interactionism (Adenan Ayob & Khairuddin Mohamad, 2012).

Interactionism theory governs the study hence the writing will be focused on the aforementioned theory.

Interactionism takes a middle ground between the notions of language is acquired through mental processes and language is acquired through behaviour. Due to its nature that complimenting both sectarians, interactionism is also represented as constructivism theory in language acquisition field (Valian, 2009). Among prominent scholars embracing this theory are Halliday, Bloom, Bowennan and Cromer (Adenan Ayob & Khairuddin Mohamad, 2012). Halliday (1997) proposed cultural and situational semantics lends interesting points on language acquisition. He further stated that language acquisition should also focus on 'what the speaker does' rather than 'what the speaker knows'.

Interactionism rests on the premise of social-cognitive model. It emphasizes on the child's construction of a social world; which is then serves as the eco-system of language development and complimenting notion that language is a process occurred in minds of human beings. Juriah Long et al., (1990) further stated that, Interactionism viewed language acquisition should be integrated with moral, values and sociocultural norms. They also added, language learning in a classroom setting should be made as natural as it should be and language activities should be planned to mimic the real life situation.

Characteristics of Interactionism as proposed by Halliday are listed below as summarized by Chin Hai Leng (2009, p.48-49);

1. Language learning is a mental and linguistic process
2. It emphasizes on meaning-making.
3. Language structure can be mastered through meaningful activities and tasks.
4. Learning is an active process thus language construction should be occurred.

5. Learning process takes place in several phases with regards to situational condition and time.
6. Precedent knowledge is important on meaning-making process.
7. Teaching and learning should not be generalized as same.
8. Language learning is closely related to emotion of the learners.
9. Language learning involves thinking (mental process).

Principles derived from Interactionism are listed as below as adapted from Adenan Ayob and Khairuddin Mohamad (2012) and Tuan Jah Tuan Yusof (2012)- language acquisition among children is interrelated with inner mental process, genetic factor and social stimulation. It also involves mental process and linguistic experiences. Interactionism emphasizes on both language components- language structure and meaning making. Thus, during the learning process, interaction and grammar are both equally important. Interaction will enhance children understanding of language representation. In this study, Interactionism Theory is the language theory that framed the theoretical background.

Vygotskian: Sociocultural Theory

Lev Vygotsky popularized the Sociocultural Theory circa 1920's in Russia (Pritchard, 2014). His works were in Russian and flourished after his death on 1934, thanks to scholars who translated his works into English. Many thinkers were influenced by his works and those included Leontiev, Luria, Piaget, Bruner and Engeström (Kozulin, 1990).

Sociocultural Theory is based on the notion that 'mental functioning in the individual can be understood only by going outside the individual and examining the social and cultural processes from which it derives' (Palmer, 2001,p.35). According

to Vygotsky, (1978), sociocultural theory emphasizes the critical importance of culture and the importance of the social context for cognitive development. For learning and development to occur, it is important to carry out the mental processes within the interpersonal activities thus suggesting the importance of social and cultural-history on the development of children (Kozulin, 2015; Palmer, 2001). This theory emphasizes on the importance of social, language and communication in the process of intellectual development (Newman & Holzman, 1993; Pritchard, 2014). Meaningful communication is essential on developing language skills and Vygotsky (1978) believed that social interactions precedes language development while cognition and consciousness are end products of social development. He acknowledged the role of others on constructing knowledge during the process of learning.

Since his early departure, Vygotsky's works were made famous and known to world by his followers. Luria, his colleague translated his works into English after his death and this subsequently influenced other philosophers outside Russia such as Piaget, and Bruner (Vasileva & Balyasnikova, 2019). Neo-Vygostian philosophers such as Engeström, Luria, and Leontiev, in modern times, have proposed several tenets that are part of the Sociocultural Theory. Kozulin (1990, 2015) then collated the tenets and classified them into five major aspects of Sociocultural Theory in regards to its educational, social, and language values. The five major aspects are- the sociocultural orientation, concepts of mediation, children development, interrelation between language and thoughts, and the famous concept of Zone Proximal Development. In this study, the researcher adapted this theory and its five aspects to guide the research. Since this study involves multiple methods and several different approaches, sociocultural theory suits the objectives of this study which are largely based on the Malay language writing process development through the interjection of collaborative

approach within the framework of flipped learning. In the next writing, the researcher explores the five tenets under the sociocultural theory.

The sociocultural orientation

Culture is an important collective identity that binds society with the similar traits and characteristics. It is defines as ideas, customs, skills, art, and tools that characterized a given group of people in a a given period of time (Brown, 2003). Influence of culture is high on the Sociocultural Theory – and Vygotsky (1978) believed that, instead of being the impact of cognitive development, it plays a major role as a form of cognitive development. Relating the concept to real world application, Kozulin (2015) reported that Vygotsky and Luria proposed;

..informants who retain traditional non-literate culture and way of life tend to solve problems by using functional reasoning reflecting their everyday life practical experience and reject the possibility of looking at classification, generalization or drawing conclusions from another; for example, more abstractive view (p.323).

However, those homogeneous communities, which were then exposed to urban life, received higher education or technical training, possessed different ways of mental transformation, thus promoting readiness to solve problems and opening the door to abstract thinking. Later, Vygotsky and Luria in Kozulin (2015) suggested several factors that contributed to the notion of 'social change affects cognitive development' as follows: literacy learning, formal classroom learning (in which schools play a major role), exposure to modern technology, and participation in the same work. Schooling is considered to be one of the factor that pushed for social transformation and later affected the way of mental transformation. The concept of 'historical' changes existed on the basis of the factors mentioned.

Concept of mediation

Vygotsky (1978) was later proposed the mediated triangle approach with emphasis on the mediation tools. This learning approach consisted of subjects (learners), mediation (sign and tools i.e language, paper, and technology) and objects (objective). Vygotsky believed that learning had taken place through mediation through the use of tools-and in this case cultural and social-historical tools such as language; together with concrete tools. This learning approach consisted of subjects (learners), mediation (sign and tools, i.e. language, paper and technology) and objects (objectives). This mediation activity, using mediation tools, develops the consciousness of the subjects and constructs the process of meaning-making. This process is called an internalization process. In addition to the mediation of tools and signs, Vygotsky, as stated in Kozulin, (1990) , suggested that human mediation is possible, citing the role of parents and mentors as mediators in the cognitive development of children.

The Mediated Triangle (Vygotsky, 1978) provides a solid foundation for the development of the meaning-making process within the co-constructed environment and the later production of shared knowledge. The evolution of the mediated triangle is enhanced by a number of prominent psychologists, Leontiev, and Engeström (1987)- in which he proposed a more complex mediated triangle to describe how the learning process took place. Children will correspond to mediation throughout the internalization process and leads to cognitive development and functional system (Vasileva & Balyasnikova, 2019). Figure 1.1 illustrated the mediated triangle (Vygotsky, 1978).

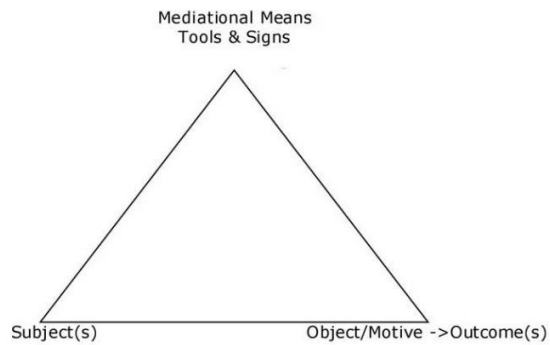


Figure 1.1. Vygotsky's Mediated Triangle (Vygotsky, 1978)

Language and Thought

According to Vygotsky (1978), children develop in two settings – individual and social. He further elaborated that social, cultural, and historical events in fact are systems that build the human beings including the development of language and children's thinking. This process is important since it constitutes consciousness among the children.

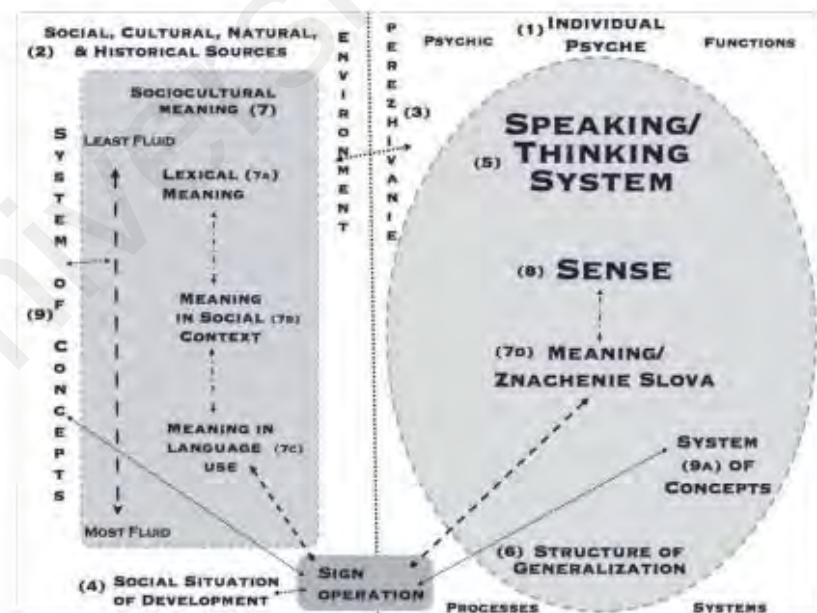


Figure 1.2. Vygotsky's language and thought system (Mahn, 2012)

The following paragraphs are shown in Figure 1.2. Individual psyche (indicated by number 1) develops through interaction with the sociocultural, including the natural and historical sources surround them. He believed that culture shapes a special behavior that subsequently alters the mental functioning and mind-processing of children (Vygotsky, 1978 p.19). The system is also concerned with the acquisition of communication through language and the relationship with socio-cultural society and history. Vygotsky (1994) later introduced the concept *perezhivanie* (indicated by number 3) in Russian and translated into;

The Russian term *perezhivanie* serves to express the idea that one and the same objective situation may be interpreted, perceived, experienced or lived through by different children in different way (p.323).

Thus, to shape children's meaning making (7D), besides the environmental factor contributing to *perezhivanie*, the fluidity of sociocultural meaning is a prominent component to be considered. Vygotsky believed that the children's language system was developed based on the adult surrounds them. Vygotsky suggested that socio-cultural meaning (7) explains how meaning (knowledge and understanding) developed in the child system, and there are three types of meaning involved – lexical meaning, meaning in the social context, and meaning within the operational language (Mahn, 2012).

Children Development

Vygotsky's children's development is based on a systemic ecosystem that combines internal processes and external factors – genetics, physiological functions and social interaction (Mahn, 2012). In contrast to Piaget's Cognitive Development, Vygotsky (1978) assumed that, for each stage of development, leading activities play major role

in the progress of cognitive and emotional childhood. Table 1.5 shows the approximate phases of children's development as suggested by Vygotsky (1978).

Table 1.5
Period of Children's Development

Age (years)	Emotional-Interpersonal Focus	Cognitive Focus
0-1	Emotional interaction with caregivers	-
2-3	-	Object-centered joint activity
3-6	Sociodramatic play	-
6-12	-	Formal learning
12-18	Interaction with peers	-
18+	-	Vocational activity

Zone of Proximal Development (ZPD)

One of Vygotsky's most popular works is the Proximal Development Zone. It is the distance between the actual level of development as determined by independent problem-solving and the level of potential development under adult guidance or in collaboration with more capable peers (Vygotsky, 1978,p.86). Opposing the majority view that instruction should be based on a fully developed cognitive approach, Vygostky argued that instruction should be given on the emerging development of children (Kozulin, 2015). In this case, learning should not focus on the present cognitive status of children, but should include the future of the child's functioning role.



Figure 1.3. Zone of Proximal Development (ZPD)

Summary on Sociocultural Theory

Sociocultural Theory is a theory that emphasizes the influence of culture and history on cognitive development. This theory enables the research community to observe how culture and history play a more technical role in the formation of mental transformation. Concerns are raised about how shared learning in social spaces prepares learners for individual and private cognitive development. This theory is also a diverse theory that dealt with the systemic development of learners, including the environmental impact, not just cognitive development. It is crucial for language educators to understand this point, especially when the diversified background of learners may be a confounding factor in learning.

1.10 Applied Models in the Research

In this sub-chapter, several models comprised of learning model, instructional design model, needs analysis model, flipped learning model, writing instruction model and usability test model are discussed. These models were then adapted as guide to conduct the research.

Triological Learning Approach (Paavola & Hakkarainen, 2005)

Triological Learning Approach is a learning approach proposed by Paavola and Hakkarainen (2005) and revolved from Mediated Triangle proposed by Engeström (1987) and Vygotsky (1978). It explains on how the collaborative learning takes place within the context of Sociocultural Theory.

Paavola and Hakkarainen (2005) explains Triological Learning Approach as;

The acquisition view represents a “monological” view on human cognition and activity, where important things are seen to happen within the human mind, whereas the participation view represents a “dialogical” view where the interaction

with the culture and other people, but also with the surrounding (material) environment is emphasized. The knowledge-creation view represents a “trialogical” approach because the emphasis is not only on individuals or on community, but on the way people collaboratively develop mediating artifacts. (p.239).

Figure 1.4 illustrates the concept of the Trialogical Learning Approach, which consists of three metaphors-acquisition metaphor, participation metaphor, and knowledge-creation metaphor.

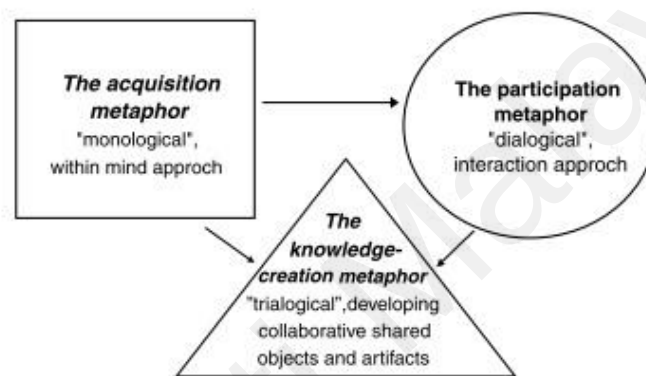


Figure 1.4. Trialogical Learning Approach (Paavola & Hakkarainen, 2005)

The clear way to describe the approach is how individual entities, e.g. ideas, arguments, knowledge, were later externalized through social collaboration in the learning community through dialogue, discussion, technology integration or mediation tools. The learners then collaboratively developed objects and produced learning objects, e.g. products, essays or assignments.

Description of the Three Learning Metaphors

Based on the operational definition, there are also six principles that characterize each learning metaphor in the Trialogical Learning Approach. The principles of learning metaphor are as follows;

1. Focus on shared objects and shared activities.
2. Learning is a long process in a long-term perspective.
3. Knowledge-creation processes taking place in mediated interaction between individual and shared activities. Individual possess their own role on knowledge creation however their works and efforts are demonstrated on the shared activities.
4. Educational players, including students, professional and research communities, are working in close contact to establish professional knowledge practices.
5. Technology is mediator and appropriate technology is vital to promote knowledge creation and sharing as well as elaboration and transformation of knowledge and artifacts among students.
6. Development of ideas through transformation and reflection. New ideas emerged through interaction between conceptualization (what I know) and practical functionality (what I do).

This learning approach is an essential model on collaborative or cooperative learning (Paavola & Hakkarainen, 2009a). Collaborative works are implemented throughout the process of producing the shared artifacts. The process of collaboration is guided based on the design principles (DP) as proposed by Paavola, Lakkala, Muukkonen, Kosonen, & Karlgren (2011) and listed as follows (p.238)- organize trialogical activity around shared objects, interaction between personal and social

levels of activity, flexible tool mediation for trialogical activity, fostering long term processes of knowledge advancement, development through transformation and reflection, eliciting (individual and collective) agency and cross fertilization of knowledge practices.

ASSURE Instructional Design Model

Smith and Ragan (1999) defined instructional design as a process of translating principles of learning and instructions into plans for instructional materials and activities (p.2).

Table 1.6
Comparison on Types of Instructional Design Model

Orientation	Characteristics	Model
Learning	• One or few hours of instructions. • Very low resources. • Individual effort. • Low skill of instructional design. • Emphasises on selection process. • Low amount of needs analysis • Low technological complexity. • Low to medium amount of revision. • No distribution.	The Gerlach and Ely Model (1980), The Kemp, Morrison and Ross Model (1994), The ASSURE Model (1996), ADDIE Model, The Reiser and Dick Model (1996).
Product	• Self- instruction model • High resources. • Team effort. • High skill of instructional design. • Emphasises on development process. • Low to medium amount of needs analysis • Medium to high technological complexity. • Very high amount of revision. • High amount of distribution.	Leshin, Pollock and Reigeluth (1990); The Bergman and Moore Instructional Design Model (1990)

Table 1.6 (Continued)
Comparison on Types of Instructional Design Model

System	• Course or entire curriculum output. • High resources. • Team effort. • High skill of instructional design. • Emphasises on development process. • Very high amount of needs analysis • Medium to high technological complexity. • Medium to high amount of revision. • Medium to high amount of distribution.	The Smith and Ragan Model (1993), The Dick and Carey Model (1996)
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Table 1.6 summarized the differences of each instructional design models. There are many types of instructional design (ID) model being used in the field of education and training. Often, similar components existed on every ID models. The differences are on the numbers of phases and graphic representations (Gagne, Wager, Golas, & Keller, 2005). Instructional design models are suggested to be linked to the system engineering, and it works as a general guideline on how the instructional development process should be done (Gibbon, 2014). Gustafson and Branch (1997) classified instructional design model into three types: learning, product and system.

Heinich, Molenda, Russell and Smaldino developed ASSURE instructional design model in 1996 (Roblyer, 2006). ASSURE ID model is a learning orientation instructional design and described by Gustafson and Branch (1997) as an instructional design emphasizing on the selection process. It is a popular instructional design in educational setting incorporating constructivist perspective (Lefebvre, 2006).

Arnone, Ellis, and Cogburn (2013) suggested that the selecting step available on ASSURE; highlighted the important function of media and technology selection

according to the needs of learners. Comparing ASSURE and the generic ADDIE model, ADDIE is more compatible on developing learning models and ASSURE is more suitable on developing modules and cyber-infrastructures. Smaldino, Lowther, and Russell (2012) described ASSURE as below (p.39):

1. Analyze learners - Learner characteristics are identified. It should include general characteristic of the learners, specific entry competencies and learning styles.
2. State standards and objectives- To state the standards and learning objectives as specific as possible.
3. Select strategies, technology, media and materials- Choosing the suitable strategy, technology, media and materials in reference to the learners' characteristics and learning goals.
4. Utilize technology, media and materials- Utilizing technology, media and materials for teaching and learning processes. There are 5P's protocols that can be a guideline for implementing this step: preview the technology, media, and materials; prepare the technology, media and materials; prepare the environments; prepare the learners; and provide the learning materials
5. Require learner participation - Provide learners with learning activities that can stimulate active engagement that allows them to practice the knowledge they gained.
6. Evaluate and revise- The last step is to evaluate its impact on the learning. Is there any differences on the learning achievement and the goals of learning, it should be revised to address the area of concern.

ASSURE instructional design model is applied on this study based on its focus on selection process; which is really important during the design of the module. Selection of media and technology during design and development phase with consideration of educators and learners' needs ensure the compatibility of the module among students.

Integrated Course Design Model (Fink, 2003)

In needs analysis phase, Integrated Course Design Model (Fink, 2003) was adapted. Banks and Henderson (2019) and Saulnier (2014) were also adapting this model on their studies. This model is a needs assessment model specifically catered the designed course at the higher education institution. It is developed based on the following generic components:

1. Knowledge on the content-area subject/subject matter
2. Decision about the purpose of learning and environment surrounds the learning experience.
3. Student-Pedagogy interactions
4. Management of the entire instructional event.

Fink (2005) stated before designing any form of instruction or educational products, it is important for the educators/designer to analyse the 'Situational Factors'. The information gains from the analysis of Situational Factors should be supported the following decisions- learning goals, feedback and assessment, and teaching/learning activities. All of these key components should be reinforced and considered during designing the course. Figure 1.5 illustrated the model of Integrated Course Design.



Figure 1.5. Integrated Course Design Model (Fink, 2003)

Situational factors are the process of analyzing the situation and gives the educators information on the background of the learning situation. Fink (2003) and Saulnier (2014) listed the following situational factors that might potentially affected the design of any courses or module-

1. Localized context of teaching/learning situation
2. General context of learning situation
3. Nature of the subjects
4. Characteristics of the learners
5. Characteristics of the teachers

The next step is to establish learning goals. Educators / designers should decide what their students should learn. This can be any level of knowledge taxonomy. As far as this study is concerned, the learning objectives are based on the Document of Standard Curriculum and Assessment or in Malay language *Dokumen Standard Kurikulum Pentaksiran* (DSKP).

This is followed by feedback and assessment. The educators / designers should examine how learning should be assessed and how feedback should be provided and

processed. It is important to assess the effectiveness of the knowledge delivery course. Last but not least, the establishment of teaching / learning activities. This includes the selection of learning activities that will help students achieve their learning objectives. Learning activities should be designed to meet the needs of students and teachers.

Flipped Learning Instructional Design Model (Lee et al., 2017)

This study also adapted the Flipped Learning Instructional Design Model to guide the design and development of the Collaborative Flipped Instruction for Form One Malay Language Writing.

This model is built based on the following assumptions;

1. Targeted users for this model is an instructional design team and for school settings, it can be the teachers.
2. Macro level involves designing at the course level which is an extensive long period of time usually 10-12 weeks and micro level involves designing at the lesson level for example weekly lesson planning.

In this study, the researcher adapted the phases of design and development to guide the research. These parts will later lead to the identification of the constructions and the elements that should be included in the framework. Since this study uses the Standard Curriculum and Assessment Document or in Malay language- *Dokumen Standard Kurikulum Pentaksiran* (DSKP) document, all parts are based on the DSKP.

Macro level involves the design and development of the course in the administrator level – for example the school administrator or university subject panels. The following lists explain the design phase (macro) and its constructs- macro level content design by unit or lesson, macro level instructional strategy design, macro level

learning activity design, course orientation, macro level assessment design, course prototype, content design, verification task, study scheduling design.

Meanwhile, for the micro-level (daily lesson plan), it includes; micro-level learning activity design, group interaction, mini lecture design, assignment design, reflection design and formative/summative assessment design.

As for the development phase, the constructs are listed as follows; material development, shooting, editing, online course prototype, worksheet development, instructors' manual development and face-to-face lesson prototype. Figure 1.6 illustrated the Flipped Learning Instructional Design Model (Lee et al., 2017).

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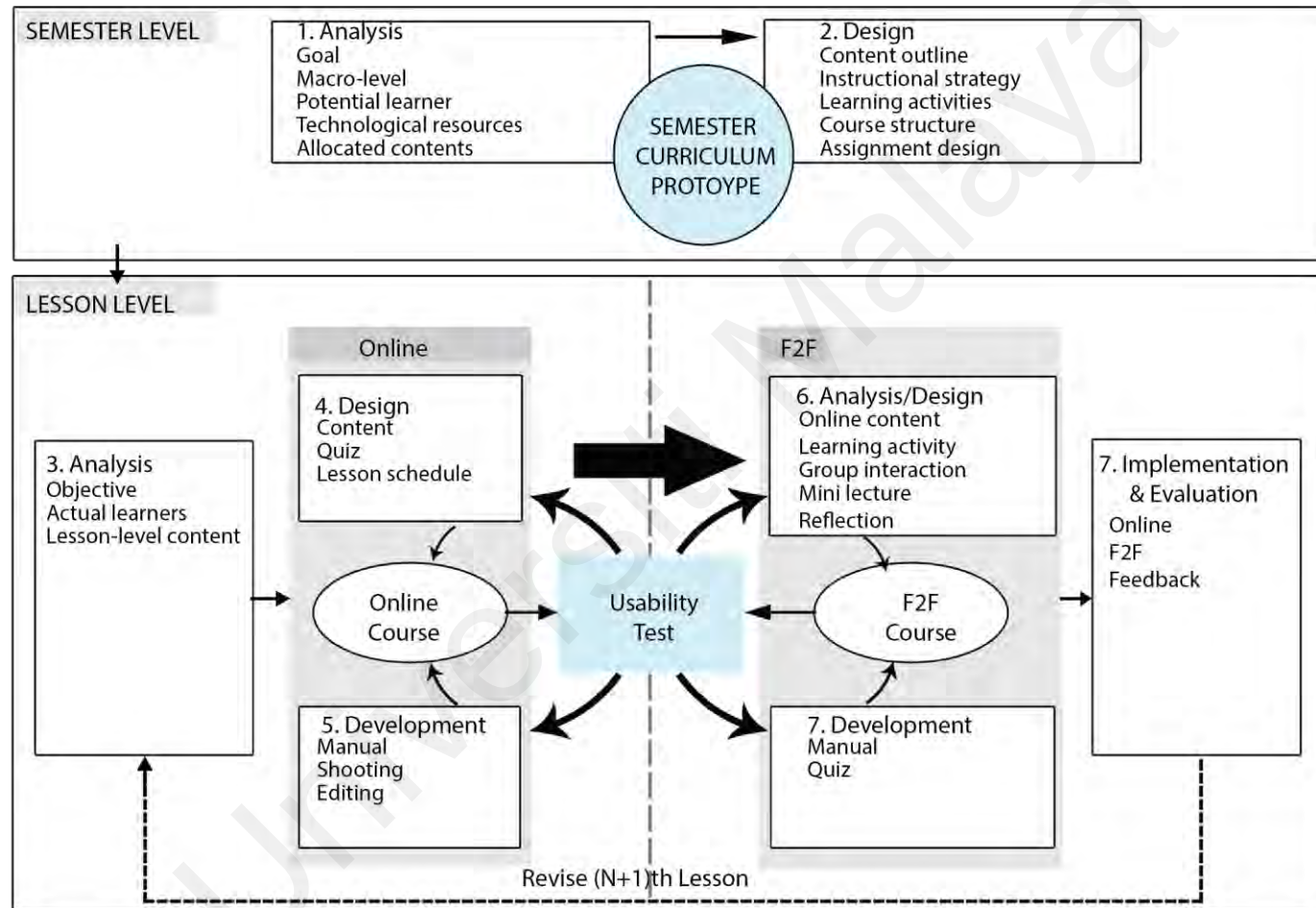


Figure 1.6. Flipped Learning Instructional Design Model (Lee et al., 2017)

Process of Writing Model (Flower & Hayes, 1981)

Process of Writing Model by Flower and Hayes (1981) is one of the leading model of writing processes in the field of language education. It has been widely used at international level (Strobl et al., 2019). In a local context, a few documented studies used this model in their studies (Abdul Ghani Bin Jalil, 2016; Lai Lee Chung, 2017; Yusoff & Manaf, 1997).

This model stated three major components of writing process: the task environment, the writer's long-term memory and, the writing processes. The task environment includes all those things outside the mind of the writer, including the subject of writing and the audience or the reader. The model begins with the most important element, the rhetorical problem. Flower and Hayes (1981) argued that school assignment to writing is a simplified version of the rhetorical problem. This element describes the topics, audience and role of students in writing. It is essential to understand the rhetorical problem because it defines the content, the sub-content, the language style and the writing format. If students have misinterpreted the rhetorical problem, the accuracy of writing will be affected.

The second component is the long-term memory of the writer, in which the writer stores the memory of the subject, audiences and writing plans. Long-term memory can exist on the mind and from outside resources, such as photos, books and websites.

The third element is the writing process with its basic processes: planning, translation and review, which is under the supervision of the monitor. Planning involves the act of generating ideas and could involve the recollection of long-term memories. The sub-components under planning are organized so that the authors can identify and organize the content accordingly. Goal setting is an act of setting the goal

of their act of writing; includes creativity and coherence between ideas. This is the part that determines the poor and the good writer. Translation is a process of putting ideas into a visible language. Monitor refers to writing strategies that determine when a writer should move from one process to another. Reviewing includes the assessment and revision of the writing process. Writer should be able to proofread his or her own writing before finalizing the writing process. Figure 1.7 shows the Writing Model Process by Flower and Hayes (1981).

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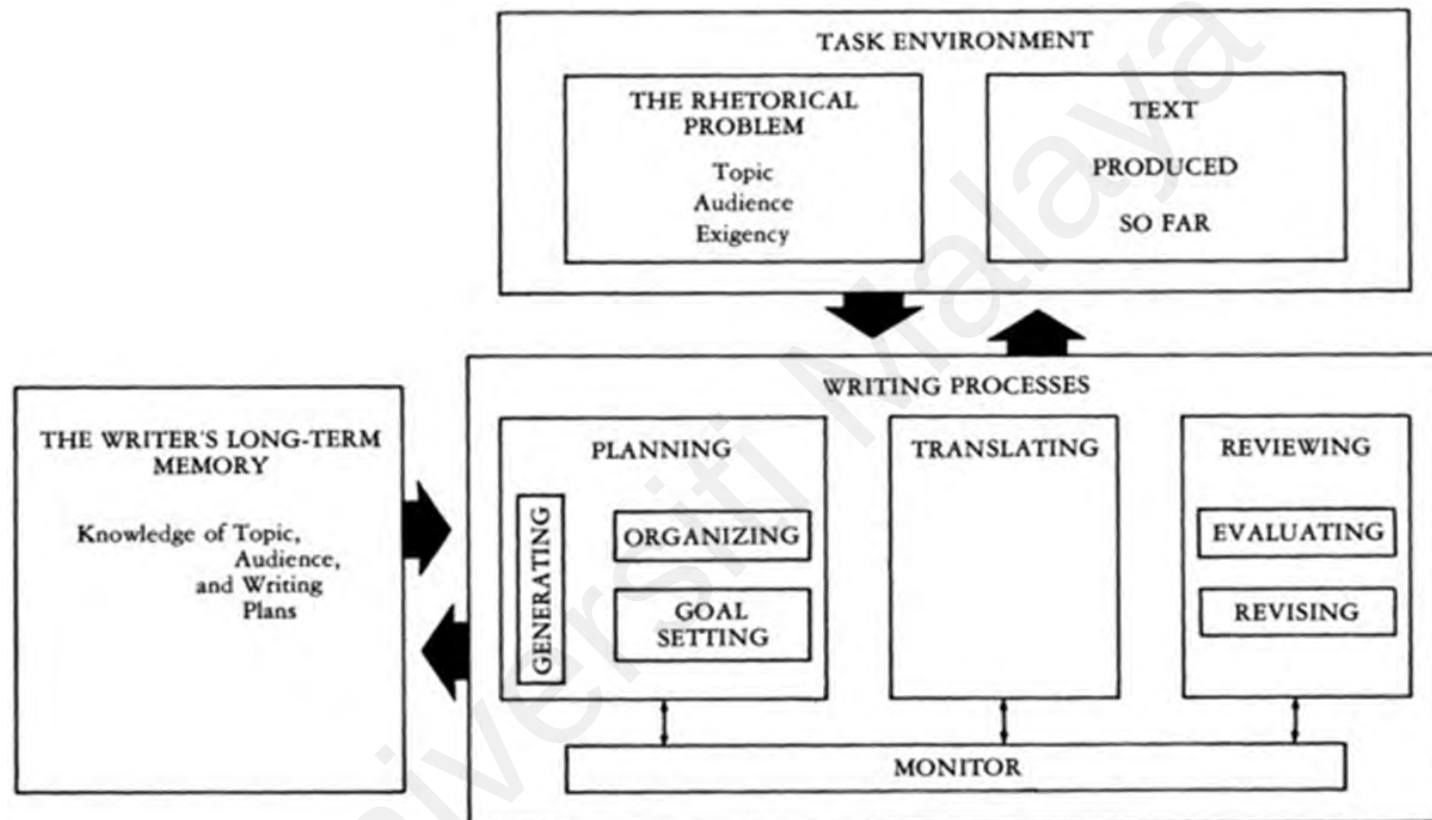


Figure 1.7. The Process of Writing Model by Flower and Hayes (1981)

Usability Evaluation Methods (Chai & Chen, 2004)

The implementation and evaluation phase uses the usability test to evaluate the Collaborative Flipped Instruction for Form One Malay Language Writing. There is a steady increase in the number of studies involved in usability research and with the trend towards greater user experience (UX), usability research will remain relevant to the new revolutionary digital world. One of the usability test model being used is Usability Evaluation Methods by Chai and Chen (2004). Under this model, they listed four methods to evaluate usability- usability test, usability inspection, user retrospection, and evaluator retrospection. In this study, the researcher adapted user retrospection in order to understand the usability factors in the view of users.

1.11 Conceptual Framework of the Research

This research employed the Design and Development Research (DDR) proposed by Richey and Klein (2014). Comprising three phases – the needs analysis, design and development, and implementation and evaluation; each phase seeks to answer one main research question. Since this study is intended to develop an instructional product, the ASSURE Instructional Design Model has been applied throughout the research.

Needs analysis is the first phase of the study and the researcher adapted the needs analysis model- The Integrated Course Design Model (Fink, 2003) as guidance. The research question is addressed through three types of data collection: interview, survey and analysis of documents. Subsequently, the findings of this phase provide insight into the needs of the proposed Collaborative Flipped Instruction for Form One Malay Language Writing.

The design and development phase is the second phase under Design and Development Research. Three different models corresponding to three different areas on the module were adapted- with Flipped Learning Instructional Design model (Lee et al., 2017) guiding the design and development of the flipped instruction module and lending the basic model of flipped learning to it, Process of Writing Model (Flower & Hayes, 1981) laid the foundation for the design and development of writing instruction. Trialogical Learning Approach (Paavola & Hakkarainen, 2005) outlines the design and development of collaborative activities in the training module. This phase involved interviews with experts and conduct of the Fuzzy Delphi sessions with 18 experts. Following the design phase , the researcher developed an instructional module based on the Flipped Learning Instructional Design model (Lee et al., 2017).

The last phase is the implementation and evaluation phase with Usability Evaluation Method model (Chai & Chen, 2004) is adapted and specifically user retrospection method is being utilized to gauge the users' experiences on using the instructional module. Eight respondents were involved in the interview sessions with seven respondents were the students and one teacher.

Following the rigorous procedures under Design and Development Research, the researcher came up with the Collaborative Flipped Instruction for Form One Malay Language Writing and its model adapted from Lee et al. (2017). Figure 1.8 illustrates the conceptual framework of the study.

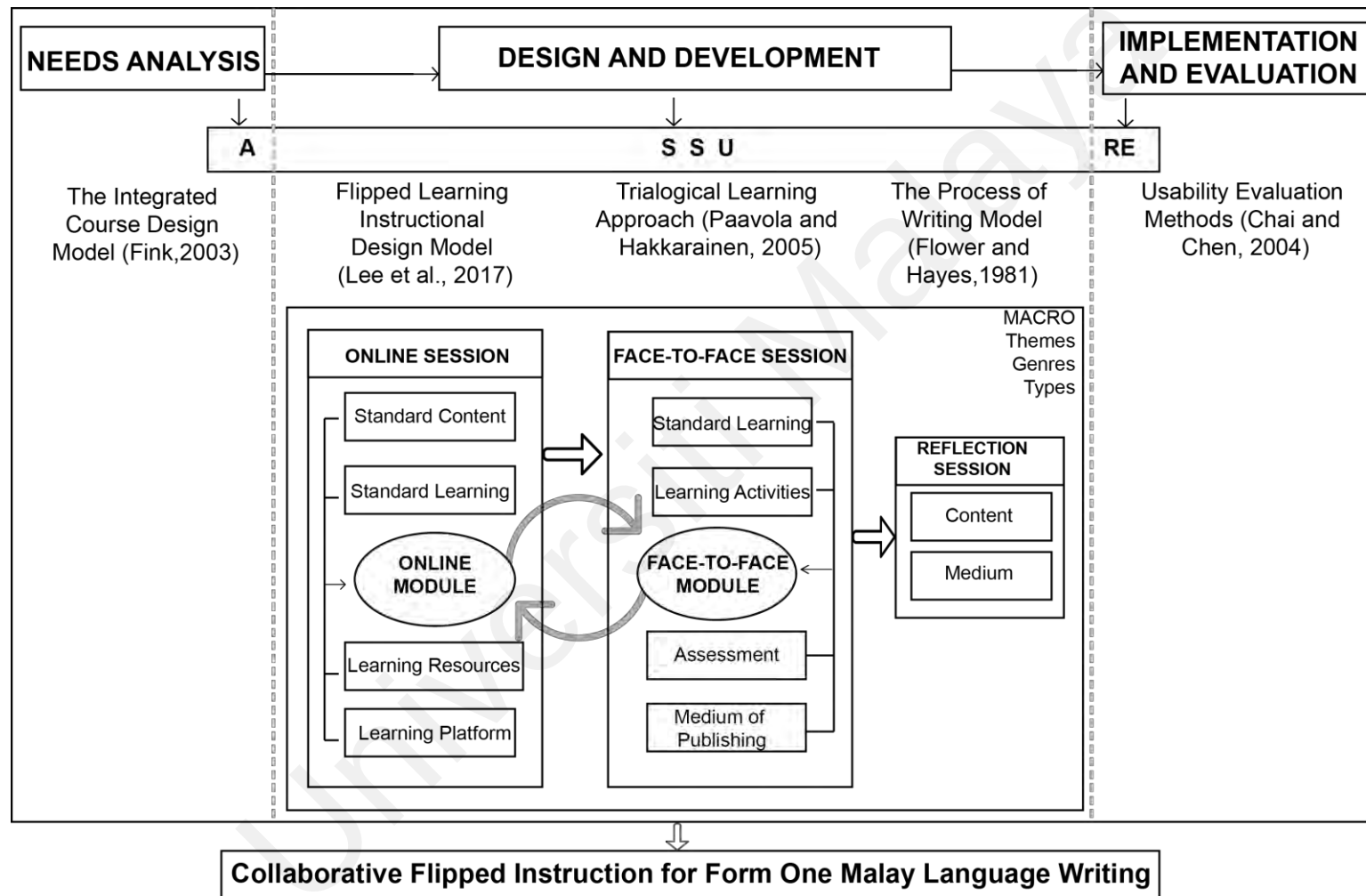


Figure 1.8. Conceptual framework of Collaborative Flipped Instruction for Form One Malay Language Writing.

1.12 Summary

This chapter is an introduction chapter explaining the research background, rationale of the research including the justification of the selected variables, problem statement, research purposes, research objectives, research questions, significance of the research, and operational definition of the terms used in the research. This chapter is also intended to give insights on the background and current issues surrounding the study. This research is conducted to develop Collaborative Flipped Instruction for Form One Malay Language Writing.

CHAPTER 2

LITERATURE REVIEW

This chapter is dominated by the literature reviews of the related studies. It also includes discussions on collaborative writing and flipped instruction. All of these contents are then be synthesized.

2.1 Collaborative Approach on Education and Training

The IR 4.0 calls for a new perspective in education – a shift from teacher-centered to learner-centered, and that demands a new approach to pedagogy. This transformation required pedagogy which celebrated the autonomy of the students on learning and the co-construction process of their knowledge. Collaborative learning is one of the most famous approach. Collaborative learning is described as an intellectual effort by students aiming at a common learning goal (Nunan, 1992; Smith & MacGregor, 1992). It is often based on the works of Vygotsky which emphasized on social factors and co-construction of knowledge (Matusov, 2015).

Collaborative learning has had impacted learners in different ways, as demonstrated in several related studies. It has improved knowledge on the knowledge content (Ajegbomogun & Oduwole, 2017; Lesco et al., 2019), improved competency (Liu, Wang, & Sun, 2018), strengthened teamwork in professional settings (Ku, Tseng, & Akarasriworn, 2013; Lesco et al., 2019), promoted motivation and interest on learning (Honkala, Heikkinen, Lehtovuori, & Leppävirta, 2015; Lesco et al., 2019; Liu et al., 2018), promoted social-connectedness with the surrounding society (Ajegbomogun & Oduwole, 2017; W. Al-Rahmi, Othman, & Yusuf, 2015; Laux, Luse, & Mennecke, 2016), heightened self-efficacy (Dunbar, Dingel, Dame, Winchip,

& Petzold, 2018; Liu et al., 2018), better cognitive performances (Dunbar et al., 2018; Liu et al., 2018; Yung, Tien, & Mahdi Al-Obaidi, 2016; Ajegbomogun & Oduwole, 2017; Al-Rahmi et al., 2015), better social interaction skill including speaking ability (Saylor, Keselyak, Simmer-Beck, & Tira, 2011; Tabatabaei, Afzali, & Mehrabi, 2015; Tolmie et al., 2010; Ajegbomogun & Oduwole, 2017; Al-Rahmi et al., 2015), decreases stress and anxiety (Tabatabaei et al., 2015), increased organizational performances (Lesco et al., 2019; Wu, Dong, Chang, & Liao, 2015), improved leadership skills (Dunbar et al., 2018), boost engagement on learning (Tolmie et al., 2010), enhanced affective learning (Yung et al., 2016), consolidated persistence on learning (Laux et al., 2016) and better academic achievement among post-graduate studies (Ajegbomogun & Oduwole, 2017; Al-Rahmi et al., 2015).

Previous studies have shown that the collaborative approach has had positive impacts on different organizational settings and learner levels. Collaborative approach in career - related training settings tend to strengthen teamwork and communication between colleagues, as demonstrated in Lesco et al. (2019) and Wu et al. (2015). Work by Lesco et al. (2019) explored collaborative approach in professional training among healthworkers while Wu et al. (2015) explored a collaborative approach to training between logistics firms in Taiwan. From this point on, the organizational performance positively affected the good teamwork and, subsequently, the ability to generate better revenue and service quality, thus predicting the longevity of the organizations.

Another educational setting involved in this review is the postgraduate level reported in Ku et al. (2013), Ajegbomogu nand Oduwole (2017) and Al-Rahmi, Othman, and Yusuf (2015). In a study by Ku et al. (2013), a collaborative approach enhanced team dynamics and resulted in team satisfaction. The other two findings identified increases in academics, collaborative learning promoted shared knowledge

and information among peers, and enhanced interactions between peers and supervisors. Respondents used social media to network with other academics and researchers around the world.

Meanwhile, at the undergraduate level, the collaborative approach has increased students' self-efficacy, competence and motivation, as demonstrated in the Liu et al. (2018), Dunbar et al.(2018), and Honkala et al. (2015). Saylor et al. (2011) and Laux et al. (2016) argued that a collaborative approach would promote better social interaction between peers and society. As for Yung et al. (2016), they found that a face-to - face collaborative session improved emotional learning while technology integration into a collaborative approach enhanced both cognitive and emotional approach. Compared to postgraduate students, the majority of undergraduate students are 19-22 years of age, and at this age, they are still struggling with issues of trust and self-perception compared to those of mature students. As a result, the collaborative approach at this level was positively influenced by their positive self-perception and improved social-relationship with their peers. Meanwhile, the study in setting up the EFL among Iranian students by Tabatabaei et al. (2015) found that stress in the group had decreased and that their public speaking skills had improved.

Table 2.1
Collaborative Learning across Discipline and its Impacts

No	Authors	Disciplines	Impacts
1	Lesco et al.(2019)	Adolescent health course for professional training among medical staff in Moldova	• Improved knowledge • Strengthened team-works and cooperation. • Better healthcare
2	Liu et al. (2018)	EFL for undergraduate in China	• Self-efficacy heightened • Competency improved • Intrigued students interest on learning

Table 2.1 (Continued)
Collaborative Learning across Discipline and its Impacts

3	Dunbar et al.(2018)	Bachelor of Health Science students in America	• Self-efficacy heightened • Leadership heightened • Better academic performance
4	Tabatabaei et al. (2015)	EFL course for undergraduate in Iran	• Stress decreased • Improved speaking ability
5	Yung et al. (2016)	Engineering course for undergraduate in China	• Face-to-face session improved affective learning • Technology usage improved cognitive and affective learning • Collaborative learning space affected cognitive and affective learning
6	Wu et al. (2015)	Professional ICT training for logistic firms in Taiwan	• Organizational performance increased • Earnings correlated with performances • High quality corporate systems • Correlation between technology collaboration and firms' longevity
7	Tolmie et al. (2010)	English for pupils aged 9-12 years old in the United Kingdom	• Cognitive improvement • Social interaction improvement • Boost in engagement
8	Ku et al. (2013)	Graduate students in United States of America	• Team dynamics enhanced • Team satisfaction enhanced
9	Honkala et al. (2015)	Undergraduate students in science course in Finland	• Self-motivation heightened • Self-competence increased • Learning autonomy increased the motivation
10	Saylor et al. (2011)	Dental undergraduate students in United States of America	• Better social interaction • Better task management • Enhanced trust among group members
11	Laux et al. (2016)	College students	• Heightened social-connectedness • Persistence on learning

Table 2.1 (Continued)
Collaborative Learning across Discipline and its Impacts

12	Ajebomogun & Oduwale (2017)	Postgraduate students in Nigeria	• Collaboration via social media • Ideas and opinions sharing through social media. • Inter-connected and networks among academia. • Supported their conduct of research and knowledge • Supported dissemination of their works globally. • Better academic achievement
13	Al-Rahmi, Othman, & Yusuf (2015)	Postgraduate students in Malaysia.	• Better connection with peers • More interactive communication with supervisors • Better academic achievement.

2.2 Collaborative Approach on Writing Instruction

Nunan (1992) stated the benefit of collaborative learning in language education as follows;

1. Encourage students to learn better.
2. Increase their awareness about language and themselves.
3. Develop their meta-communication and communication skills.
4. Teach them to confront argumentation and conflict.
5. Make them realize content of learning is interrelated.
6. Make them aware that decision making is a genuine communication.

Collaborative learning in language education is one of the powerful learning approach stimulating language development among learners (Beetham & Sharpe, 2007; Nunan, 1992). Collaborative learning is a term refer to joint intellectual efforts by students aim for the common learning goal (Nunan, 1992; Smith & MacGregor, 1992). Specifically for collaborative writing, Storch (2005) described it as joint works

of several authors on contributing and producing written materials in terms of language, content and, and structure.

Although collaborative writing is a common writing approach at international level (Khoii & Arabsarhangi, 2015; Mohammad Khatib & Hussein Meihami, 2015; Sufatmi Suriyanti & Aizan Yaacob, 2016;Chuang, 2018; Daud, Hanafi, & Laepe, 2018;Jalili & Shahrokhi, 2017), it is still in its infancy in Malaysia setting (Ansarimoghaddam & Tan, 2013; Challob et al., 2016; Lai Lee Chung, 2017; Ajideh, Leitner, & Yazdi-Amirkhiz, 2016). Majority of the study applied qualitative methodology whilst the findings showed mixed perceptions among the respondents. However, majority of the respondents cited that collaborative writing is a better instructional approach thus lends more enjoyable writing experiences (Challob et al., 2016; Lai Lee Chung, 2017; Sufatmi Suriyanti & Aizan Yaacob, 2016), spurred motivation on writing (Daud et al., 2018) besides producing better writing products, although, there were mixed results on the components of writing (Ansarimoghaddam & Tan, 2013; Khoii & Arabsarhangi, 2015;Ajideh et al., 2016;Chuang, 2018; Jalili & Shahrokhi, 2017).

Based on the reviewed collaborative writing studies, several studies (Khoii & Arabsarhangi, 2015; Lai Lee Chung, 2017; Mohammad Khatib & Hussein Meihami, 2015; Sufatmi Suriyanti & Aizan Yaacob, 2016) perceived it as a better writing approach compared to the traditional individual writing approach, except in the Storch Storch (2005) study, where mixed perceptions were collected from the respondents. Although all perceived collaborative approaches are beneficial, one group suggested that the collaborative approach should not be applied during the writing phase. However, in view of the fact that the study respondents involved university students compared to other studies consisting mainly of high school / secondary students, their

level of proficiency may have been expected to have been reached. In addition, the various collaborative platforms provide insights on how the variety of platforms affects the written performance of students.

The researcher also found from the preceding literature that collaborative writing has a significant impact on individual writings (Ajideh et al., 2016; Challob et al., 2016; Khoii & Arabsarhangi, 2015; Mohammad Khatib & Hussein Meihami, 2015), in which the quality and accuracy of the writing is improved. Although there are mixed results in the area of the language being investigated, taking into account differences in age, locality and purpose of writing-indifferences could not be avoided.

However, when it comes to the impacted elements of writing, it varies accordingly. Collaborative writing has helped in the planning process , specifically in the planning of writing based on rhetoric and audience needs, as demonstrated in Chuang (2018). The same study also suggested that a well-planned pre-writing process could be a factor behind better essay organization, thus explaining the same outcome as in Ajideh et al. (2016); Ansarimoghaddam and Tan (2013) and Mohammad Khatib & Hussein Meihami (2015). The same factor is also capable of stimulating better content and understanding of knowledge as demonstrated in most of the studies reviewed (Ansarimoghaddam & Tan, 2013; Chuang, 2018; Lai Lee Chung, 2017; Mohammad Khatib & Hussein Meihami, 2015).

Daud et al., (2018) argued that collaboration provided a platform for students to share and exchange ideas during the writing process. This process has influenced the complexity of the content and accuracy of the essays, such as Ansarimoghaddam and Tan (2013); Chuang (2018); Jalili and Shahrokhi (2017); Mohammad Khatib and Hussein Meihami (2015). The accuracy involves grammar (Mohammad Khatib & Hussein Meihami, 2015), vocabulary (Ansarimoghaddam & Tan, 2013; Mohammad

Khatib & Hussein Meihami, 2015) and mechanics (Mohammad Khatib & Hussein Meihami, 2015). These enhancements to the writing elements eventually led to better writing tasks (Ajideh et al., 2016) and writing products (Lai Lee Chung, 2017; Sufatmi Suriyanti & Aizan Yaacob, 2016).

For diverse learners with special needs, whether minor or at risk; collaborative learning promotes social interaction and communication between them (Ashman & Gillies, 2013). Realizing the beneficial impact of collaboration and the literature review of flipped learning indicates that collaborative learning is often used during in-class sessions. The researcher therefore explored the possibility of collaborative writing on this study.

Table 2.2
Collaborative Writing and its Impacts

No	Authors	Level	Impacts
1	Storch (2005)	English for undergraduate in Australia	• Shorter sentences • Better task fulfillment • Better accuracy • Better complexity
2	Chuang (2018)	ESL for undergraduate in Taiwan	• Promoted planning of the writing • Promoted fluency and complexity on writings • Better performance on writings
3	Daud, Hanafi, & Laepe (2018)	EFL for secondary students in Indonesia	• Better performance on writings • More motivation
4	Ajideh, Leitner, & Yazdi-Amirkhiz (2016)	ESL for postgraduate students in Malaysia	• Improved individual writings • Better task achievement • Better cohesive and coherence aspects
5	Jalili & Shahrokhi (2017)	EFL for undergraduate students in Iran	• Better accuracy on writings • No significant on fluency and complexity

Table 2.2 (Continued)
Collaborative Writing and its Impacts

6	Ansarimoghaddam & Tan (2013)	ESL for undergraduate students in Malaysia	• Online collaboration is more enjoyable and effective learning • More self-reliant learners • Perceived self-competence • Complexity on writings for WIKI users • Better content, vocabulary, organization and language rules among WIKI users
7	Challob et al. (2016)	EFL for secondary students in international school in Malaysia	• Positive self-competency • Perceived usefulness • Reduced fear and writing anxiety • Better writing products
8	Lai Lee Chung (2017)	Malay language for secondary school students in Malaysia	• Promoted critical thinking on writing • Promoted soft-skill development among the students • Better perception on writing class • Promoted independency on learners
9	Sufatmi Suriyanti & Aizan Yaacob (2016)	EFL for secondary school students in Indonesia	• Better writing products
10	Mohammad Khatib & Hussein Meihami (2015)	EFL for undergraduate students in Iran	• Better performances on content, organization, grammar, vocabulary and mechanics
11	Khoii & Arabsarhangi (2015)	EFL learners in Iran	• Better writing task • Improved self-esteem and competency • Enjoyable learning experiences • Freedom on writing

2.3 Internet and Social Media in Malaysia

The impact of Web 2.0 in our daily life is also infusing into education field and re-shaping the education landscape. Web 2.0, is also referred as internet, is an invented term refers to the globally interconnected digital platform with web-based tools and

services (Solomon & Schrum, 2007). It serves many purposes from online banking to social in nature, with the numbers of users in social media networking keep growing each days. Internet-related technology (Google and Apple) is crowning the first place of the most invested field with 19% of increment in global market investment in the year of 2014 and this trend shows no sign of slowing down (Meeker, 2014). Popular Web 2.0 tools are blogs for online writings, Flickr and Instagram for online visual portfolios, YouTube for video casting, Wiki and Google for information searching, Twitter and Facebook for online socialization, and Skype for video conference (Bergmann & Sams, 2012; Sharma & Barrett, 2007).

The latest statistics for year 2018 from Department of Statistics Malaysia (2019), on ICT access by individual in Malaysia, 81.2% of individuals in Malaysia aged 15 years and above used Internet whilst 97.9% of them used mobile phone as compared to only 70.5% of them used computer. Perusing the latest statistics on ICT usage among Malaysian aged 15 years and above, huge percentage of 96.5% is participating in social networks. The increment of 10.2% of social networks engagement potentially vital indicator of social media impact will not slowing down in nearest time. It is follows by 83.1% of Malaysian used Internet to find information on services or goods and 81.7% downloading images, movies, videos or music, playing or downloading games. 76.5% used Internet to download software or applications and 74.8% used it to send or receiving e-mail. Meanwhile, 70% used Internet to telephone their contacts with large increment of 12.5% from 2017. According to Malaysian Communication and Multimedia Commission (2018), when it comes to social media account ownership in Malaysia, the highest percentage of 97.3% users are registered as Whatsapp user whilst 98.1% registered as Facebook users. It follows by Instagram at 57% registered users whilst 55.6% are registered as Facebook Messenger users.

Approaching 21st century, educators are aware of the different characteristics of learners that are highly connected to technology and internet, and digital literacy comes out from this advancement. This generation of children born in 2006 and forward is described as digital native and they are more skillful with technology and gadget compared to their parents (Solomon & Schrum, 2007). Johnson and colleagues (2015) stated, students including digital natives preferred learning to be embedded with technology and using their own devices rather than text and lectures-based learning. Besides that, employability in the future is highly depends on the level of digital skills and literacy, which is actually interrelated with the powerful internet existence (Johnson, Adams, & Cummins, 2012; Meeker, 2014).

The fast internet bandwidth, latest electronic devices, big data and invention of cloud-based technology are pumping the paradigm shift on education sector. The role of educators are revamped from educator as knowledge disseminator to educator as facilitator. Faster internet provides better online learning experiences with online streaming and conferences are just as good as the face-to-face sessions. With the creation of cloud-based technology, more storage are available online without any notion of IT desktop help. The Big Data, which supported the massive repository online fuels booming of Massive Online Open Courses (MOOCs) - an education experience that celebrates flexibility, mobility and accessibility on learning. Online presentation, as one of open sources knowledge, is achievable via presentation tools such as Prezi and online learning assessment can be done using social networking such as Edmodo, Google Classroom etc.

Ministry of Education aware of this trends, and acknowledges the needs of incorporating Information Technology and Communication (ICT) into teaching and learning process by listing several approaches to enrich 21st century skill in the latest

Malaysia Education Blueprint 2013- 2025. They suggested approaches which are also focusing on the integration of ICT on learning experiences and outcomes among Malaysian students across the placements, ages and modality (Ministry of Education, 2013). It is expected in the next five years, the tools of Web 2.0 such as social media, learning management systems, video streaming will be used extensively in education sector in Malaysia (Ministry of Education, 2013). Players from the sectors are encouraged to plan the learning by utilizing the available technology to make education accessible to all including people with disability (Ministry of Education, 2013). The next sub-chapter, the researcher discusses on the technology in writing instruction and the relevant precedent studies.

2.4 Technology in Writing Instruction

Language educators rarely categorized as early adopters of innovative technology-based pedagogy. However, recent trend shows the influx of technology adopters on language learning. The demands of 21st century learning worldwide ignited the spurts of technology integration in language education. The following paragraph will include a discussion on technology integration in writing, but the focus will be on technology integration in Malay language writing.

Low written performance has been reported across the nation and across the country (Abd, Ali, & Ahmed, 2015; Che Zanariah Che Hassan & Fadzilah Abdul Rahman, 2011; Elbow, 1981; Nurul Aisyah Abdullah et al., 2016; Oskoz & Elola, 2016; Roselan Baki, 2003; Seyed Foad Ebrahimi & Mohsen Khedri, 2013; Zheng & Warschauer, 2015). Considering the importance of writing, language educators have experimented with a variety of methods, including technology-integrated methods, to overcome this shortage. There are many studies on technology integration in language

learning, particularly in English. However, the following paragraph examines carefully selected literature related to this study in this subchapter.

In a related study by Smith, Kiili, and Kauppinen (2016), they looked at technological advancements in argumentative writing and how these arguments were trans-mediated to digital video formats among graduate students in Finland. The result of the study inferred descriptive content is the most commonly translated content, while counter-argumentation plays a minor role in the process. In addition, they also found that only 25 per cent of written ideas are used in transmediate videos. In terms of content, the videos contained less in-depth arguments. This study highlighted the role of technology in writing. It is also stated that the technology used during the writing process determined the quality of the writing process.

A study by Tate, Warschauer, and Abedi (2016) postulated interesting findings to be considered in writing by future researchers or practitioners. They found that school-related writing predicts the performance of writing instead of personal writing. As a result, tools and technology integration must be carefully planned and instruction should not be sidelined. With proper technology integration, writing performance should be increased. In addition, three components should be provided to ensure the success of digital writing: technology tools, internet connection and educational support. The study also stated that collaborative learning is an important approach to digital writing pedagogy.

Another related study by Ktoridou and Doukanari (2015) looked at the role of student-generated technical writing content among graduate students in Cyprus. A blog has been set up and served as a platform to investigate how student-generated content has contributed to pedagogy. They found that, even after the semester ended, student-generated content highly motivating educational activities that promote social

interaction and learners continue to update the blog. It is also managed to attract people with the same interest to interact and share knowledge. It is also stated that the blog could be a good platform for evaluating the progress of writing among undergraduate students.

Yee and Kee (2017) explored the use of Storyjumper-a free website to create a story among ESL students at a teaching college in Malaysia. The qualitative study found that digital writing has increased writing skills and written quality among respondents. It enhances writing performance in terms of language usage, organization and content. Respondents also stated that they have gained new knowledge on writing meanwhile technology integration on writing instruction and good teamwork are stated to be beneficial to digital writing. The study also found that their grammar was greatly enhanced. The researchers also found that the level of motivation among the respondents had increased. Technology makes writing instruction easier and more fun compared to the traditional approach. It is also claimed that technology provided a better alternative for respondents to make their stories and writings without wasting too much paperwork. It is more practical to use digital platforms for writing and writing portfolios.

Shih (2011) investigated the use of Facebook in a blended learning environment to teach English writing to undergraduates in Taiwan. Mixed methodologies have been applied and the findings have shown that the motivation for learning writing has increased and students' interest in learning has been enhanced. The findings also postulated that Facebook was a great collaborative tool when respondents said that the opportunity to read peer writing helped them improve their writing skills. Features available on Facebook, such as comment sections, allowed them to discuss their writing. However, the researcher suggested that more careful

guidance should be applied to the implementation of peer review since novice peers tend to make false revisions to the work of others due to lack of knowledge.

Technology integration in writing instruction has been demonstrated via social networks, multimedia materials, and Internet-based tools. The next sub-chapter specifically discussed the technology integration in Malay language writing instruction.

2.5 Technology in Malay Language Writing Instruction

Some documented studies have explored the use of printed learning tools as teaching materials for writing instruction (Chew Fong Peng & Rusdaine Mohamed, 2013; Mohd Zikri Ihsan Mohammad Zabhi, Shamsuddin Othman, Abdul Rashid Jamian, & Azhar Md Sabil, 2019; Rahman, Metussin, Tarasat, Madin, & Jaidi, 2014). Although it does not involve digital or computer-based technology, the use of printed visual materials and newspapers has improved writing in terms of generation of ideas. In Chew Fong Peng and Rusdaine Mohamed (2013), apart from the enhanced generation of ideas, students have produced better writing products in terms of accuracy and mechanical components.

In some studies, researchers implemented different learning strategies in writing instruction as evidenced in Osman, Sarudin, Janan, and Omar (2019)- with authentic approach, and Zuraini Jusoh and Abdul Rasid Jamian (2014) explored storytelling in writing instruction. Meanwhile, several studies are found to explore different learning approaches – project-based learning as in Monica Laina Tonge and Zamri Mahamod (2020) and problem-based learning as in Farah Adlina Mokter (2019). All studies have found that writing performance has been enhanced and a better writing task has been completed among students. In addition, Monica Laina Tonge and

Zamri Mahamod (2020) also found that there was a decrease in writing problems among students from remote areas and an increase in engagement during the learning sessions.

The old method of teaching Malay language writing, and student factors such as low motivation for learning the language, and weak language skills, have led to low quality Malay language writing products among students across the education sector. Writing is a cognitive process that requires students to re-read, evaluate and select information; and motivation is needed to complete this task (Wilson & Czik, 2016). By implementing alternative approaches, such as providing additional materials and applying student-centered learning, evidence has shown positive impacts on Malay language writing among students.

Documented studies on the integration of technology in Malay language writing are comparatively low compared to other fields. However, the advancement of Internet technology and social media has led to changes in the writing in the Malay language context. More researchers are open to use digital and internet-based writing instruction interventions. Several studies have explored different types of digital learning tools at primary school level (Azah Abdul Aziz & Jumaeyah Zainalabidin, 2015; Daing Noor Ashikin Bahnan, 2014; Idris & Noor, 2019; Noradinah Jaidi et al., 2014) and including one study implemented flipped learning approach for writing classes in Singapore (Wahindah Suhari et al., 2015). In a secondary school level, Zulkifli Osman (2015) exploited Internet tools such as YouTube and Prezi on writing instruction while Arfah Buang and Azizah Ahmad (2014) used blogs for reflective writing. All of the studies reported enhanced writing performance among students with a better ability to generate and expand ideas (Arfah Buang & Azizah Ahmad, 2014; Azah Abdul Aziz & Jumaeyah Zainalabidin, 2015; Daing Noor Ashikin Bahnan, 2014;

Noradinah Jaidi et al., 2014; Wahindah Suhari et al., 2015; Zulkifli Osman, 2015). However, in secondary schools, Internet-based intervention in writing instruction has increased the motivation for learning and has led to an increase in the quality of writing products. In addition, the exploitation of the Internet outside the classroom suggested that the independence learning promotes successful integration of technology.

Based on the discussion and reviewed literatures on technology in education and specifically technology in writing, technology integration into pedagogy of writing shows positive impacts among students across the age. Neglecting the facts of current students are profiled as millennial generation who highly capable in handling devices and technology will dampen the learning process among them. There is also interrelation between technology chosen during the pedagogy and writing products among the students (Smith et al., 2016). Thus, it indicates how important it is for researchers and practitioners to select appropriate media and platform. However, the integration must not solely based on tools, and it must be embedded with good instruction so that the learning will be more meaningful and achievable.

The next subchapter, the researcher, explores the flipped pedagogy in detail. Starts with flipped learning in general and its background to a systematic review of literature on it-thus keeping us up-to - date with the relevant flipped approach studies.

2.6 Flipped Approach and Related Studies

Flipped classroom is a new concept, and this hybrid pedagogy approach has been the subject of tremendous discussions. Flipped classroom is a non-conventional pedagogy approach that is basically described as what is traditionally done in class is now done at home, and what is traditionally done as homework is now finished in class (Jon Bergmann & Sams, 2012). Pre-class sessions often involved basic knowledge learning,

including concept learning, provided through online instructional videos. While in-class sessions often involve students engaged in constructive critical knowledge learning. These incredible components have shifted the learning space from mass to individual learning space. Flipped classrooms are also classified as blended learning (Overmyer, 2015; Siti Hajar Halili & Zamzami Zainuddin, 2015).

However, the uncertainty on definition of flipped classroom is ceased when the practitioners confirming the arrival of flipped learning. Flipped learning is deemed as second wave of flipped learning movement and described as;

a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter' (Flipped Learning Network, 2014,p.1).

Flipped Learning 3.0 revolution is possible with these following reasons: flipped learning is not static, powerful transforming agents behind flipped learning: research, flipped learning innovation and emerging technology, shifting profiling of the flippers from early adopters to early majority, more awareness and data-driven results gathered from flipped learning and fresh possibilities of expansion due to reliable contact and support from flippers around the world (Bergman & Smith, 2017). Flipped Learning 3.0 is described as meta-strategy pedagogy and used as a learning platform with multiple approaches are free to practice between the limits of the framework (Bergmann & Talbert, 2017).

2.7 A Systematic Literature Review on Flipped Learning and Its Impact

Systematic Literature Review (SLR) has been conducted on flipped instruction to identify gaps on flipped learning. The method on conducting systematic literature

review is reported in details on Chapter Three. Thirty-one studies selected to be analyzed qualitatively. Table 2.3 displayed the systematic literature review of flipped pedagogy with focus on area of study, level of study, and impacts of flipped learning on the respondents/samples.

Table 2.3
Systematic Literature Review on Flipped Learning and its Impact

No	Author	Area of study	Level of study	Impacts
1	Fazilawati Harun and Supyan Hussin (2017)	English for Engineering students	Matriculation College in Malaysia	• Enhanced students understanding on content • Build critical thinking on higher-order thinking skill • Enhanced motivation • Increased productivity • Maximized productivity • Free up instructional time • Promoted teacher-students interaction
2	Zamzami Zainuddin (2017)	EFL	College students in Indonesia	• Enhanced students' enthusiasm on language learning • More peer interactions • Positive perception on flipped learning • More engagement through hands-on activities
3	Nwosisi, Ferreira, Rosenberg, and Walsh, (2016)	IT-based courses	Undergraduate students in America	• Promoted peers interaction • Promoted instructor-student interactions • Better learning scores
4	Wahindah Suhari, Wan Alfida Suleiman and Zuraidah Saidin (2015)	Malay language writing	Primary 5 pupils in Singapore	• Promoted self-directed learning • Active learning during classroom • Promoted teacher-student interactions
5	Hsieh, Wu, and Marek (2016)	EFL	Undergraduate students in Taiwan	• Enhanced motivation. • Activated usage of idioms in class • Improved idiomatic knowledge

Table 2.3 (Continued)

Systematic Literature Review on Flipped Learning and its Impact

6	Kim, Jung, Siqueira, and Huber (2016)	Science-based course	Postgraduate students	• Heightened engagement
7	Chen, Chen, and Chen (2015)	Statistic course	Undergraduate students in Taiwan	• Digital divides created limited access to technology • Positive perceptions on flipped classroom
8	Nouri (2016)	Research method course	Undergraduate students in Sweden	• Positive attitudes towards flipped classroom, use videos and Moodle • Increased motivation. • Increased engagement • Increased learning • More effective learning especially for low achievers
9	Foldnes (2016)	Statistic course	Undergraduate students in Norway	• Increased academic performances
10	Blau and Shamir-Inbal (2017)	IT-based course	Undergraduate students in Israel.	• Promoted active learning. • Promoted learning regulation. • Promoted continuous dialogue. • Promoted collaborative interactions among peers.
11	Liao (2014)	EFL	Undergraduate students in Taiwan.	• Positive perceptions • Increased peer interaction.
12	Li, Lou, Tseng, and Huang (2013)	Educational technology course.	Undergraduate students in Taiwan.	• Increased peer interaction. • Increased engagement.
13	Anders (2016)	Business English (Writing course)	Undergraduate students in America.	• More conscious controls on writing. • Supported in-class collaborative activities. • Facilitated drafting process. • More creative informed rhetorical products.

Table 2.3 (Continued)
Systematic Literature Review on Flipped Learning and its Impact

14	Yoshida (2016)	Educational technology course	Pre-service teachers in Japan	• Learning effectiveness • Promoted review and confirmation on learning • Promoted productivity and self-paced learning
15	Balzotti and McCool (2016)	Technical writing	Undergraduate students in America	• More innovative content of writing • Supported connection to professionals on the field • Enhanced motivation
16	Rafiza Abdul Razak, Dalwinder Kaur, Siti Hajar Halili, and Zahri Ramlan (2016)	ESL	Professional teacher development in Malaysia	• Development of flipped training for teachers • Focus on design and development process • Social media technology is promising platform
17	Siti Hajar Halili and Sumathy A/P Ramas (2018)	Tamil teaching	Professional teacher development in Malaysia	• Flipped approach helped them on teaching • Rate of acceptance is high
18	Pugsee (2018)	Computer ethics course	Undergraduate students in Thailand	• Promoted critical thinking • Increased learning achievement • Pre-class sessions are important for the synchronous in-class learning
19	Hayashi, Fukamachi, and Komatsugawa (2015)	Information Technology	Undergraduate students in Japan	• Increased examination scores
20	Sherina Shahnaz Mohamed Fauzi and Raja Maznah Raja Hussain (2016)	Consumer behaviour course	Undergraduate students in Malaysia	• Facilitated active and reflective learning • Encouraged collaboration among peers
21	Pérez, Collado, Del Mar García de los Salmenes, Herrero, and San Martín, (2019)	Business course	Undergraduate students in Spain	• Increased on motivation • Increased on general skills • Increased on knowledge • Increased engagement

Table 2.3 (Continued)

Systematic Literature Review on Flipped Learning and its Impact

22	Almodaires, Alayyar, Almsaud, and Almutairi (2018)	Educational technology course	Pre-service teachers in Kuwait	• Better learning performance • Positive attitudes on the flipped learning
23	Killian and Woods (2018)	Kinesiology course	Physical Education pre-service teachers in America	• Students engaged with technology outside classroom • Active learning encouraged development of foundational knowledge
24	Moranski and Henery (2017)	Spanish course	Undergraduate students in America	• Enhanced learning achievement • Positive perception on learning second language • Offered comfort on learning second language
25	Yildirim (2017)	Computer science course	Pre-service teachers in Turkey	• Improved readiness of the learning • Increased retention of knowledge • Shortened the learning process • Shortage in terms of hardware and technology
26	Ekmekci, (2017)	ELT preparatory writing course	Undergraduate students in Turkey	• Better writing performances • Positive attitudes on the flipped writing instruction
27	Alharbi (2015)	Health informatics course	Undergraduate students in Saudi Arabia	• Perceived of satisfaction • Comfortable on using the flipped learning • Aided on understanding the concept of the course
28	Zanariah Ahmad (2017)	Engineering course	Polytechnic students in Malaysia	• Positive perceptions on flipped learning • Improvement on learning scores
29	Sohrabi and Iraj (2016)	Big data course	Postgraduate students in Iran	• Positive attitudes on flipped classroom. • Preferred TED talks and documentaries

Table 2.3 (Continued)
Systematic Literature Review on Flipped Learning and its Impact

30	Illka and Lockwood (2015)	ELT (Writing)	Professional teacher development in America	• More productive use of class time • More time for learning • Promoted independent learning
31	Zamzami Zainuddin & Mohammad Attaran (2015)	Research education	Postgraduate students in Malaysia	• Positive perceptions on flipped learning • Positive impacts on shy and quiet students • For part-timer, participation online is challenging due to restricted time

2.7.1 Flipped Learning and Area of Study

Whilst flipped learning early adopters are mostly came from STEM field (Alharbi, 2015; Foldnes, 2016; Hayashi et al., 2015; Hsin-Liang & Summers, 2015; M. Kim et al., 2016; Nwosisi et al., 2016; Pugsee, 2018; Sohrabi & Iraj, 2016; Yildirim, 2017; Zanariah Ahmad, 2017); current situation demonstrated that flipped learning research and practices from humanities (Pérez et al., 2019; Sherina Shahnaz Mohamed Fauzi & Raja Maznah Raja Hussain, 2016) and social science areas (Anders, 2016; Balzotti & McCool, 2016; Ekmekci, 2017; Fazilawati Harun & Supyan Hussin, 2017; Hsieh et al., 2016; Moranski & Henery, 2017; Rafiza Abdul Razak et al., 2016; Siti Hajar Halili & Sumathy A/P Ramas, 2018; Yoshida, 2016; Zamzami Zainuddin & Mohammad Attaran, 2015; Zamzami Zainuddin, 2018) are steadily increasing.

Specifically for this study, flipped language learning has shown that most of the research is in the English field (Anders, 2016; Balzotti & McCool, 2016; Ekmekci, 2017; Fazilawati Harun & Supyan Hussin, 2017; Hsieh et al., 2016; Illka & Lockwood, 2015; Liao, 2014; Rafiza Abdul Razak et al., 2016; Zamzami Zainuddin, 2018),

follows by Tamil (Siti Hajar Halili & Sumathy Ramas, 2018), Spanish (Moranski & Henery, 2017), and Malay language (Wahindah Suhari et al., 2015).

2.7.2 Flipped Learning and Level of Study

Based on systematic literature review, most of the study involved flipped learning in higher education institution such as colleges, polytechnics and universities (Alharbi, 2015; Almodaires et al., 2018; Anders, 2016; Balzotti & McCool, 2016; Blau & Shamir-Inbal, 2017; Ekmekci, 2017; Fazilawati Harun & Supyan Hussin, 2017; Foldnes, 2016; Hsieh et al., 2016; Hsin-Liang & Summers, 2015; Killian & Woods, 2018; Kim et al., 2016; Moranski & Henery, 2017; Nouri, 2016; Nwosisi et al., 2016; Pérez et al., 2019; Pugsee, 2018; Sherina Shahnaz Mohamed Fauzi & Raja Maznah Raja Hussain, 2016; Sohrabi & Iraj, 2016; Yildirim, 2017; Yoshida, 2016; Zamzami Zainuddin, 2018; Zanariah Ahmad, 2017).

A few studies involved flipped learning in school settings with professional teacher development (Illka & Lockwood, 2015; Rafiza Abdul Razak et al., 2016; Siti Hajar Halili & Sumathy Ramas, 2018) and primary school students (Wahindah Suhari et al., 2015).

2.7.3 Impacts of Flipped Learning

The systematic literature review also aims to investigate the impact of flipped learning on the teaching and learning process. Majority of the study reported the positive effects of flipped learning, nonetheless, the drawbacks from the flipped learning are also reported.

Flipped learning is said to enhance knowledge on content (Alharbi, 2015; Fazilawati Harun & Supyan Hussin, 2017; Hsieh et al., 2016; Killian & Woods, 2018;

Pérez et al., 2019; Yildirim, 2017), improve readiness and retention on learning (Yildirim, 2017), improve learning performances (Almodaires et al., 2018; Ekmekci, 2017; Foldnes, 2016; Moranski & Henery, 2017; Pugsee, 2018), and increased learning achievement in scores (Hayashi et al., 2015; Moranski & Henery, 2017; Pugsee, 2018). Whilst, it is also documented that, flipped learning promotes effective learning among low-achievers as in Nouri (2016) and most beneficial for shy students (Zamzami Zainuddin & Mohammad Attaran, 2015). Flipped learning are also found to promote critical thinking among the students (Fazilawati Harun & Supyan Hussin, 2017; Pugsee, 2018).

There are also positive perceptions recorded on learning the content (Ekmekci, 2017; Liao, 2014; Moranski & Henery, 2017), positive perceptions on using flipped learning (Chen, Chen, & Chen, 2015; Nouri, 2016; Zamzami Zainuddin & Mohammad Attaran, 2015; Zamzami Zainuddin, 2017; Zanariah Ahmad, 2017; Nouri, 2016; Sohrabi & Iraj, 2016), and positive attitudes on using the multimedia tools (Nouri, 2016).

The flipped approach shifts the teaching or lectures outside classroom, thus more productive in-class time (Fazilawati Harun & Supyan Hussin, 2017; Illka & Lockwood, 2015; Yildirim, 2017; Yoshida, 2016) to promote active learning (Blau & Shamir-Inbal, 2017; Killian & Woods, 2018; Sherina Shahnaz Mohamed Fauzi & Raja Maznah Raja Hussain, 2016; Wahindah Suhari et al., 2015), collaborative learning (Anders, 2016; Blau & Shamir-Inbal, 2017; Hayashi et al., 2015), and self-directed learning (Illka & Lockwood, 2015; Wahindah Suhari et al., 2015; Yoshida, 2016) besides promoting peer interactions (Blau & Shamir-Inbal, 2017; Fazilawati Harun & Supyan Hussin, 2017; Liao, 2014; Zamzami Zainuddin, 2017; Li, Lou, Tseng, and Huang, 2013) and instructor-student interactions (Nwosisi et al., 2016; Wahindah

Suhari et al., 2015). It also enables networking among the students and professionals on their respective field (Balzotti & McCool, 2016).

There are also documented findings on enhanced motivation among the students (Balzotti & McCool, 2016; Fazilawati Harun & Supyan Hussin, 2017; Hsieh et al., 2016; Nouri, 2016; Pérez et al., 2019), as well as, increased engagement during the learning session (Kim et al., 2016; Li et al., 2013; Nouri, 2016; Pérez et al., 2019; Zamzami Zainuddin, 2017). Specifically for writing instruction, flipped approach is said to facilitate better writing process as demonstrated in studies by Anders (2016) and, Balzotti and McCool (2016). Students produced more creative content, more control on their own writings and facilitated drafting process.

Looking at the professional development, flipped training were able to help the teachers on their teaching task as demonstrated in Siti Hajar Halili and Sumathy Ramas (2018). Teachers were also found favouring social media technology as learning platform (Rafiza Abdul Razak et al., 2016). In a related findings on postgraduate students, they preferred TED talks and documentaries as learning materials on flipped approach (Sohrabi & Iraj, 2016).

In spite of the promising impacts of flipped learning, the setbacks of it still existed and should not be neglected. Flipped learning is stated to heavily depends on Internet connection and in some cases required specific technology hardware as in Yildirim (2017). This is important gateway of flipped learning as the pre-class sessions indicates the synchronized face-to-face sessions (Pugsee, 2018). Besides this, for part-time students, time management is crucial during the implementation of flipped learning and time constraint is reported as a setback of flipped learning as in Zamzami Zainuddin and Mohammad Attaran (2015).

2.8 A Systematic Literature Review to Identify Elements and Sub-Elements of Flipped Learning

From the review, six themes and 34 sub-themes that related to the flipped learning components emerged. The main themes are –learning resources, learning platform, learning activities, assessment, medium of publishing, and reflection session. Table 2.4 tabulated the result from the review.

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Table 2.4
Systematic Literature Review on Flipped Learning Components

No	Author	Content	Learning Resource	Learning Platform	Learning Activities	Assessment	Medium of Publishing	Reflection
1	Fazilawati Harun and Supyan Hussin (2017)	English for Engineering students in Matriculation College in Malaysia	Video, Padlet	Whatsapp/Telegram	Group discussion	None	None	None
2	Zamzami Zainuddin (2017)	EFL for college students in Indonesia	Video, audio files, essay	Blog	Active learning	Instructor-based assessment	Blog, printed documents	None
3	Nwosisi, Ferreira, Rosenberg, and Walsh, (2016)	IT-based courses for undergraduate in America	Video, podcast, web-based tools, text documents	Moodle, Packet Tracer	Collaborative learning, project-based learning, individual works	Instructor-based assessment	Packet Tracer	None
4	Wahindah Suhari, Wan Alfida Suleiman and Zuraidah Saidin (2015)	Malay language writing to Primary 5 pupils in Singapore	Video, slides	Slideshare, blog	Discussion	Teacher-based assessment	Blog	None

Table 2.4 (Continued)
Systematic Literature Review on Flipped Learning Components

5	Hsieh, Wu, and Marek (2016)	EFL for undergraduate students in Taiwan	Lectures video, student-produced videos, audio text-based documents	LINE	Pair discussion, group discussion, simulation, collaborative works	Instructor-based assessment, Group-based assessment	LINE	Content knowledge reflection on LINE
6	Kim, Jung, Siqueira, and Huber (2016)	Science-based course graduate students	Lectures videos, text-based online notes	Canvas (LMS)	Authentic learning, Problem-based learning, collaborative learning	Instructor – based assessment	Hands-on project	None
7	Chen, Chen, and Chen (2015)	Statistic course for undergraduate in Taiwan	Text-based notes, multimedia-based lecture videos	University LMS	Cooperative learning, group discussion	Instructor – based assessment	Paper-based document	None
8	Nouri (2016)	Research method course for undergraduate students in Sweden	Videos	Moodle (LMS)	Project-based learning, pair works, active learning, scaffolding	Instructor – based assessment through Digital Socrative	Socrative	None

Table 2.4 (Continued)
Systematic Literature Review on Flipped Learning Components

9	Foldnes (2016)	Statistic course for undergraduate students in Norway	Videos, online discussion	LMS	Cooperative learning, individual learning	Instructor-based assessment	Paper-based document	None
10	Blau and Shamir-Inbal (2017)	IT-based course for undergraduate in Israel	Instructor videos, student-generated content, Zoom video-conference	Google Apps for Education, Moodle,	Collaborative learning, active learning, group discussion, online discussion	Peer-assessment, instructor-based assessment	Moodle,	None
11	Liao (2014)	EFL learners in Taiwan	Videos, text-based documents	Facebook	Group discussion	Instructor-based assessment, peer assessment	Facebook, paper-based document	None
12	Li, Lou, Tseng, and Huang (2013)	Educational technology course for undergraduate students in Taiwan	Videos, data link (hyperlink), online discussion, text-based documents	Facebook	Demonstration, group discussion, practices, project-based assignments	Instructor-based assessment, Peer assessment	Facebook, group presentation paper-based document	Experience reflection in oral session
13	Anders (2016)	Business English (writing course) for undergraduate students in America	Text-based documents, content video	Google Docs	Collaborative learning	Instructor-based assessment, peer assessment	Google Docs	Content reflection on Google Docs

Table 2.4 (Continued)
Systematic Literature Review on Flipped Learning Components

14	Yoshida (2016)	Educational technology course for undergraduate students in Japan	Lectures video, quizzes	LMS	Project-based, Collaborative learning	Instructor-based assessment, peer assessment	Project presentation	None
15	Balzotti and McCool (2016)	Technical writing for undergraduate students in America	Supplementary videos	LMS	Collaborative learning, group discussion	Instructor-based assessment	Paper-based documents, project presentation	Experience reflection in oral presentation
16	Rafiza Abdul Razak, Dalwinder Kaur, Siti Hajar Halili, and Zahri Ramlan (2016)	Professional ESL teacher development in Malaysia	Videos, PowerPoint, Podcast, online forum, WebQuest	Facebook	Discussion, hands on activities, microteaching	Instructor-based assessment	Project presentation	Experience reflection: Webquest
17	Siti Hajar Halili and Sumathy A/P Ramas (2018)	Tamil language teachers in primary school in Malaysia	YouTube videos	Frog VLE	21 st century learning approaches	Teacher-based assessment	Books	Experience reflection: VLE Frog
18	Pugsee (2018)	Computer ethics for undergraduate students in Thailand	Videos, PowerPoint slides, online multimedia resources	Facebook, cloud-Based LMS	Collaborative learning, active learning	Instructor-based assessment	Cloud-based LMS	None

Table 2.4 (Continued)
Systematic Literature Review on Flipped Learning Components

19	Hayashi, Fukamachi, and Komatsugawa (2015)	Programming course for undergraduate students in Japan	Digital textbooks, online courseware, Flash animation, videos	LMS	Collaborative learning	Instructor-based assessment	Digital submission	None
20	Sherina Shahnaz Mohamed Fauzi and Raja Maznah Raja Hussain (2016)	Consumer behavior course for undergraduate in Malaysia	Online discussion, pdf (text-based documents), slides	Facebook	Project-based learning, peer assisted learning, collaborative learning	Peer assessment	Group presentation	Content and experience reflection: Facebook
22	Almodaires, Alayyar, Almsaud, and Almutairi, (2018)	Educational technology course for pre-service teachers in Kuwait	Videos, mini quizzes, PowerPoint slides, hyperlink	Whatsapp	Group works	Instructor-based assessment	Presentation	None
23	Killian and Woods, (2018)	Kinesiology course for Physical Education pre-service teachers in America	PowerPoint slides, lectures audio, audio, supplemental hyperlinks and videos, photos	LMS	Group works, peer teaching, school visits (authentic learning)	Instructor-based assessment, peer assessment	Demonstration	None

Table 2.4 (Continued)
Systematic Literature Review on Flipped Learning Components

24	Moranski and Henery (2017)	Spanish course for undergraduate students in America	Videos	LMS	Group works	Instructor-based assessment	Paper-based documents	None
25	Yildirim (2017)	Computer science course for pre-service teachers in Turkey	Lecture videos, student-generated materials	Facebook	Group works, peer learning	Instructor-based assessment, peer assessment	Presentation	None
26	Ekmekci, (2017)	ELT Preparatory Writing course for undergraduate students in Turkey	Instructional videos	CMS	Self-learning	Instructor-based assessment	CMS, paper-based documents	None
27	Alharbi (2015)	Health informatics course for undergraduate students in Saudi Arabia	Content video from YouTube, online forum, quiz, Google	Whatsapp	Collaborative learning	Instructor-based assessment	Hands-on projects	None
28	Zanariah Ahmad (2017)	Engineering course for polytechnic students in Malaysia	Videos, text-based reading material, quiz	LMS	Project-based learning, Problem-based learning, simulation, group discussion	Instructor-based assessment	Group presentation	Content reflection on LMS

Table 2.4 (Continued)
Systematic Literature Review on Flipped Learning Components

29	Sohrabi and Iraj (2016)	Big data course for postgraduate students in Iran	Curated instructional videos, supplementary videos, books	LMS	Group discussion	Instructor-based assessment	Document-based assignment	None
30	Illka and Lockwood (2015)	Training writing instruction for school children among teachers	Instructional videos, podcast, supplementary videos, news links, text books	LMS	Partner-work	Peer assessment	Presentation Google Doc	None
31	Zamzami Zainuddin & Mohammad Attaran, 2015)	Research education for Postgraduate in Malaysia	Video, PowerPoint, Online forum	LMS	Group discussion, problem-based learning, quizzes	None	Presentation	N/A

2.8.1 Online Learning Resources

Flipped learning is known for its extensive use of recorded videos. Based on the systematic review, most of the studies utilize different types of videos – instructional videos (Almodaires et al., 2018; Blau & Shamir-Inbal, 2017; Chen et al., 2015; Ekmekci, 2017; Fazilawati Harun & Supyan Hussin, 2017; Foldnes, 2016; Hayashi, Fukamachi, & Komatsugawa, 2015; Hsieh et al., 2016; Illka & Lockwood, 2015; Killian & Woods, 2018; Kim, Park, Jang, & Nam, 2017; Li et al., 2013; Liao, 2014; Moranski & Henery, 2017; Nouri, 2016; Nwosisi et al., 2016; Pugsee, 2018; Rafiza Abdul Razak et al., 2016; Wahindah Suhari et al., 2015; Yildirim, 2017; Yoshida, 2016; Zamzami Zainuddin, 2017; Zanariah Ahmad, 2017), curated supplemental videos (Alharbi, 2015; Balzotti & McCool, 2016; Illka & Lockwood, 2015; Siti Hajar Halili & Sumathy Ramas, 2018; Sohrabi & Iraj, 2016), student-generated videos (Hsieh et al., 2016) and online video conference (Blau & Shamir-Inbal, 2017). Besides that, audio including Podcast is also being used in the reviewed studies (Hsieh et al., 2016; Killian & Woods, 2018; Rafiza Abdul Razak et al., 2016; Zamzami Zainuddin, 2017).

Text-based documents are also found to be used in the studies reviewed (Anderson, 2007; Liwen Chen et al., 2015b; Hayashi et al., 2015; Hsieh et al., 2016; Illka & Lockwood, 2015; M. Kim et al., 2016; Li et al., 2013; Liao, 2014; Nwosisi et al., 2016; Sherina Shahnaz Mohamed Fauzi & Raja Maznah Raja Hussain, 2016; Sohrabi & Iraj, 2016; Zamzami Zainuddin, 2017; Zanariah Ahmad, 2017). Slides are also being used as learning resources as stated in Almodaires et al., (2018); Killian and Woods (2018); Pugsee (2018); Sherina Shahnaz Mohamed Fauzi and Raja Maznah Raja Hussain (2016); Wahindah Suhari et al., (2015). Online discussions or forum are also being included as learning resources on the reviewed literature on flipped learning (Alharbi, 2015; Foldnes, 2016; Li et al., 2013; Rafiza Abdul Razak et al., 2016; Sherina

Shahnaz Mohamed Fauzi & Raja Maznah Raja Hussain, 2016). Hyperlinks are also listed as learning resources of flipped learning (Almodaires et al., 2018; Illka & Lockwood, 2015; Killian & Woods, 2018; Li et al., 2013). In addition to hyperlinks, Google is also being used as a learning resource, in which students have been instructed to conduct some online research on specific topics, for example, in Alharbi (2015). Besides that, photos were also being utilized as in Killian and Woods (2018). As for the web-based platforms and tools- most of them are collaborative in nature with Fazilawati Harun and Supyan Hussin (2017) explored Padlet for their flipped learning session, Rafiza Abdul Razak et al., (2016) used WebQuest, and Hayashi et al. (2015) utilized online courseware.

2.8.2 Online Learning Platform

Various types of learning platforms are used as described in the reviewed articles. Some quarters used myriad platform choices and making use of multi-platforms on their studies. The researcher identified four main learning platforms used in the studies: the Learning Management System (LMS), Messenger applications, social media technology and the web-based platform.

Based on the systematic literature review, most of the study utilized Learning Management System (LMS) provided by their institutions (Balzotti & McCool, 2016; Liwen Chen et al., 2015a; Foldnes, 2016; Hayashi et al., 2015; Illka & Lockwood, 2015; M. Kim et al., 2016; Pugsee, 2018; Siti Hajar Halili & Sumathy A/P Ramas, 2018; Sohrabi & Iraj, 2016; Yoshida, 2016; Zanariah Ahmad, 2017). Specifically in studies by Nwosisi, Ferreira, Rosenberg, and Walsh, (2016), Nouri (2016) and Blau and Shamir-Inbal (2017), they utilized open-source LMS –Moodle; whilst Pugsee (2018) experimented with cloud-based LMS. In the Ekmekci (2017), the Content

Management System (CMS) was used, which has a broader scope for disseminating information and knowledge compared to LMS.

Other than the Learning Management System (LMS), researchers and educators also experimented with social media and its tools. Messaging is one of the most popular tools in social media. One of the popular messaging applications is Whatsapp and was used in their studies by Fazilawati Harun and Supyan Hussin (2017), Almodaires, Alayyar, Almsaud, and Almutairi, (2018) and Alharbi (2015) in their studies. In addition, Fazilawati Harun and Supyan Hussin (2017) also utilized Telegram whilst Hsieh, Wu, and Marek (2016) were experimenting with the LINE messaging application. The choice of these messaging applications is highly dependent on the number of users in the local areas.

In addition, the increasing popularity of media technology in social media also has an impact on the way people interact. Facebook is one of the most popular social networking sites on social media with 2.38 billion monthly users worldwide (Statista, 2019). Based on the reviewed literature, Facebook is being utilized as a learning platform on flipped sessions in studies by Li, Lou, Tseng, and Huang (2013), Liao (2014), Pugsee (2018); Sherina Shahnaz Mohamed Fauzi and Raja Maznah Raja Hussain (2016) and Yildirim (2017).

Meanwhile for web-based platform, blog is being utilized in language learning (Wahindah Suhari et al., 2015; Zamzami Zainuddin, 2017). Besides, Google Apps for education is also being employed as in Anders (2016); and Blau and Shamir-Inbal (2017). Nwosisi et al. (2016) were also utilizing PacketTracker – an application catering engineering education meanwhile Wahindah Suhari et al. (2015) used Slideshare. Rafiza Abdul Razak et al. (2016) experimented with web-based application WebQuest as a learning platform.

2.8.3 Face-to-Face Learning Activities

The next component of flipped learning is a learning activity. Most learning activities are group-based activities such as group discussion (Balzotti & McCool, 2016; Blau & Shamir-Inbal, 2017; Chen et al., 2015a; Fazilawati Harun & Supyan Hussin, 2017; Hsieh et al., 2016; Li et al., 2013; Liao, 2014; Moranski & Henery, 2017; Pérez et al., 2019; Sohrabi & Iraj, 2016; Wahindah Suhari et al., 2015; Yildirim, 2017; Zanariah Ahmad, 2017), group works (Almodaires et al., 2018; Killian & Woods, 2018; Moranski & Henery, 2017; Yildirim, 2017) and pair works (Hsieh et al., 2016; Illka & Lockwood, 2015; Li et al., 2013; Nouri, 2016). However, some studies still carry out individual activities, such as Ekmekci (2017), Foldnes (2016) and Nwosisi et al. (2016).

Demonstration is being conducted in a flipped learning session by Li et al. (2013)- in which the instructor demonstrated the application of technology tools to their lessons. Debate and simulation were also conducted in a flipped learning as in Zanariah Ahmad (2017) . Peer teaching was employed in studies by Alharbi (2015) and Killian and Woods, (2018). In a study involving the professional development of an English teacher, Rafiza Abdul Razak et al. (2016) applied micro-teaching and hands-on activities as learning activities.

It is also found that most of the reviewed literature showed collaborative learning has been practiced on the flipped learning sessions (Alharbi, 2015; Anders, 2016; Blau & Shamir-Inbal, 2017; Hayashi et al., 2015; Hsieh et al., 2016; M. Kim et al., 2016; Nwosisi et al., 2016; Pugsee, 2018; Sherina Shahnaz Mohamed Fauzi & Raja Maznah Raja Hussain, 2016; Yoshida, 2016). Cooperative learning has also been implemented as the basis of a flipped learning session (Liwen Chen et al., 2015; Foldnes, 2016). However, study by Ekmekci (2017) applied self-directed learning

strategy. Besides that, several reviewed studies showed that active learning has also being employed (Blau & Shamir-Inbal, 2017; Nouri, 2016; Pugsee, 2018; Zamzami Zainuddin, 2017; Zanariah Ahmad, 2017). Last but not least, authentic learning is also being employed by Kim et al. (2016) and Killian and Woods (2018). Siti Hajar Halili and Sumathy Ramas (2018) stated that they utilized 21st century learning approach with multiple learning strategies and activities. One of the popular learning strategy is project-based learning. Based on the conducted SLR, several reviewed studies employed project-based learning on their flipped learning (Nouri, 2016; Nwosisi et al., 2016; Sherina Shahnaz Mohamed Fauzi & Raja Maznah Raja Hussain, 2016; Yoshida, 2016; Zanariah Ahmad, 2017). Another similar strategy is a problem-based learning is also found to be practiced in a study by Kim et al. (2016) and Zanariah Ahmad, (2017).

2.8.4 Assessment

Based on the reviewed literature, almost all of the studies implemented instructor/teacher-based assessment (Alharbi, 2015; Almodaires et al., 2018; Anders, 2016; Balzotti & McCool, 2016; Blau & Shamir-Inbal, 2017; Chen et al., 2015b; Ekmekci, 2017; Foldnes, 2016; Hayashi et al., 2015; Hsieh et al., 2016; Killian & Woods, 2018; M. Kim et al., 2016; Li et al., 2013; Liao, 2014; Moranski & Henery, 2017; Nouri, 2016; Nwosisi et al., 2016; Pérez et al., 2019; Pugsee, 2018; Rafiza Abdul Razak et al., 2016; Sherina Shahnaz Mohamed Fauzi & Raja Maznah Raja Hussain, 2016; Siti Hajar Halili & Sumathy A/P Ramas, 2018; Sohrabi & Iraj, 2016; Wahindah Suhari et al., 2015; Yildirim, 2017; Yoshida, 2016; Zamzami Zainuddin, 2017; Zanariah Ahmad, 2017) with the exception of one study by Illka & Lockwood (2015) in which only peer reviews were conducted.

Besides instructor-based assessment, often the practitioners or researchers employed it together with peer assessment (Anders, 2016; Blau & Shamir-Inbal, 2017; Killian & Woods, 2018; Li et al., 2013; Liao, 2014; Pérez et al., 2019; Sherina Shahnaz Mohamed Fauzi & Raja Maznah Raja Hussain, 2016; Yildirim, 2017; Yoshida, 2016). A single study by Hsieh et al. (2016) used both instructor-based assessment and group-based assessment on their flipped learning session.

2.8.5 Medium of Publishing

Medium of publishing is a platform of publishing learning outcomes from the flipped sessions. Paper-based medium of publishing such as note books and paper worksheets were utilized in several reviewed studies (Balzotti & McCool, 2016; Chen & Chuang, 2016; Ekmekci, 2017; Foldnes, 2016; Li et al., 2013; Liao, 2014; Moranski & Henery, 2017; Siti Hajar Halili & Sumathy A/P Ramas, 2018; Zamzami Zainuddin, 2017).

Exploiting the online digital platform, variety of platforms are used for flipped learning such as blogging site (Wahindah Suhari et al., 2015; Zamzami Zainuddin, 2017), Facebook (Li et al., 2013; Liao, 2014), Google Doc (Anders, 2016; Illka & Lockwood, 2015), Learning Management Site (LMS) (Blau & Shamir-Inbal, 2017; Hayashi et al., 2015; Pugsee, 2018), Content Management Site (CMS) (Ekmekci, 2017), messaging application (Hsieh et al., 2016), and Socrative application (Nouri, 2016)

Besides that, real-time platform such as live presentation (Almodaires et al., 2018; Balzotti & McCool, 2016; Illka & Lockwood, 2015; Li et al., 2013; Pérez et al., 2019; Rafiza Abdul Razak et al., 2016; Sherina Shahnaz Mohamed Fauzi & Raja

Maznah Raja Hussain, 2016; Yildirim, 2017; Yoshida, 2016; Zanariah Ahmad, 2017), and demonstration (Killian & Woods, 2018) are also used in the reviewed studies.

2.8.6 Reflection

Reflection is a new component that is not often associated with a flipped learning model. Until recently, researchers and practitioners exploring the goodness of reflection to be embedded in their flipped sessions.

Based on the reviewed literature, reflection is conducted on knowledge acquisition (Anders, 2016; Hsieh et al., 2016; Li et al., 2013; Sherina Shahnaz Mohamed Fauzi & Raja Maznah Raja Hussain, 2016; Zanariah Ahmad, 2017) and learning experiences during flipped learning sessions (Balzotti & McCool, 2016; Li et al., 2013; Rafiza Abdul Razak et al., 2016; Sherina Shahnaz Mohamed Fauzi & Raja Maznah Raja Hussain, 2016; Siti Hajar Halili & Sumathy Ramas, 2018).

When it comes to a medium of reflection, several works explored digital-based platforms as follows- Learning Management System (LMS) (Zanariah Ahmad, 2017) Facebook (Sherina Shahnaz Mohamed Fauzi & Raja Maznah Raja Hussain, 2016), WebQuest (Rafiza Abdul Razak et al., 2016), Google Docs (Anders, 2016), VLE Frog (Siti Hajar Halili & Sumathy A/P Ramas, 2018), and LINE (Hsieh et al., 2016). Besides that, analogue mediums were also utilized such as oral session as in Balzotti and McCool (2016) and Li et al. (2013) and journal as in Rafiza Abdul Razak et al. (2016).

2.8.7 Discussion on Systematic Literature Review

The findings of the systematic literature review identified the sub-components used in the cited flipped learning papers. Recent flipped practices showed different

types of learning resources used in the study compared to the earlier flipped version. The majority of the review used video for their flipped implementation. There are several factors contributing to this result- video is deemed as the preferred resource among youngsters (Pew Research Centre, 2019) and the free-access videos for educational purposes on number of sites such as Youtube and Ted, reduces preparatory works among the teachers. In addition to that, video offers ubiquitous features on learning, whereas students can access the instructional videos outside the classroom sessions (Common Sense, 2015).

As for the learning platform, majority of the reviewed studies utilized Learning Management System (LMS) including Content Management System (CMS) on their flipped sessions. This could be due to the guidelines on the implementation of digital learning and the requirement for the compulsory use of the official platform provided by the institutions as in Malaysia (Ministry of Education, 2013). Other than that, social media technology is also being used as a learning platform, although there are mixed reactions to it. The choice of social media platform is highly influenced by the accessibility and that includes the government policy on the technology utilization (Sabate, Berbegal-Mirabent, Cañabate, & Lebherz, 2014). For example, in China- the use of Facebook and Google are restricted due to government policy. Thus, local-based social media platform is more preferable to be utilized in that country. Apart from that, use of messaging application is largely dictated by the numbers of users at the country.

For the face-to-face learning session, most of the learning activities involve group-based tasks. The blooms of IR4.0 demands fresh approach on learning; shifting from teacher-based to student-based approach (World Economic Forum, 2017). This explains why the active and collaborative approach were largely implemented during the face-to-face session. This is also applicable for assessment component where the

traditional educator-based assessment still a dominant player and peer-based assessment is uprising option.

2.9 Summary

This chapter is segmented into several discussions on collaborative approach in education and narrowed down to Malay language education. The researcher also synthesized sizeable studies on technology in writing including Malay language writing. Besides, systematic literature review was conducted to assess the impacts of flipped learning besides identifying the elements and sub-elements of the flipped instruction. The findings were later synthesized and literature base for this study was established.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter discussed the research design- Design and Development (DDR), implementation of ASSURE Instructional Design Model, details on each phases of Design and Developmental Research- which includes models, methods, samples, procedures, instruments, reliability and validity issue, data collection, and data analysis.

3.1 Research Design

Design and Development Research (DDR) is defined as follows;

The systematic study of design, development and evaluation process with the aim of establishing an empirical basis for the creation of instructional and non-instructional products and tools and new or enhanced models that govern development (Richey & Klein, 2014, p.15)

It is also classified as Developmental Research (Nor Aziah Alias & Sulaiman Hashim, 2012; Richey & Klein, 2005). Developmental research aims at creating new knowledge through systematic procedures and has the function of creating generalizable conclusions or producing context-specific knowledge that has served as a problem-solving function (Richey & Klein, 2005). Richey and Klein (2014) also stated that design and development research involves the design, development and evaluation of a specific process.

There are several types of methods use on Design and Development Research including case studies, experimental research, and evaluative research (Richey & Klein, 2014). Design and Development Research allows utilizing multiple methods

and classified into two major types. Table 3.1 summarized the types of Design and Development Research based on works by Richey, Klein, and Neilson, (2004); and Richey and Klein (2014).

Table 3.1
Type of Design and Development Research (DDR)

	Type 1	Type 2
Focus	Design, development and evaluation of the specific products/ prototypes	Design, development and evaluation of model.
Products	Comprehensive products/ prototype design and development, phases of design and development, products development and use	Model development, model validation, model use
Research Methods	Case study, content analysis, evaluation, observation, in-depth interview, survey expert review	Case study, in-depth interview, literature review, survey, think-aloud methods, experimental
Conclusion	Context specific	Generalized

Design and Development Research with ASSURE instructional design model is a research design used for this study. Richey and Klein (2005) stated that Design and Development Research varied in terms of its types and extensive documentation of instructional system design (ISD) integration on Design and Development Research were also observed. Several studies in local context are also found to adopt the integration of Design and Development Research and instructional design model (Amani Dahaman, 2014; Chin Hai Leng, 2009; Lai Lee Chung, 2017; Nazeera Ahmad Bazari, 2017; Zanariah Ahmad, 2017). This study is categorized as type 1 with the focus is on design, development and evaluation of the prototype. It is also described as a research with context-specific knowledge that aimed to solve problems as stated in the very first chapter of this thesis (Richey & Klein, 2005).

Design and Development Research comprised of three phases-Needs Analysis Phase, Design and Development Phase, and Implementation and Evaluation Phase. The needs analysis was carried out in phase one, while the design and development of the module were completed in phase two. Phase three involved an implementation and evaluation of the instructional module and usability test was carried out during this phase. The integration of ASSURE Instructional System Design is based on the phases of research. 'Analysis' was carried out in phase one. 'State,' 'Select' and 'Utilize' processes have been completed in the second phase, while 'Require' and 'Evaluate' processes have been completed in phase three.

The needs analysis is carried out in phase one and the researcher has adapted the needs analysis model by Fink (2003) to guide the process through three methods- interview , survey and document analysis. Design and development are carried out in the second phase. There were three models adapted – collaborative learning model from Paavola & Hakkarainen, (2014), writing instruction model from Flower & Hayes (1981), and flipped learning design model from Lee et al. (2017). Based on the flipped learning instructional design model by Lee et al., (2017), the components and sub-components of Collaborative Flipped Instruction for Form One Malay Language Writing were identified through systematic literature review and followed by experts' interviews for inter-rater agreement. Based on the results, Fuzzy Delphi Method questionnaire was then developed and validated by two experts before being administered to 18 experts through Fuzzy Delphi Method round sessions. Upon completion of the design phase, the researcher developed an alpha version of the Collaborative Flipped Instruction for Form One Malay Language Writing. The instructional module was then implemented and usability testing model by Chai &

Chen (2004) had been adapted. Figure 3.1 illustrated the research framework of this study.

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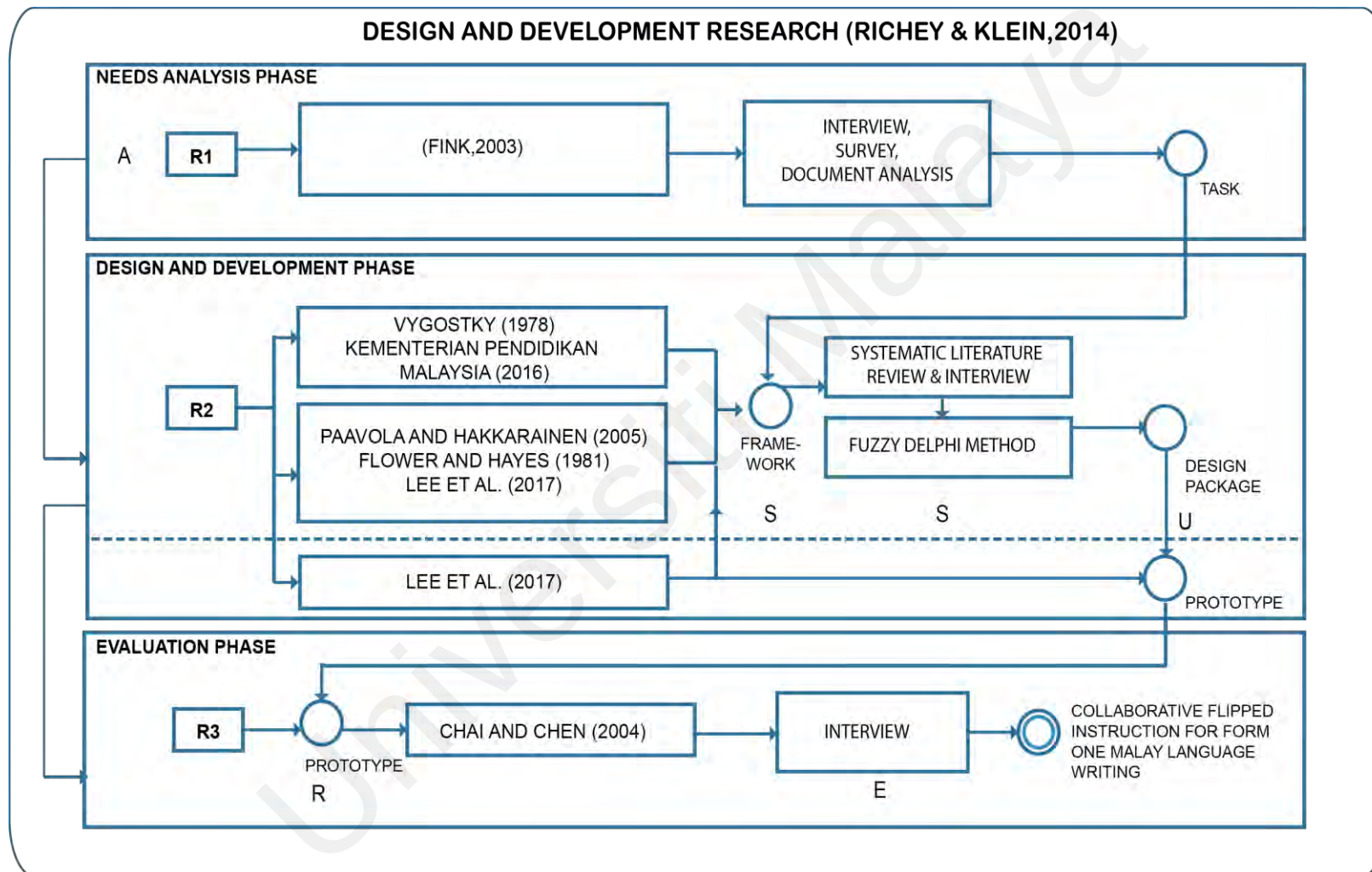


Figure 3.1. Research framework of the study

3.2 Research Procedures

There were four phases of research procedures- pre-research, phase one: needs analysis, phase two: design and development and phase three: implementation and evaluation. The research procedures started on December 2016 by obtaining permission to conduct research and completed by 12th March 2018 with members' checks on the interview transcripts. Table 3.2 listed the details of the procedure.

Table 3.2
Procedures of the Study

Phase	Task	Date	Target
Pre-Research	Permission to conduct research	Dec 2016 – Sept 2018	University of Malaya, Educational Planning and Research Division (EPRD), State Education Department (Selangor and Kuala Lumpur)
	Systematic Literature Review	June 2016-May 2017	Databases and four experts
	Expert validation	Apr 2017	Experts
	Pilot test	9 th May 2017	Thirty-one students from SMK1, Selangor
	Established rapport with respondents and preparation for conducting research	10 th May 2017	Administrator from SMK2, Kuala Lumpur
	Established rapport with respondents	12 th May 2017	Administrator, teacher and students from SMK2, Kuala Lumpur
Phase One	Survey	25 th May 2017	Eighty seven students from SMK2, Kuala Lumpur
	Document analysis	25 th May 2017	Seven artifacts from students of SMK2, Kuala Lumpur
	Interview	26 th May 2017	Two teachers SMK2, Kuala Lumpur

Table 3.2 (Continued)
Procedures of the Study

Phase Two	Interview for developing FDM questionnaire	26 th – 30 th May 2017	Four experts
	Development of FDM questionnaire	3 rd - 19 th June 2017	The researcher
	Validation of FDM questionnaire	20 th –22 nd June 2017	Two experts
	FDM sessions	10 th July- 24 th Sept 2017	Eighteen experts
	Module development	25 th Sept- 1 st Dec 2017	The researcher, the talents
	Validation of module	1 st -15 th Dec 2017	Two experts
Phase Three	Teacher's training	17 th -23 rd Jan 2018	Teachers from SMK2, Kuala Lumpur
	Obtained permission from parents of students	23 rd Jan 2018	Thirty one students and parents of SMK2, Kuala Lumpur
	Implementation of Collaborative Flipped Instruction for Form One Malay Language Writing	26 th Jan- 9 th Feb 2018	Thirty one students and a teacher of SMK2, Kuala Lumpur
	Evaluation of Collaborative Flipped Instruction for Form One Malay Language Writing	9 th - 12 th Feb 2018	Seven students and a teacher of SMK2, Kuala Lumpur
	Members' check	12 th March 2018	Seven students and a teacher of SMK2, Kuala Lumpur

3.3 Systematic Literature Review

One rigorous way to identify gaps in terms of domains and methods on flipped instruction is through the conduct of systematic literature review. It provides us with high validity and reliability findings with empirical-based findings on components and

sub-components of Collaborative Flipped Instruction for Form One Malay Language Writing. In this study, systematic literature review was conducted to identify gaps on flipped learning research and sub-components of Collaborative Flipped Instruction for Form One Malay Language Writing based on the scientific and evidence-based studies. Hayrol Azril Mohamed Shaffril, Krauss, & Samsul Farid Samsuddin (2018) described systematic literature review as;

Examination of a clearly formulated question that uses systematic and explicit methods to identify, select and critically appraise relevant research and to collect and analyze data from the studies that are included on the review (p.684).

In this study, four stages of systematic review processes— identification, screening, eligibility and quality assessment were implemented. It also includes report on review protocol and data abstraction with analysis specifically under systematic literature review method.

The researcher retrieved 695 abstracts based on search strings from multiple databases and 11 documents were excluded for duplicate issues after the screening process. Afterwards, the researcher found that 254 of the 684 documents were eligible for review. With the specific exclusion and inclusion criteria during the eligibility stage, only 33 documents remained after the full papers had been thoroughly reviewed by the researcher. Subsequently, the researcher carried out a quality assessment with four experts to review the selected articles and removed two articles. Finally, the review process concluded with 31 articles as final selections. The following sub-chapters will be discussed in detail on the systematic review of literature – identification, screening, eligibility and quality assessment. Figure 3.2 illustrates the systematic review process.

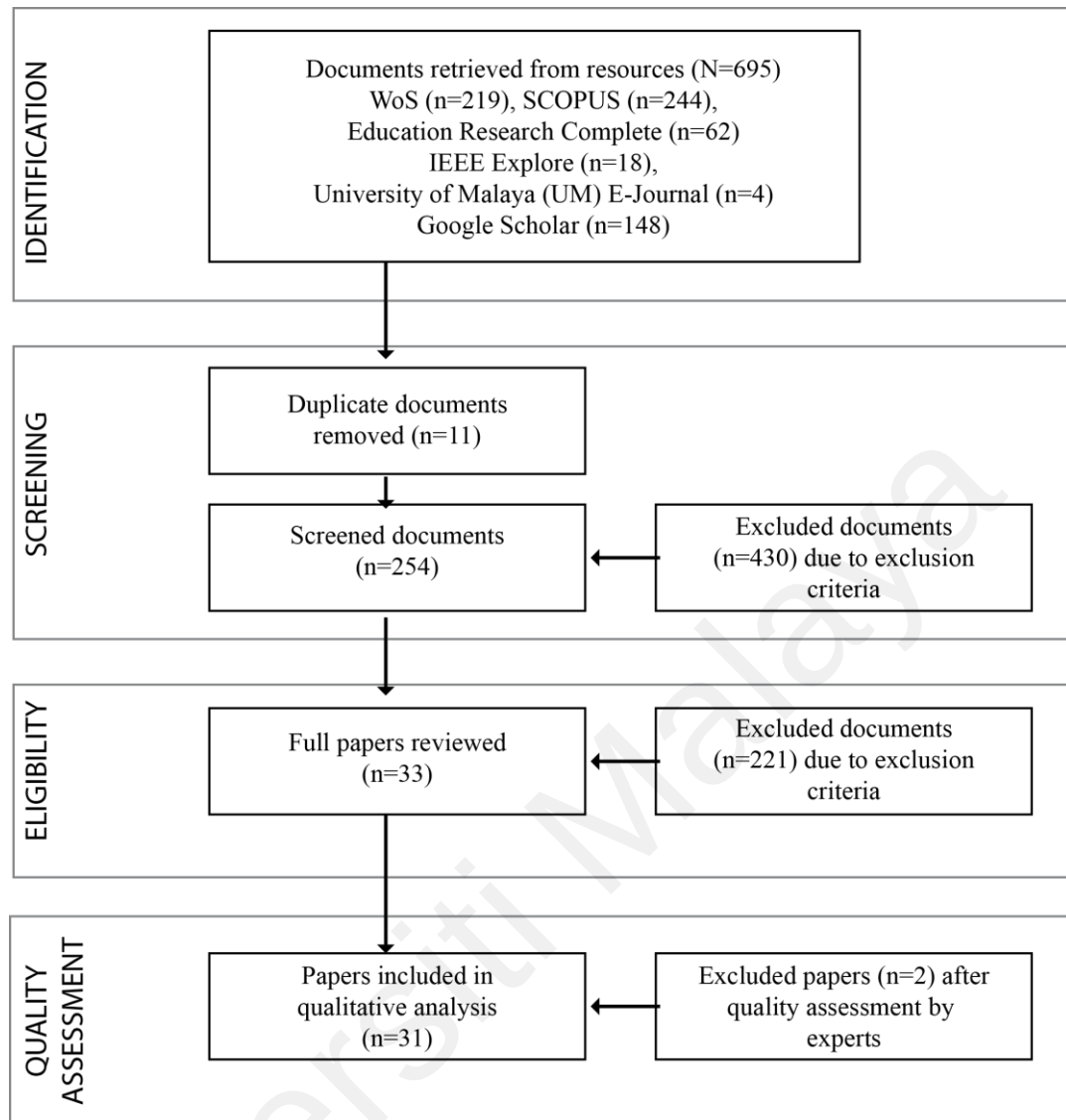


Figure 3.2. The Systematic Literature Review process

3.3.1 The Review Protocol

In this study, the researcher adapted Evidence-Informed Management Knowledge Review Protocol by Tranfield et al.,(2003) to guide the review. This review protocol was chosen on the basis of its specific function to meet the needs of the social sciences and humanities review. It recognizes a broader coverage of the types of documents accepted for review – including websites, unpublished works and conference proceedings (Durach, Kembro, & Wieland, 2017; Tranfield et al., 2003). Besides, this protocol does not restrict its acceptance of the type of work reported – it

also accepts non-experimental work compared to medical and science-based protocols such as PRISMA (Tranfield et al., 2003).

3.3.2 Identification and Screening

This study extended its database resources beyond Web of Science (WoS) and SCOPUS, hence we explored EBSCO (Education Research Complete), IEEE Explore, Google Scholar and UM E-Journal. Identification process involved a process of identifying keywords related to the planned review. In this study, the researcher used different combinations of keywords both in English and Malay - flipped classroom, flipped learning, flipped instruction, *pengajaran berbalik* and *kelas berbalik*. Eventually, the researcher used three types of search strings- phrase searching, Truncation and, Boolean Operators in order to identify the relevant documents as listed in Table 3.3.

Table 3.3
The Search String of the Review

Database (Resource)	Keywords used
Web of Science (WoS)	TS=(flipped*AND language)
SCOPUS	TITLE-ABS-KEY ("flipped*" AND language)
Google Scholar	"flipped classroom for language learning" "flipped learning for language learning" "flipped instruction for language learning" " <i>pengajaran berbalik</i> " " <i>kelas berbalik</i> " "flipped classroom" AND "Malay language" "flipped learning" AND "Malay language" "flipped instruction" AND "Malay language"
Education Research Complete (EBSCOHst)	SU "flipped*" AND "language learning"
IEEE Explore	"flipped*"AND "language"
UM E-Journal	"flipped*"

3.3.3 Eligibility

Eligibility process is a manual process done by the researcher in order to include or exclude the screened articles collated during the identification and screening process. Although there is no fixed requirement on type of criteria, Okoli (2015) stated that the most important judgment on selecting the criterion that it should be reasonable and defensible criterion. Table 3.4 listed the inclusion and exclusion criteria.

Table 3.4
Inclusion and Exclusion Criteria

Criterion	Inclusion	Exclusion
Publication timeline	2015-2018	2015 and before
Document type	Journal article, conference proceeding	Reviewed article, chapter in book
Language	English and Malay	Non-English, Non-Malay
Nature of the Study	• Focus on design and development of flipped instruction • Details on flipped learning components	No detail on flipped learning components
Content	Focus on language learning	Not focus on language learning

3.3.4 Quality Assessment

Quality assessment is carried out through a structured interview with four experts. The experts came from both the field of practice and research. Two of the experts are language teachers from national public-funded schools, while the remaining two are academics from the fields of language education and technology and online learning. The criterion for selecting a panel of experts is based on the following criteria: having a doctorate in the relevant field and/or professional working experience of more than 10 years in the relevant field.

The researcher used percent agreement technique with two values: 1 and 0 to measure inter-rater reliability (McHugh, 2012). First, the researcher calculated the percentage of value 1 over the number of all rates for each of the variables. Only variables with score over 75% for inter-rater reliability were accepted and based on that calculation, two articles which scored 50% respectively were excluded. The following quality assessment criteria were used during structured interview with the experts.

1. Are the components listed appropriate for the module development?
2. Are the sub-components for learning resources appropriate for the research?
3. Are the sub-components for learning platform appropriate for the research?
4. Are the sub-components for learning activities appropriate for the research?
5. Are the sub-components for learning assessment appropriate for the research?
6. Are the sub-components for medium of publishing appropriate for the research?
7. Are the sub-components for reflection session appropriate for the research?

3.3.5 Data Abstraction and Analysis

The full papers were then thoroughly read, synthesized and resulted several themes and sub-themes emerged. The researcher used thematic analysis for review

analysis. The findings and discussions were later reported in chapter two- literature review.

3.4 Pilot Test

Before the pilot test, two experts in Malay Language Learning and Educational Technology from public universities in Malaysia validated the questionnaires in terms of-face validity and constructs validity; in addition to the interview and document analysis protocol.

Pilot test was conducted between 31 Form One students of the national high school-Sekolah Menengah Kebangsaan 1 (SMK1) located in Selangor on 15th May 2017. The researcher used the Collaborative Flipped Instruction for Form One Malay Language Writing Needs Analysis Questionnaire adapted from Chin Hai Leng (2009) and Mohammed Amin Embi, Supyan Hussin, and Ebrahim Panah (2014). It analyzed the needs of students, teachers and teaching staff for Collaborative Flipped Instruction on Form One Malay Language Writing. The pilot test samples were tabulated in Table 3.5.

Table 3.5
Methods and Samples in Pilot Test

Methods	Samples
Expert validation	Two experts on Malay language learning and educational technology from university in Malaysia
Survey	Thirty-one Form One students from Sekolah Menengah Kebangsaan 1 (SMK1) in Selangor

There are six constructs being measured for their reliability using the Cronbach's Alpha coefficient- writing skills, teaching strategies, learning strategies, online skill, video-based learning skill, and online discussion skill. The recommended

reliability acceptance level is above .5 for group of 25-50 respondents as suggested by David in Peterson (2013,p.382).

The overall reliability (Cronbach's α) of the instrument is .84. The reliability (Cronbach's α) of the writing skills is .81. Besides, construct of teaching strategies measured at .61 compared to learning strategies reliability (Cronbach's α) is .83. For online skills it is .80, video-based learning skills is .83 and online discussion skills is .77.

3.5 Phase One: Needs Analysis

Needs analysis phase is the important component in designing the instruction. The analysis phase is not equally emphasized by the practitioner in the early years of instructional design field (Roblyer, 2006). However, the demand for student-centric learning environments only recently; promotes the importance of the analysis phase, which involves an analysis of the needs of students , teachers and pedagogy (Levy, 1997). This phase is intended to answer the first research question: What are the needs of Collaborative Flipped Instruction for Form One Malay Language Writing? Several methods were used to seek answers for the specific first research questions-

- i. What are the needs of the teachers in Collaborative Flipped Instruction for Form One Malay Language Writing?
- ii. What are the needs of the students in Collaborative Flipped Instruction for Form One Malay Language Writing?
- iii. What are the needs in terms of content in Collaborative Flipped Instruction for Form One Malay Language Writing?

- iv. What are the needs in terms of technology and infrastructure in Collaborative Flipped Instruction for Form One Malay Language Writing?

The Integrated Course Design Model (Fink, 2003) was adapted on this phase to guide the needs analysis phase. In this phase, the researcher employed three methods to answer the research questions – interview, survey, and document analysis. Teachers' interview was attempted to answer Research Question (RQ) 1 (I-IV) meanwhile, survey was conducted to answer RQ1 (II-IV). Document analysis involving the writing artifacts was aimed to answer RQ 1 (II&III) whilst writing scores was aimed to answer RQ1 (II). Figure 3.3 illustrated the flowchart of the needs analysis phase.

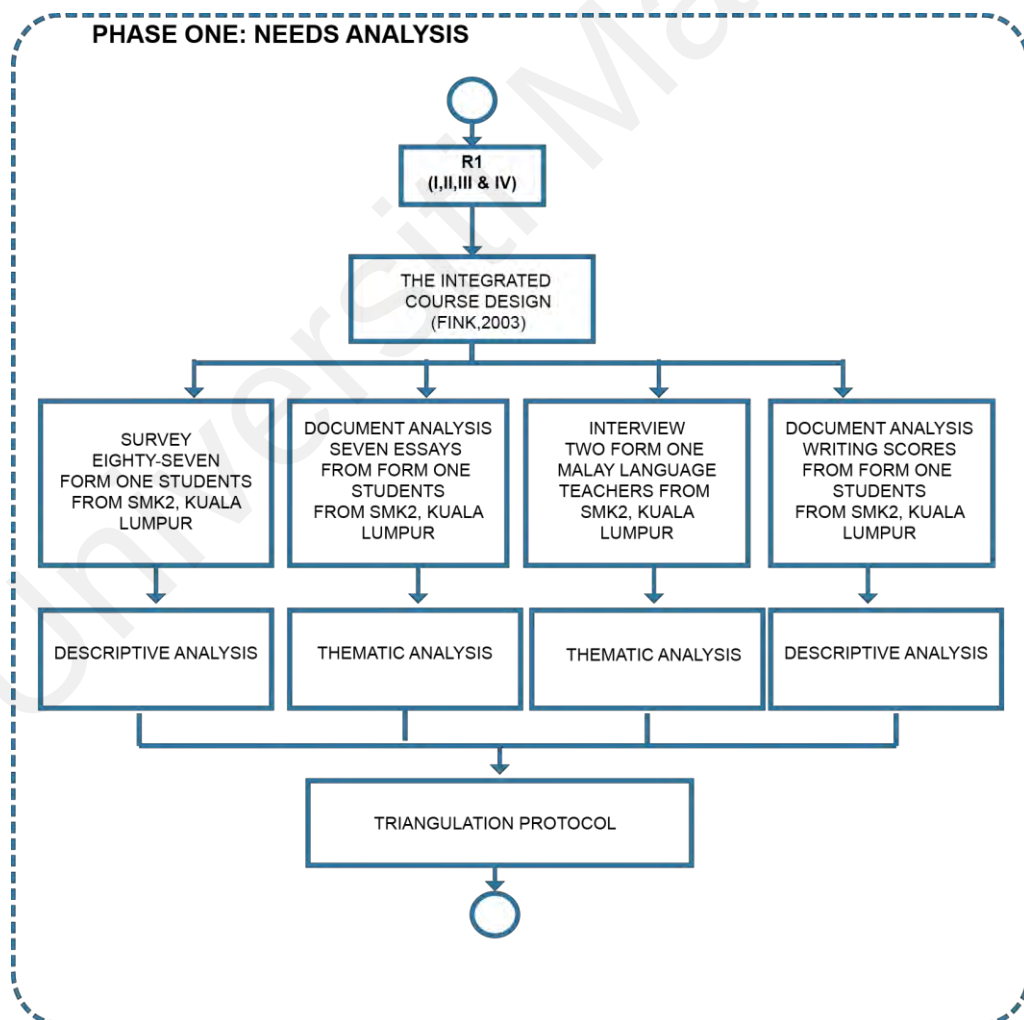


Figure 3.3. The Needs Analysis phase research flow

3.5.1 Methods

There were three methods employed in this phase. Survey among the students, interview with the teachers and document analysis were the methods applied to answer the research question. The use of multiple methods helped the researcher to triangulate the findings thus levelling up the trustworthiness of the data (Richey & Klein, 2005).

Survey is conducted to gather perceptions and demographic information from larger number of respondents. It is important to understand the general situation of the local context of the research area. Survey is conducted to gather perceptions and demographic info from larger number of respondents. It is important to understand the general situation of the local context of the research area. The researcher opted this method for its advantage of reducing cost and time-effective on reaching larger samples which involved demographics and personal topics (Nardi, 2018).

In this study, the interview is conducted in face-to-face session. Interview is selected due to its capability of producing rich background information on the relevant issues (Miles & Huberman, 1994). Understanding the background of the locale context from the perspective of the teachers, a persona who spend most of the time with the students and school setting is capable to provide deeper understanding on the situation and discrepancy between needs and wants. Besides, semi-structured interview allows data to be analysed using thematic analysis (Alvarez & Urla, 2002).

Document analysis was employed due to its advantage on providing background information especially on the writing skills and competency in the context of this study. The 'mute' artifacts offered hidden evidences on the writing and documented the progress of the writer. Besides that document analysis often positioned as a supplementary evidences on triangulating the data (Bowen, 2009).

3.5.2 Samples

A purposive sampling is used and respondents are drawn based on the accessibility to technology and internet connection. Purposive sampling is selected to meet the criteria of the study and gain rich information from the local context to understand the situation (Richey & Klein, 2014). Besides, sampling on Design and Development Research is also aimed for localized feasibility means that the sampling should be practical on understanding the local context and setting of the study. It is also important for research pertaining to design and development of instructional module, to emphasize on situational condition- in which every learning environment is unique and based on the specific needs (Fink, 2003).

In this study, Sekolah Menengah Kebangsaan 2 (SMK2), a national secondary school in Kuala Lumpur, was selected due to its location in capital city of Malaysia- Kuala Lumpur. This study required high connectivity to Internet and Kuala Lumpur was chosen due to its status as urban area. The data released by Malaysian Communication and Multimedia Commission (2018), 70% of internet access came from urban area compared to only 30% came from rural areas. Thus, it is really important to ensure connectivity in order to eliminate any possibility of homework gap that might be occurred due to this imbalanced ratio of internet users (Meyer, 2016).

There were four sampling sets involved during needs analysis phase. Eighty-seven Form One students from Sekolah Menengah Kebangsaan 2 (SMK2) in Kuala Lumpur involved in the survey. They were chosen due to the facts that they are the first cohort of secondary school students who received the new curriculum, *Kurikulum Standard Sekolah Menengah* (KSSM) by the year 2017. Meanwhile, two Form One Malay language teachers from the same school were interviewed in a semi-structured interview session.

As for document analysis, seven essays written by seven Form One students from Sekolah Menengah Kebangsaan 2 (SMK2) in Kuala Lumpur were selected based on their competency on Malay language writing. Their competency were graded by their teachers as skillful (two artifacts), moderate (two artifacts) and struggling writers (three artifacts). Another set of artifacts is a set of writing scores from Form One students from Sekolah Menengah Kebangsaan 2 (SMK2) in Kuala Lumpur. Table 3.6 summarized the methods and samples on this phase.

Table 3.6
Methods and Samples in Needs Analysis

Methods	Samples
Survey	Eighty-seven Form One students from Sekolah Menengah Kebangsaan 2 (SMK2) in Kuala Lumpur
Interview	Two Form One Malay language teachers from Sekolah Menengah Kebangsaan 2 (SMK2) in Kuala Lumpur
Document Analysis	• Seven essays written by seven Form One students from Sekolah Menengah Kebangsaan 2 (SMK2) in Kuala Lumpur • Writing scores of fifty four Form One students from the two classes taught by two teacher respondents

3.5.3 Instruments

During needs analysis phase, there were three types of instruments being used. There were questionnaire, interview protocol and document analysis protocol. The researcher used Collaborative Flipped Instruction for Form One Malay Language Writing Needs analysis Questionnaire. It has demographic parts and seven constructs- writing skills, writing problems, teaching strategies, learning strategies, online skill, video-based learning skill, and online discussion skill. It was adapted from Chin Hai Leng (2009) and Mohammed Amin Embi, Supyan Hussin, and Ebrahim Panah (2014).

This questionnaire has been validated by the experts and piloted with the reliability Cronbach's α at .83.

For the interview session, semi structured interview was conducted. The researcher adapted the interview protocol from Chin Hai Leng (2009). The interview protocol consisted questions on the teacher's knowledge on Malay language writing, their current practices, issues pertaining teaching and learning Malay language writing and pedagogical needs for Collaborative Flipped Instruction for Form One Malay Language Writing. The protocol has been validated by the experts.

For the document analysis protocol, the researcher adapted the Standard Assessment for Malay language writing (Kementerian Pendidikan Malaysia, 2016b). The document analysis protocol has been validated by the experts. It covered questions pertaining needs of the students in content of Malay language writing.

3.5.4 Data Collection

Data collection sessions were completed between 25th- 26th May 2017 in SMK2 with different methods and respondents. The survey was conducted with 87 Form One students from SMK2, Kuala Lumpur on 25th May 2017. The session was conducted in the hall with the helps from two Form One teachers. Table 3.7 tabulated the data collection process.

Table 3.7
Data Collection in Needs Analysis

No	Methods	Date	Respondents
1	Survey	25 th May 2017	Eighty seven students from Sekolah Menengah Kebangsaan 2 (SMK2), Kuala Lumpur.

Table 3.7 (Continued)
Data Collection in Needs Analysis

2	Document Analysis	25 th -26 th May 2017	• Seven essays written by seven Form One students from SMK2 in Kuala Lumpur. • Writing scores of fifty four Form One students from the two classes taught by two teacher respondents.
3	Interview	26 th May 2017	Two teachers from SMK2, Kuala Lumpur

Upon completion, the researcher conducted document analysis task in a teacher's lounge. The researcher was given seven artifacts consisted of seven essays from seven Form One students at SMK2, Kuala Lumpur. The essays were selected by two senior Form One Malay language teachers with more than 20 years of teaching experiences- representing different levels of writing competencies. The school administration did not allow the researcher to bring the essays out of the teacher's lounge, but permission was given to capture them. The researcher was given until the school session ended in capturing and skimming through physical artifacts.

The next day, interview session was conducted with two Form One Malay language teachers from SMK2, Kuala Lumpur in one session. The school administrator granted half-day relief (approximately four hours) to the teacher respondents to participate in the interview session. Therefore, due to time constraints, the session must be held in one session and any interruption of pedagogy must be avoided. The interview session was held in the teacher's lounge in one and a half hours. Upon completion, the researcher continued to process documents and artifacts for the analysis of documents.

3.5.5 Data Analysis

For the needs analysis phase, the data from Collaborative Flipped Instruction for Form One Malay Language Writing Needs analysis Questionnaire and writing scores were analyzed in terms of descriptive, frequency and min using the SPSS software. Meanwhile, qualitative data – writing artifacts and interviews were analysed using qualitative approach. Eventually, the data were triangulated to generate findings from the needs analysis phase. The next sub-chapter listed the process of thematic analysis and the following sub-chapter reported the triangulation protocol adapted in this study.

3.5.5.1 Thematic Analysis

Both qualitative methods- interview and document analysis were analyzed using thematic analysis. Thematic analysis is described as a method for identifying, analyzing and reporting patterns within data (Boyatzis, 1998). Since this study pre-determined the theory and models implementation to guide the research, it is suited the deductive approach where the analysis stemming from particular theories and epistemological basis (Saldana, 2009). This study employed thematic analysis phases as suggested by (Braun & Clarke, 2008,p.87). They listed six phases on analyzing the themes- familiarizing the data, generating initial codes, searching for themes, reviewing the themes, defining and naming the themes and producing the reports on qualitative findings.

Phase one started with understanding and familiarizing with the data. During this phase, the data were transcribed, read, re-read, and listed down the initial ideas. It was done using Microsoft Word. It was then followed by phase two-generating initial codes. The initial coding was conducted across the entire data with systematic procedures using Microsoft Word. Phase three involved searching for themes from the

data. The codes were then collated and the relevant data were gathered into major themes. Since this study adapted needs analysis model (Fink, 2003), the researcher used the constructs from the model to guide the process whilst for the writing artifacts, the researcher adapted assessment guidelines by Kementerian Pendidikan Malaysia (2016b). Then, the themes were reviewed to ensure the relevancy each of the codes classified under the same themes. This phase build thematic mapping. The next fifth phase involved defining and naming themes. The ongoing analysis of the data, codes and texts were conducted simultaneously and data were thoroughly analysed in order to get the clear definition of the themes. Lastly, all the data were then reported following the scholar writing styles which includes relating to the research questions, theories or models used in the study and extracted data examples to support the arguments. The phases are tabulated in Table 3.8.

Table 3.8
Thematic Analysis Protocol

Phase	Description of the process
1. Familiarizing with data	Transcribed the data. Understanding the data by read, re-read and listed down ideas
2. Generating initial codes	Coded the data with selected keywords based on the needs analysis model used and writing competency assessment protocol
3. Searching for themes	Collated the codes into potential themes and gathered relevant data to potential theme
4. Reviewing themes	Checked the themes and relevancy with the codes
5. Defining and re-naming themes	Ongoing analysis to refine each of the themes and overall analysis and generated clear definitions and names for each themes and sub-themes
6. Producing the report	Relating the analysis with the data by embedding relevant and important extracts from it. The researcher reviewed the reports with the research questions and literature to ensure scholarly writing

All thematic analysis phases were carried out using general purpose software – Microsoft Word and Microsoft Excel, as suggested by Miles & Huberman, (1994) and La Pelle (2004). The researcher used these Microsoft products because they were cost-friendly yet efficient, since they are free to subscribe from the university. In Microsoft Word, the researcher used the command of Memo and Macro to complete phase one to three. While the remaining phases-four to six-were analyzed using Microsoft Excel, the Sort and Filter feature greatly contributed to the streaming process. Finally, all the data analyzed have been reported in Microsoft Word.

3.5.5.2 Triangulation Process

Due to various methods employed, collected data were then triangulated to ensure the convergence and dissonance of key themes. Triangulation is defined by Cohen, Manion, and Morrison (2011) as an *“attempt to map out, or explain more fully, the richness and complexity of human behavior by studying it from more than one standpoint”*. In this study, triangulation involved data triangulation, theory triangulation, and methodological triangulation. Denzin (2009) stated- data triangulation involves time, space, and person. Meanwhile, theory triangulation involves using more than one theoretical scheme in the interpretation of phenomenon. He later described methodological triangulation involves using more than one method to gather data- e.g. interviews, observation, survey.

This study adapted triangulation protocol as suggested by Farmer, Robinson, Elliott, and Eyles (2006a). Table 3.9 tabulated the triangulation protocol.

Table 3.9
Triangulation Protocol

Step	Activity
1. Sorting	Sort findings from each data source or method into similarly categorized segments that address the research questions of interest to determine areas of content overlap and divergence.
2. Convergence coding	Identify the themes from each data source. Compare the findings to determine the degree of convergence.
a. Agreement	There is full agreement between the sets of results on both elements.
b. Partial Agreement	There is agreement on one but not both components.
c. Silence	One set of results covers the theme or examples, where as the other results are silent.
d. Dissonance	There is disagreement between the sets of results on both elements of comparison.
3. Convergence assessment	Review all compared segments to provide a global assessment of the level of convergence.
4. Completeness assessment	Compare the nature and scope of the unique topic for each data source to enhance completeness.
5. Researcher comparison	Compare the assessment of convergence or dissonance and completeness of the united set of findings.
6. Feedback	Feedback of triangulated results for review and clarification.

3.6 Phase Two: Design and Development

The design and development phase is divided into two sub-phases to ensure clarity of thought. This phase is intended to answer the second research question: How Collaborative Flipped Instruction for Form One Malay Language Writing should be designed and developed in general? And specifically;

- i. What are the components and sub-components of Collaborative Flipped Instruction for Form One Malay Language Writing?

- ii. What are the consolidated experts' consensus on designing Collaborative Flipped Instruction for Form One Malay Language Writing?
- iii. How Collaborative Flipped Instruction for Form One Malay Language should be developed?

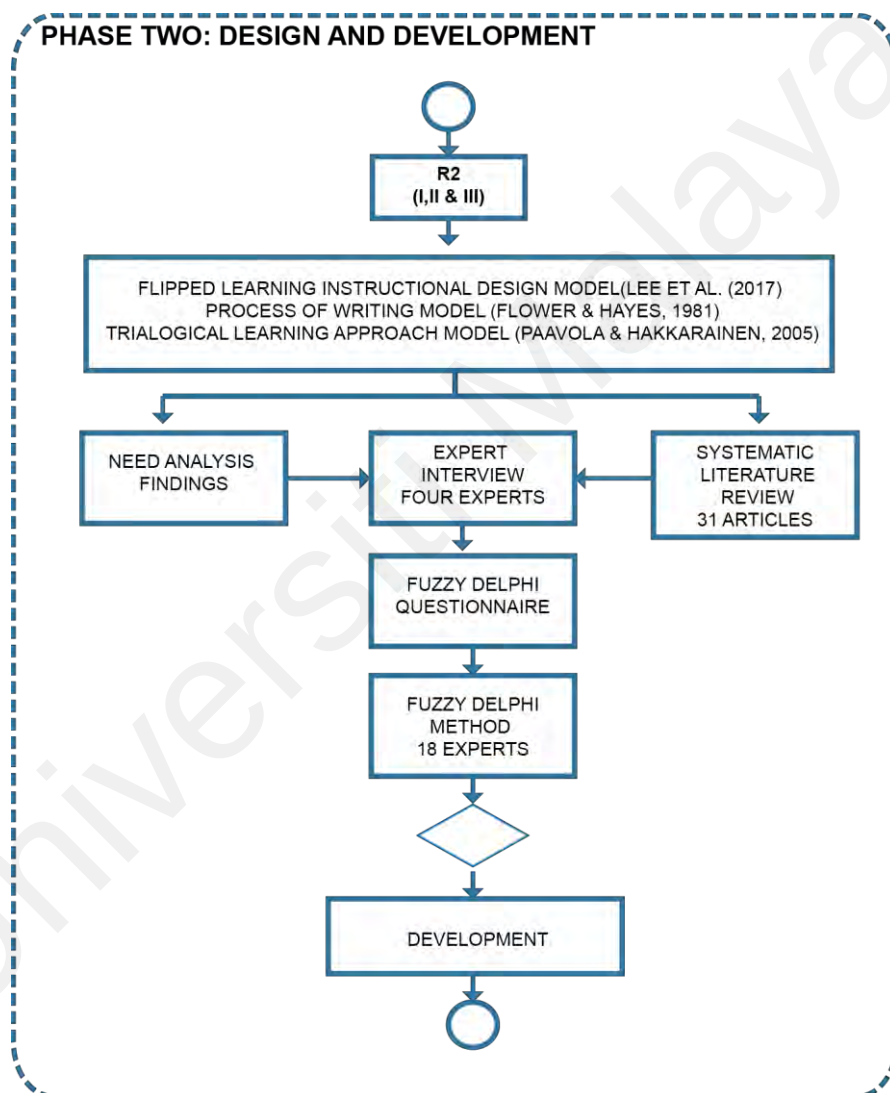


Figure 3.4. Design and Development phase research flow

Flipped Learning Model (Lee et al. (2017) , Process of Writing Model (Flower & Hayes, 1981) and Trialological Learning Approach Model (Paavola & Hakkarainen,

2005) were adapted on this phase to guide the design and development phase. Systematic Literature Review and experts' interview were conducted to answer Research Question (RQ) 2 (I), Fuzzy Delphi Method session was attempted to answer RQ 2 (II) and development process attempted RQ 2 (III). Figure 3.4 illustrated the research flow for design and development phase.

3.6.1 Methods

Multiple methods involved in this phase –interview with the experts and Fuzzy Delphi session with panel of eighteen experts were employed in this study.

3.6.1.1 Expert Interview

Expert interview is a qualitative method that aims to explore the expert and it lends professionalism and quality into the data collected (Meuser & Nagel, 2009). Expert interview were conducted with four experts intended to gain experts' views on components and sub-components that should be included on the Collaborative Flipped Instruction for Form One Malay Language Writing questionnaires. With the findings from systematic literature review which were based on empirical and evidence-based data, this semi structure interview attempts to seek in-depth views on the same issue (Miles & Huberman, 1994). It is aimed to answer the following research question - What are the components and sub-components of Collaborative Flipped Instruction for Form One Malay Language Writing?

3.6.1.2 Fuzzy Delphi Method

Fuzzy Delphi is a method where the researcher sought consensus from the experts (Norlidah Alias, 2010). It is defined as;

a combination of the traditional Delphi Method with Fuzzy Set Theory in order to address some of the ambiguity of the Delphi panel consensus (Ishikawa et al., 1993).

Fuzzy Delphi Method uses triangulation statistics to determine the distance between the level of consensus among experts (Mohd Ridhuan Mohd Jamil, Saedah Siraj, Zaharah Hussin, Nurulrabihah Mat Noh, & Ahmad Arifin Sapar, 2014). This method is chosen on the basis of its ability to seek consensus from experts. In addition, it is the method that can be used to obtain high validity. The Fuzzy Delphi method is used to promote transparency among experts by pointing out their ideas and opinions (Saedah Siraj, 2008).

Fuzzy Delphi Method is applied through six steps as listed;

1. Identify constructs and elements from literature review and needs analysis phase.
2. Experts' agreement on the emerging themes and/or sub-themes based on systematic literature review and analysis of needs.
3. Interview with the experts.
4. Designing and developing a questionnaire for the Fuzzy Delphi Method.
5. Triangulation of the data; including degree of consensus involving fuzzification, defuzzification and ranking.
6. The expert consensus on the items that should be included in the module.

3.6.2 Samples

There were two types of samples involved in this phase. Interview involved four experts from Malay language, Malay language education or educational technology. The experts on systematic literature review and interview were selected based on their

knowledge and experiences on the issues (Meuser & Nagel, 2009). Fuzzy Delphi Method session possessed the biggest number of respondents with eighteen experts. The acceptable number of respondents for Fuzzy Delphi session is between 10-50 experts (Jones & Twiss, 1978). Thus, in this study, 18 experts on their fields were purposely selected as expert respondents in order to gather expert consensus on designing the Collaborative Flipped Instruction for Form One Malay Language Writing. Table 3.10 listed the methods and samples on this phase.

Table 3.10
Methods and Samples in Design and Development Phase

Methods	Samples
Expert Interview	Four experts possessed Ph.D in Malay language education or educational technology or/with at least 10 years of working experiences on the relevant field.
Fuzzy Delphi Method	Eighteen experts possessed Ph.D in Malay language education or educational technology or/with at least 10 years of working experiences on the relevant field.

The criteria of the experts selected were based on suggestion by Adler and Ziglio (1996), are as follows; possessed knowledge and experiences on the issues, willing to participate in the study, sufficient time to involve in the study and effective communication skills. As for this study, specific criteria were adapted as stated in previous study by Amani Dahaman (2014), Chin Hai Leng (2009), and Nazeera Ahmad Bazari (2017);

- Possessed Ph.D in Malay language education or educational technology or/with
- At least 10 years of working experiences on the relevant field.

Table 3.11 and 3.12 listed the details of the experts involved with interview session and Fuzzy Delphi Method sessions.

Universiti Malaya

Table 3.11
Experts in Interview Sessions

No.	Pseudonym	Designation	Area of expertise	Highest academic qualification	Working years
01	DDIV1	Master teacher	Malay Language	Bachelor in Human Sciences (Hons.) International Islamic University Malaysia	15 years
02	DDIV2	Master teacher	English Language, Educational Technology	Master in IT Management, Universiti Teknologi Malaysia PhD Candidate in IT Management, MJIIT-UTM	18 years
03	DDIV3	Professor	Multimedia-based learning	Ph.D in Multimedia, Multimedia University	20 years
04	DDIV4	Senior lecturer	Malay language and pedagogy	Ph.D in Educational Pedagogy, The University of Sheffield, UK	20 years

Table 3.12
Experts in Fuzzy Delphi Sessions

No.	Pseudonym	Designation	Area of expertise	Highest academic qualification	Working years
01	DDE1	Master teacher	Malay Language Teaching	Bachelor in Human Sciences (Hons.) International Islamic University Malaysia	15 years
02	DDE2	Senior lecturer	Malay Literature	Ph.D in Malay Literature (University of Malaya)	22 years
03	DDE3	Senior lecturer	Malay Language	Ph.D in Malay Language (Psycholinguistic) Universiti Putra Malaysia	27 years
04	DDE4	Senior lecturer	Educational Technology	Ph.D in Educational Communication and Technology, University of Wisconsin-Madison	3 years
05	DDE5	Senior lecturer	Multimedia in Education	Ph.D in Education (Multimedia) Universiti Pendidikan Sultan Idris, Malaysia	1 year
06	DDE6	Senior lecturer	Malay Language Pedagogy	Ph.D in Malay Language Pedagogy, Universiti Kebangsaan Malaysia	20 years
07	DDE7	Professor	Language Education and Technology	Ph.D. (Education) University of Illinois, Urbana-Champaign, USA	30 years
08	DDE8	Senior lecturer	Distance Learning	Ph.D in Distance Learning, Universiti Sains Malaysia	36 years
09	DDE9	Senior lecturer	Educational Technology and Media	Ph.D in Education University of Malaya	30 years

Table 3.12 (Continued)
Experts in Fuzzy Delphi Sessions

10	DDE10	Associate Professor	Malay Language Education	Ph.D in Malay Language (Psycholinguistic) Universiti Putra Malaysia	32 years
11	DDE11	Associate Professor	Educational Technology	Ph.D (ICT and Resources) Universiti Putra Malaysia	35 years
12	DDE12	Professor	Malay Language Teaching	Ph.D in Education (Malay Language) University of Malaya	23 years
13	DDE13	Master teacher	Malay Language Teaching	Bach. in Education	28 years
14	DDE14	Master teacher	English Language Teaching, Educational Technology	Master in IT Management, Universiti Teknologi Malaysia	18 years
15	DDE15	Learning designer	Training Industry	Ph.D in Instructional Technology, University of Malaya	11 years
16	DDE16	Information Technology Officer	Developer of Instructional Media and Resources	Master in Educational Technology, Universiti Putra Malaysia	10 years
17	DDE17	Senior lecturer	Teaching Malay Language as First Language	Ph.D in Education (Malay Language) University Putra Malaysia	24 years
18	DDE18	Senior lecturer	Graphic and Multimedia	Master in Educational Technology, Universiti Putra Malaysia	11 years

3.6.3 Instruments

The interview protocol and Fuzzy Delphi Questionnaire are used as instruments during this phase. The interview protocol for Expert Interview is a combination of structural questionnaire and open-ended questions. It is adapted from Chin Hai Leng (2009). It is based on the objectives, contents, learning resources, learning platform, technology integration, classroom activities, and reflection.

Another instrument is a Fuzzy Delphi questionnaire in which the researcher adapted from Chin Hai Leng (2009) and Mohammed Amin Embi et al. (2014). It is developed based on the findings from systematic literature reviews, experts' interviews and needs analysis findings. This questionnaire has four sections: demographic, pre-class/online session, in-class session, and post-class/reflection session. It is a questionnaire that use 7 Likert scale. Table 3.13 listed the linguistic scale used in the study.

Table 3.13
Linguistic Scale

Likert Scale	Agreement Level
1	Extremely Disagree
2	Strongly Disagree
3	Disagree
4	Moderately Agree
5	Agree
6	Strongly Agree
7	Extremely Agree

3.6.4 Data Collection

Data collection for this phase began with the Systematic Literature Review as early as the writing of the Chapter Two-Literature Review and its procedure was enhanced following the completion of the needs analysis phase. It was followed by an interview session with experts from 26th -30th May 2017. Following these processes, the researcher developed the Fuzzy Delphi Questionnaire by adapting Chin Hai Leng

(2009) and Mohammed Amin Embi et al. (2014) based on the findings from Systematic Literature Review and experts interviews Two experts are then validated in terms of face validity, in addition to the systematic review of literature providing high reliability and validity to the components and sub-components of the questionnaire (Mohamed Shaffril, Samah, Samsuddin, & Ali, 2019). The Fuzzy Delphi Method meeting with experts was held from 10th July to 30th September 2017. The findings from the design phase – systematic literature review, expert interviews and the Fuzzy Delphi Method session – were then summarized for the next phase of development. The prototype was developed by the researcher and the validation process was conducted on 1st-15th December, 2017. Table 3.14 listed the data collection procedures for design and development phase.

Table 3.14
Data Collection in Design and Development Phase

	Procedure	Date	Sample
Phase Two	Systematic Literature Review	2015- May 2017	Databases and four experts
	Interview for developing FDM questionnaire	26 th – 30 th May 2017	Four experts
	Development of FDM questionnaire	3 rd - 19 th June 2017	The researcher
	Validation of FDM questionnaire	20 th –22 nd June 2017	Two experts
	FDM sessions	10 th July- 24 th Sept 2017	Eighteen experts
	Prototype Development	15 Sept- 1st Dec 2017	The researcher, the talents
	Validation of prototype	1 st -15 th Dec 2017	Two experts

3.6.5 Data Analysis

Two methods of data analysis are involved in this study – thematic analysis and Fuzzy Delphi analysis. However, the same analysis protocol has been adapted for thematic analysis throughout this study (Refer to 3.5.5.1 Thematic Analysis).

Calculation of the Fuzzy Delphi Method shall be made by the steps indicated in Mohd Ridhuan Mohd Jamil et al., (2014) and Zanariah Ahmad, Mohamad Muhidin Patahol Wasli, Mohd Salihin Hafizi Mohd Fauzi, Mohd Ridhuan Mohd Jamil, & Saedah Siraj, (2014);

1. Selection on experts

Eighteen experts from different fields have been appointed to design the Collaborative Flipped Instruction for Form One Malay Language Writing. The number of experts between 10 and 50 is recommended for high consistency (Jones & Twiss, 1978).

2. Selection of scale

Selection of the scale for Fuzzy Delphi consists of seven scale points: Extremely Disagree, Strongly Disagree, Disagree, Moderately Acceptable, Acceptable, Strongly Acceptable, and Extremely Acceptable (Vaglas, 2006). This linguistic scale was then changed to triangular fuzzy number. It is comprised of m_1 , m_2 and m_3 ; represented in a form of (m_1, m_2, m_3) . An m_1 represents smallest value, m_2 represents most plausible value and m_3 represents maximum value. Estimation of fuzzy number r_{ij} is the variable for every criteria of expert K for $i=1, m, j=1, n, k=k$ and $r_{ij} = 1/K (r_{1ij} \pm r_{2ij} \pm r_{Kij})$. Table 3.15 shows the representation of linguistic scale and Fuzzy scale.

Table 3.15
Linguistic and Fuzzy Scale

Likert Scale	Fuzzy Scale
1	0.9,1,1
2	0.7,0.9,1
3	0.5,0.7,0.9
4	0.3,0.5,0.7
5	0.1,0.3,0.5
6	0,0.1,0.3
7	0,0,0.1

3. Finding means

After collecting data from experts, these data on a linguistic scale were first transformed into a fuzzy scale. The data was then inserted into Microsoft Excel. Later, the mean value, $n(n_1, n_2, n_3)$ was calculated using the formula = AVERAGE(C24: C46) from Microsoft Excel.

4. Identifying 'd' value- Threshold Value

After the mean value has been calculated, the threshold value for each item has been calculated. The value of the threshold was gathered by the experts' consensus. If the threshold value is less than 0.2, it is concluded that the consensus of experts is met (Mohd Ridhuan Mohd Jamil et al., 2014). Method for calculating threshold value from experts, involves vertex method; in which the distance between the means (r_{ij}) is calculated. The distance between the two fuzzy numbers, $m = (m_1, m_2, m_3)$ and fuzzy mean $n = (n_1, n_2, n_3)$ is calculated based on the following formula:

$$d(\tilde{m}, \tilde{n}) = \sqrt{\frac{1}{k}[(m_1 - n_1)^2 + (m_2 - n_2)^2 + (m_3 - n_3)^2]}$$

5. Achieving 75% consensus

The consensus value of the experts was determined by this step. The method used in this step is to determine the value of $m \times n$ among the experts. If the consensus value achieved more than 75%, the following sixth step will be proceeded. If the data

achieved is less than that, the second round of the Fuzzy Delphi method must be carried out or abandoned.

6. Calculating fuzzy evaluation value

Fuzzy evaluation is one of the methods used to determine the ranking for each item. Due to its difficulty, an alternative mathematical formula is used to determine the ranking for each item. This method is referred to as defuzzification.

7. Defuzzification

The defuzzification process is a process to determine the ranking of each item and sub-item. The aim of this step is to help the researcher provide an overview of the level of needs for each item and sub-item. This ranking process will help to generate data based on the needs and consensus of experts who have served as respondents. There are three mathematical formulas that can be used for defuzzification. The formulae are as follows;

$$\begin{aligned}A_{\max} &= 1/3 (a_1 + a_m + a_2) \\A_{\max} &= 1/4 (a_1 + 2a_m + a_2) \\A_{\max} &= 1/6 (a_1 + 4a_m + a_2)\end{aligned}$$

A_1, a_m, a_2 is the mean value (n) of each fuzzy score. The first formula was used in this study. The value of $A_{\max}$ is the highest and was followed by the first ranking and subsequent values. During this step, the researcher will be able to determine the scores and rankings based on the consensus of the experts.

3.7 Phase Three: Implementation and Evaluation

Phase three involved the implementation and evaluation of the Collaborative Flipped Instruction on Form One Malay Language Writing. It assessed the usability of the instructional module between students and teachers. This phase is the final phase of the study: the phase of implementation and evaluation. The aim of this study is to

answer the following research question-What are the users' feedback on the usability of the Collaborative Flipped Instruction for Form One Malay Language Writing in general? And in particular;

- i. What are the users' retrospectives on the strength of Collaborative Flipped Instruction for Form One Malay Language Writing?
- ii. What are the users' retrospectives on the weakness of Collaborative Flipped Instruction for Form One Malay Language Writing?
- iii. What are the users' suggestion on Collaborative Flipped Instruction for Form One Malay Language Writing?

3.7.1 Methods

During the evaluation phase, the researcher conducted usability tests through a face-to - face interview. The Usability Test acts as a diagnostic evaluation concerning the identification of problems or problems in the prototype (Dumas, 2007). Comparing the differences between usability test and experimental research, Schneiderman (1987) stated;

While academics were developing controlled experiments to test hypotheses and support theories, practitioners developed usability-testing methods to refine user interfaces rapidly. Controlled experiments have at least two treatment and seek to show statistically significant differences, usability tests are designed to find flaws in user interfaces. Both strategies use a carefully prepared set of tasks, but usability tests have fewer subjects (maybe as few as three) and the outcome is a report with recommended changes, as opposed to validation or rejection of hypotheses (p.128)

Prior to evaluation process, four weeks of module implementation had taken place at Sekolah Menengah Kebangsaan 2 located in Kuala Lumpur, Malaysia. After implementation, face-to-face interview sessions regarding the usability of

Collaborative Flipped Instruction for Form One Malay Language Writing with eight respondents were conducted for at least 30 minutes and maximum 90 minutes per respondents. Based on Hass & Edmunds (2019), the system testing (implementation) in a real-world setting could be conducted in at least 1-1.5 hours per task with 3-5 tasks and post-implementation interview questions for usability testing could be completed in 20 minutes (p.116).

3.7.2 Respondents

There were eight respondent involved in the interview session with seven of them were the students respondents and one was the teacher respondent. Table 3.16 listed the information about the respondents and date of interview conducted.

Table 3.16
Respondents in Evaluation Phase

Respondent	Gender	Status	Date of Interview
ESR1	Female	Student	9 th of February 2018
ESR2	Male	Student	9 th of February 2018
ESR3	Female	Student	9 th of February 2018
ESR4	Female	Student	9 th of February 2018
ESR5	Female	Student	9 th of February 2018
ESR6	Female	Student	12 th of February 2018
ESR7	Female	Student	12 th of February 2018
ETR1	Female	Teacher	12 th of February 2018

3.7.3 Instrument

For this phase, interview protocol adapted from Chin Hai Leng (2009) and based on Usability Evaluation Method (Chai & Chen, 2004) was used. It is a semi-structured interview protocol with questions regarding user's retrospective on using the Collaborative Flipped Instruction for Form One Malay Language Writing.

3.7.4 Data Collection

Data collection for this phase took place from 17th January 2018- to 12th March 2018 in Sekolah Menengah Kebangsaan 2, Kuala Lumpur. This phase has been divided into two processes – implementation and evaluation.

The implementation phase began with the teacher training session from 17th January 2018 to 23rd January 2018. Simultaneously, the researcher planned the implementation of the Collaborative Flipped Instruction for Form One Malay Language Writing with the school administrator and teachers on 19th January 2018. Permission forms were circulated to the parents or guardians of the related students by 23rd January 2018.

The first session of class implementation was conducted on 26th January 2018- which the students were explained about the process and their responsibilities. Meanwhile, pre-class sessions were held every Wednesday at 2000 hours and the first pre-class session was started on 26th January 2018 and ended on 5th of January 2018. As for the in-class session, it started on 29th January 2018 and ended on 9th February 2018. There are ten sessions of flipped instruction conducted throughout the implementation phase with three themes successfully completed.

The evaluation sessions were held on 9th -12th of February 2018 in several places within school compound. Each of the sessions consumed approximately 30 to 90 minutes. The members' checks were conducted on 12th of March 2018. Table 3.17 listed the flow of the procedures.

Table 3.17
Implementation and Evaluation Procedures

Week/Date/Session	Respondents	Time (hours)	Activity
Implementation 1/17 th January 2018/Face-to-face	10 Malay language teachers from Sekolah Menengah Kebangsaan 2	1400 – 1730	Teachers training session.
1/19 th January 2018/Face-to-face	1 Malay language teacher of Form One <i>Ungu</i>	1100-1230	- Teachers' training. - Planned the implementation.
2/23 rd January 2018/Face-to-face	1 Malay language teacher of Form One <i>Ungu</i>	1100-1230	Teachers' training session.
2/23 rd January 2018/Face-to-face	31 students of Form One <i>Ungu</i>	1230-1330	Circulated permission form to parents of the students.
2/26 th January 2018/Face-to-face	1 Malay language teacher of Form One <i>Ungu</i> 31 students of Form One <i>Ungu</i>	0940-1010	Session 1: In-class - Briefing session with the students. - Students were asked to join FCC BM group.
2/26 th January 2018/Online	1 Malay language teacher of Form One <i>Ungu</i> 31 students of Form One <i>Ungu</i>	2000	Session 2: Pre-class Implementation of Theme: Unity. - Content of learning were uploaded to FCC BM group: <i>Standard Kandungan</i> (SK):3.1, 3.3,3.4 <i>Standard Pembelajaran</i> (SP):3.1.1, 3.3.1, 3.4.1 - Students were asked to respond to pictures given in grammatical sentences. - Students need to complete worksheet given based on the uploaded learning materials.

Table 3.17 (Continued)
Implementation and Evaluation Procedures

3/29 th January 2018/Face-to-face	• 1 Malay language teacher • 1 History teacher of Form One <i>Ungu</i> • 31 students of Form One <i>Ungu</i>	1030-1130	Session 3: In-class Implementation of Theme: Unity. <i>Standard Pembelajaran</i> (SP):3.1.1, 3.2.1,3.3.1,3.4.1 1. Students did brainstorming session in a group. 2. Presented their synthesized ideas in mind mapping format.
3/30 th January 2018/Online	• 1 Malay language teacher of Form One <i>Ungu</i> • 31 students of Form One <i>Ungu</i>	2000	Session 4:Pre-class Implementation of Theme: Unity. 1. Content of learning were uploaded to FCC BM group. • <i>Standard Kandungan</i> (SK):3.2, 4.1 • <i>Standard Pembelajaran</i> (SP)3.1.1, 3.2.1 2. Students need to complete worksheet given based on the uploaded learning materials.
3/ 2 nd February 2018/Face-to-face	• 1 Malay language teacher • 31 students of Form One <i>Ungu</i>	0940-1010	Session 5: In-class Implementation of Theme: Unity. <i>Standard Pembelajaran</i> (SP):3.1.1, 3.2.1 1. Students wrote paragraph based on content mind map from Session 2: In-class. 2. The writing was presented in form of poster.
3/2nd February 2018/Online	• 1 Malay language teacher of Form One <i>Ungu</i> • 31 students of Form One <i>Ungu</i>	2000	Session 6:Pre-Class Implementation of Theme: Cultural and Art 1. Content of learning were uploaded to FCC BM group. • <i>Standard Kandungan</i> (SK):3.2,3.3,3.4 • <i>Standard Pembelajaran</i> (SP):3.2.1, 3.3.1,3.4.1,3.4.2 2. Students need to complete worksheet given based on the uploaded learning materials.

Table 3.17 (Continued)
Implementation and Evaluation Procedures

4/5 th February 2018/Face-to-face	1 Malay language teacher of Form One <i>Ungu</i> 31 students of Form One <i>Ungu</i>	1030-1130	Session 7: In-Class Implementation of Theme: Cultural and Art <i>Standard Pembelajaran</i> (SP): 3.2.1, 3.3.1, 3.4.1, 3.4.2 - Students brainstormed and build framework based on IThink map. - Students started to write an introduction of their essay.
4/5 th February 2018/Online	1 Malay language teacher of Form One <i>Ungu</i> 31 students of Form One <i>Ungu</i>	2000	Session 8: Pre-Class Implementation of Theme: Cultural and Art <i>Standard Kandungan</i> (SK): 3.4, 3.7 <i>Standard Pembelajaran</i> (SP) 3.4.2, 3.4.3, 3.7.1
4/7 th February 2018/Face-to-face	1 Malay language teacher of Form One <i>Ungu</i> 31 students of Form One <i>Ungu</i>	0910-10100	Session 8: In-Class Implementation of Theme: Cultural and Art <i>Standard Pembelajaran</i> (SP) 3.4.2, 3.4.3, 3.7.1 - Students wrote their content paragraph. - Students wrote their conclusion. - Students edited their works.
4/8 th February 2018/Face-to-face	1 Malay language teacher of Form One <i>Ungu</i> 31 students of Form One <i>Ungu</i>	0930- 1300	Session 9: In-Class Exhibition open to all Form One students and the teachers.
4/9 th February 2018/Face-to-face	1 Malay language teacher of Form One <i>Ungu</i> 31 students of Form One <i>Ungu</i>	0940-1010	Session 10: In-Class Reflection Students wrote on 'what have they learn' in a sentence on sticky note.

Table 3.17 (Continued)
Implementation and Evaluation Procedures

Validation (Trustworthiness) 12 th March 2018	• 1 Malay language teacher of Form One Ungu. • 7 students from Form One Ungu	0930-1100	Member's check The respondents checked the trustworthiness of their interview transcript.
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Notes: All the students' activities were conducted in groups.

3.7.5 Data Analysis

This study employed thematic analysis phases as suggested by Braun and Clarke (2008,p.87). They listed six phase on analyzing the themes- familiarizing the data, generating initial codes, searching for themes, reviewing the themes, defining and naming the themes and producing the reports on qualitative findings. The same analysis protocol being adapted throughout this study for thematic analysis (Refer to 3.5.5.1 Thematic Analysis).

3.8 Summary

This chapter reported the methodology used to conduct the research. This study utilized Design and Development Research (Richey & Klein, 2005). There are three phases – needs analysis, design and development, and implementation and evaluation; corresponding to each of the research questions. Multiple methods, samples, instruments, data collection procedures and analysis were used for each phases. Table 3.18 summarized the whole components and elements of this chapter.

Table 3.18
Summary of the Methods

	Methods	Samples (from Sekolah Menengah Kebangsaan 2, Kuala Lumpur, unless stated)	Instruments	Data Collection (Date)	Data Analysis	Notes
Systematic Literature Review (SLR)	Systematic Literature Review (SLR)	Thirty articles Four experts possessed Ph.D in Malay language education or educational technology or/with at least 10 years of working experiences on the relevant field.	Review protocol	During writing of Chapter 2: Literature Review until May 2017	Thematic analysis	-
Pilot Test	Survey	Thirty-one students from Sekolah Menengah Kebangsaan 1, Selangor.	Questionnaire	9 th May 2017	Descriptive statistic	None
Needs analysis	Interview	Two teachers	Interview protocol	26th May 2017	Thematic analysis	Triangulation
	Survey	Eighty-seven Form One students	Questionnaire	25th May 2017	Descriptive statistics	
	Document Analysis	Seven artifacts (essays) from Form One students	Document analysis protocol	25th -26th May 2017	Thematic analysis	

Table 3.18 (Continued)
Summary of the Methods

Design and Development	Expert Interview	Four experts possessed Ph.D in Malay language education or educational technology or/with at least 10 years of working experiences on the relevant field.	Interview protocol	25 th -30th May 2017	Thematic analysis	None
	Fuzzy Delphi Method	Eighteen experts possessed Ph.D in Malay language education or educational technology or/with at least 10 years of working experiences on the relevant field.	Fuzzy Delphi Method questionnaire	10 th July – 24 th September 2017	Fuzzy Delphi Analysis	
Development (25 th September- 1 st December 2017)						
Implementation and Evaluation	Implementation	Thirty-one Form One students	Module of Collaborative Flipped Instruction for Form One Malay Language Writing	17 th January-9 th February 2018	-	None
	Interview	Seven Form One students	Interview Protocol	9 th -12 th February 2018	Thematic analysis	
		One Form One Malay language teacher			8 ^h February 2018	

CHAPTER 4

RESULT OF NEEDS ANALYSIS PHASE

This chapter reported the findings of the first phase of the study: the needs analysis phase. This chapter divided into three main findings from three methodologies and, eventually, the triangulated findings were reported.

4.1 Findings from Survey with Students

It covered analysis of needs in terms of situational factors – such as user needs, technology and infrastructure needs, as well as the need for a Collaborative Flipped Instruction on Form One Malay Language Writing. The following research questions are also being attempted to answer:

- i. What are the needs of the students in Collaborative Flipped Instruction for Form One Malay Language Writing?
- ii. What are the needs in terms of content in Collaborative Flipped Instruction for Form One Malay Language Writing?
- iii. What are the needs in terms of technology and infrastructure in Collaborative Flipped Instruction for Form One Malay Language Writing?

4.1.1 Situational Factors

In this survey, situational factors analyzed user needs in terms of prior knowledge and experience in writing instruction, writing problems, technology access and online skills. Attempts are made to answer the following research questions-

- i. What are the needs of the students in Collaborative Flipped Instruction for Form One Malay Language Writing?
- iv. What are the needs in terms of technology and infrastructure in Collaborative Flipped Instruction for Form One Malay Language Writing?

Addressing their writing skills, 37.9 % believed that they were skilled at the overall writing process. When assessing their belief in the pre-writing process, 34.4 % agreed that they were skilled in that area, while 39 % of them identified themselves as skilled in the writing process. As for the post-writing process, 34.9 % associated themselves as skilled in the process. Only 31 % of them perceived writing is an easy skill to grasp. Low percentages (below 40%) of all items described writing skills are still challenging language skills yet to be mastered by Form One students.

The next question revolved around teaching strategy used by their teacher during writing lessons. The highest percentage of 94.2% agreed that their teacher discussed the content based on paragraph. It was then followed by 83.9% stated that their teacher provided them with content of the essay. A big chunk of 80.5% attested their teacher responded to their essay through oral and written communication. Seventy-nine percent of them stated their teacher practiced group works during writing class while 71.2% stated that text book was used in classes. 59 students (67.8%) agreed their teacher instructed them to build framework of essay before writing. Items with low agreement (below 40%) were- teacher asked them to memorize examples of essays (33.3%), teacher instructed them to do research on the content of the essay before classes (27.6%) and teacher integrated ICT during writing class (21.8). Finally, majority of them comprised of only 16% agreed with the notion that teaching of writing by their teacher was boring.

Topping the list for writing strategy utilized by students was 'writing essay based on the content prepared by their teacher' at 74.7%. High percentage of 73.6% admitted that they revised their writing and 58.6% perceived that they wrote coherence essay. 57.4% stated that they build framework meanwhile 55.1% perceived they wrote the essay with correct grammar. The number of 47 students (54%) admitted that they did research on the topics and 48.2% said they exchanged their essay with their friends for editing purpose. Less than half (46%) of them did the correction after receiving the feedback from their teacher. However, items involved memorizing acts drew percentage below 40% -memorizing example of essay only practiced by 21.8% and memorizing sentences and phrases only utilized by 33.3% of the respondents.

Problems on Writing

It is crucial for the researcher to understand the problems the problems of writing. The findings help the researcher to identify the needs on the writing. The highest problem faced by the students was lacking on idea to elaborate the content of their essay with 71.3%. Meanwhile, 58.6% of the respondents stated they were not well-versed on incorporating language expression such as idioms and *pantun* on their writing and 57.5% confirmed they were lacking on reading habits. They also doubted their writing skills accumulated to 47.1% whilst 42.5% said they were weak on grammar area. Only 39.1% of respondents stated that they were unable to complete their writing on the duration given and they were weak on writing introduction. Thirty-five percent cited lack of topic knowledge or rhetoric as a writing problem meanwhile 33.3% claimed they disinterested on writing. Twenty-seven students representing 31% of the respondents were unable to comply the required amount of words and possessed limited vocabulary. Another 29.9% agreed they were weak on punctuation while

26.4% stated they were weak on sentence construction and wrote the conclusion paragraph. Besides, 25.3% saw themselves as weak on writing the content paragraph and classified themselves as reluctant writers. A quite sum of 24.1% stated that they did not understand the rhetoric question (essay question) and 21.8% claimed that they were not well-versed on the essay format. Finally, 11.5% of respondents stated weak spelling as their problems on writing and 6.9% cited they were unable to understand and did not like their teacher's teaching.

Technology Access

Flipped instruction combines both online and face to face learning. Thus it is important to analyze the students' access to technology. Ninety four percent clarified that they had access to smartphones and 87.4% to internet. Besides that, 70.1% had access to laptop, 55.2% to tablet or iPad and 35.6% to desktop computer. As far as peripherals are concerned, 48.3% had access to printer and only 1 student had access to the Mp3 player.

Online Skills

Online skills are an important aspect of flipped instruction. This sub-element covers three main aspects: online skills consisting of basic online technology skills, the ability to learn through online videos, and the ability to discuss online.

The majority of 86.2% verified themselves as skillful on using smartphones while only 48.2% identified themselves as skillful on using computer. Another 79.3% agreed that they were skillful on surfing and researching for information via internet meanwhile 78.2% stated that they can communicate well using online technology. However, only 49.4% agreed that they were capable of utilizing the online technology

to complete the school's assignments. Then, 48.3% associated themselves as capable to ask questions and feedback, and express themselves via online platform using clear and concise sentences. The 41.4% agreed that they were capable to manage and follow the assigned online learning sessions. Lastly, only 24.1% verified themselves as themselves to be skilled at using emails with the attached work file.

Moving to the next subcomponent- online learning using videos, 52.8% believed that they could understand their teacher's lectures in the form of online videos. Contrarily, only 37.9% thought they were able to write notes while watching instructional videos and 32.2% perceived that they were capable to relate the content of the clips to other sources of information.

With regards to online discussion, 79.3% of the respondents agreed that they were capable of discussing with other people on internet and social media while 78.1% preferred to be given extra time to prepare answer for questions given. Meanwhile, 60.9% stated that they were capable to follow online discussion while typing the comments on the thread and 51.7% of them thought that they were capable to follow the discussion online even though they acted as silent readers. Table 4.1 tabulated the results from the survey among the students.

Table 4.1
Result from the Survey

Writing skills		Yes (%)	No (%)
1.	I am skillful on overall writing process.	37.9	62.1
2.	I am skillful on pre-writing process.	34.4	65.6
3.	I am skillful on in-writing process.	39.0	61.0
4.	I am skillful on post-writing process.	34.9	65.1
5.	I can easily grasp writing skills.	31.0	69.0
Teaching strategy		Yes (%)	No (%)
1.	Teacher uses text book.	71.2	28.8
2.	Teacher instructs me to build framework of essay.	67.8	32.2
3.	Teacher provides content of the essay.	83.9	16.1
4.	Teacher responds to my essay by oral and written feedbacks.	80.5	19.5

Table 4.1 (Continued)
Result from the Survey

5.	Teacher asks me to memorize examples of essays.	33.3	66.7
6.	Teacher discusses the content based on paragraph.	94.2	5.8
7.	Teacher gives time for us to work in group and let us discuss the content of the essay.	79.3	20.7
8.	Teaching writing by my teacher is boring.	16.0	64.0
9.	Teacher integrates the use of ICT during class session.	21.8	78.2
10.	Teacher asks me to do research on the content of the essay before bring it to class.	27.6	72.4
Writing strategy		Yes (%)	No (%)
1.	I build an essay framework before I write.	57.4	42.6
2.	I write an essay with correct grammar.	55.1	44.9
3.	I write a coherence essay.	58.6	41.4
4.	I revise my essay after I completed my writing.	73.6	26.4
5.	I do my correction after I received my teacher's feedback.	46.0	54.0
6.	I write my essay based on the content prepared by my teacher.	74.7	25.3
7.	I memorize example of essays and then write it down.	21.8	78.2
8.	I memorize sentences and phrases so that I can use it on my writing.	33.3	66.7
9.	I do research to collect the facts and ideas for my writing.	54.0	46.0
10.	My friends and I exchange our essay and we assess it.	48.2	51.8
Problems on writing		Yes (%)	No (%)
1.	Lacking on the knowledge regarding the topic	34.5	65.5
2.	Not well-versed on the format of the essay.	21.8	78.2
3.	Lacking on idea to elaborate the content of the essay.	71.3	28.7
4.	Unable to understand the rhetoric of the essay.	24.1	75.9
5.	Unable to comply the required amount of words.	31.0	69.0
6.	Unable to complete the writing on time.	39.1	60.9
7.	Limited vocabulary.	31.0	69.0
8.	Weak grammar.	57.5	42.5
9.	Weak spelling.	88.5	11.5
10.	Weak usage of punctuation.	70.1	29.9
11.	Not well-versed on incorporating idioms and ' <i>pantun</i> ' on writing.	58.6	41.4
12.	Weak sentences.	26.4	73.6
13.	Weak on writing introductory paragraph.	39.1	60.8
14.	Weak on writing content paragraph.	25.3	74.7
15.	Weak on writing conclusion.	26.4	73.6
16.	Not interested on writing an essay.	33.3	66.7
17.	Reluctant to write an essay.	25.3	74.7
18.	Not confident to write an essay.	47.1	52.9
19.	Unable to understand the teaching writing.	6.9	93.1
20.	Dislike the way of teaching writing.	6.9	93.1

Table 4.1 (Continued)
Result from the Survey

21	Lacking on reading habits.	57.5	42.5
Technology ownership		Yes (%)	No (%)
1.	Laptop	70.1	29.9
2.	Desktop Computer	35.6	64.4
3.	Tablet/Ipad	55.2	44.8
4.	Smartphone	94.3	5.7
5.	Printer	48.3	51.7
6.	Internet	87.4	12.6
7.	Mp3 Player	1.1	98.9
Online skills		Yes (%)	No (%)
1.	I am skillful on using computer.	48.3	51.7
2.	I am skillful on using smartphone.	86.2	13.8
3.	I am skillful on surfing and researching for information on internet.	79.3	20.7
4.	I am skillful on using email with attached file.	75.9	24.1
5.	I can communicate well using online technology.	78.2	21.8
6.	I can express myself through my writing online.	48.3	51.7
7.	I am capable to utilize the online technology in order to complete assignment given by my teacher.	49.4	50.6
8.	I am capable to manage the time and follow the time given for my learning purposes.	41.4	58.6
9.	I am capable to ask questions and give feedback online using clear and concise sentences.	48.3	51.7
Online learning using videos		Yes (%)	No (%)
1.	I am capable to relate the content of the short clips (1-3 minutes) with the information I read on the books and other related learning material.	32.2	67.8
2.	I am capable to jot down notes while watching instructional videos using electronic gadget.	37.9	62.1
3.	I am capable to understand my teacher's lecture if it is presented in form of online video.	52.8	47.2
Online discussion		Yes (%)	No (%)
1.	I am capable to discuss with other people on internet and social media.	79.3	20.7
2.	I am capable to follow discussion thread online even though I don't participate and sharing ideas during the discussion.	51.7	48.3
3.	I am capable to follow discussion thread online and at the same time typing the comments on the thread.	60.9	39.1
4.	I prefer to be given extra time to prepare my answer for each questions listed.	78.1	21.9

4.1.2 Content

Based on Integrated Course Design Model (Fink, 2003)- besides situational factors, content needs such as learning goals, teaching and learning activities, assessment are important to be analysed. Nevertheless, based on the literature review on flipped instruction, medium of publishing is included in this analysis. Learning objectives are identified as standard learning based on *Kurikulum Standard Sekolah Menengah Bahasa Melayu Dokumen Standard Kurikulum dan Pentaksiran Tingkatan Satu* (Kementerian Pendidikan Malaysia, 2016). Thus, this writing classified the data into six constructs that respond to content needs- themes, genre and type of essay, online session, face-to-face session, assessment and publishing medium. It is ultimately intended to answer the following research question - What are the content needs of the Collaborative Flipped Instruction for Form One Malay Language Writing?

4.1.2.1 Themes

There were eighteen themes offered on the Form One Malay language curriculum in Malaysia. Topping the rank was Politic and Administration with 71.3% of the students thought that it should be included on Collaborative Flipped Instruction for Form One Malay Language Writing meanwhile 71.3% chose Integrity to be included. It was then followed by Economy with 65.5% and 55.2% for Art and Culture. 49.4% tied between Language and Literature and Industry whilst 48.3% shared by Patriotism and History and Heritage. Unity followed with 46%, 33.3% voted for Science, Technology and Innovation while 28.7% believed that Career should be included too. 24.1% of respondents perceived that Agriculture should be embedded on the Collaborative Flipped Instruction for Form One Malay Language Writing while

18.4% thought that Education should be included too. The 16.1% of students perceived Green Technology while 14.9% believed Sports and Recreation, both should be on the module. A ratio of 13.8% believed Tourism and 11.5% believed that Safety need to be included on the module. Lastly, 10.3% perceived Cleanliness and Health should join the rest. For ease of viewing, the findings were tabulated in Table 4.2.

Table 4.2
Content

Item	Themes	Yes (%)	No (%)
1.	Cleanliness and Health	10.3	89.7
2.	Safety	11.5	88.5
3.	Unity	46	54
4.	Art and Culture	55.2	48
5.	Patriotism	48.3	51.7
6.	Science, Technology and Innovation	33.3	66.7
7.	Green Technology	16.1	83.9
8.	Agriculture	24.1	75.9
9.	Economy	65.5	34.5
10.	Tourism	13.8	86.2
11.	History and Heritage	48.3	51.7
12.	Sport and Recreation	14.9	85.1
13.	Industry	49.4	50.6
14.	Education	18.4	81.6
15.	Language and Literature	49.4	50.6
16.	Career	28.7	71.3
17.	Integrity	70.1	29.9
18.	Politic and Administration	71.3	28.7

4.1.2.2 Genre and Types of Essay

Another important component is genre of essay. Respondents stated that expository essay should be included on the module with 40.2% votes and followed by 23% chose descriptive while 20.7% perceived narrative essay should not be sidelined.

Table 4.3
Genre

Item	Genre of essay	Yes (%)	No (%)
1.	Narrative	20.7	79.3
2.	Descriptive	23	77
3.	Expository	40.2	59.8

Besides genre of essay, the researcher investigated the type of essay that perceived by the students need to be included on Collaborative Flipped Instruction for Form One Malay Language Writing. Forum ranked the highest with 83.9% and followed with proverb-based essay accounted to 77% of votes. A sum of 66.7% of respondents chose interview and 65.5% opted for article. Another 63.2% went to oratory speech while 52.9% perceived that explanatory essay should be included on the module. Next, 50.6% of them believed that news format should be taught on the module and 41.4% thought that opinion-based essay should be added to the rest.. A number of 36.8% chose speech text while diary format and dialogue accumulated to 32.2% votes tied with the same percentages. As for formal letter with 39.1% and informal letter accounted up to 29.9%; perceived by the respondents among format of essay that should be included in the module. Table 4.4 tabulated the findings.

Table 4.4
Type of Essay

Item	Type of essay	Yes (%)	No (%)
1.	Proverb-based essay (<i>peribahasa</i>).	77.0	23.0
2.	Explanatory essay (<i>karangan huraian</i>).	52.9	47.1
3.	Opinion-based essay (<i>karangan pendapat</i>).	41.4	58.6
4.	Formal letter (<i>surat kiriman rasmi</i>).	39.1	60.9
5.	Informal letter (<i>surat kiriman tidak rasmi</i>).	29.9	70.1
6.	Oratory speech (<i>syarahan</i>).	63.2	36.8
7.	Article (<i>karangan rencana</i>).	65.5	34.5
8.	Interview (<i>wawancara</i>).	66.7	33.3
9.	News (<i>berita</i>).	50.6	49.4
10.	Dialogue (<i>dialog</i>).	32.2	67.8
11.	Speech (<i>ucapan</i>).	36.8	63.2
12.	Forum (<i>forum</i>).	83.9	16.1
13.	Diary (<i>penulisan diari</i>).	32.2	67.8

4.1.2.3 Online Session

Online session is often precede the face-to-face session. This subchapter reported the online standard content, online learning platform and online learning resources.

(a) Online standard content

The online standard content concerned what learning content should be delivered during online sessions. This study collected perceptions of what the students thought should be included in online learning. Amount of 82.8% of the respondents of respondents believed that they should conduct research on the content of their essay during the online learning session, while 74.7% cited that they preferred idioms and proverbs to be introduced. Next, 73.6% stated that guidelines on how to write an essay and 69% perceived introduction to the format of the essays should be included in pre-class sessions. Then, 59.8% perceived that sentence construction and 48.3% thought that guidelines on revising should be delivered online. Finally, 37.9% of the respondents thought that they should learn how to write their own views based on several resources. Table 4.5 tabulated the findings for the easy viewing.

Table 4.5
Online Standard Content

Item	Online standard content	Yes (%)	No (%)
1.	S.K 3.2: Write views based on resources.	37.9	62.1
2.	S.K 3.3: Research on content of essay.	82.8	17.2
3.	S.K 3.1: Build sentences based on selected words and jargon.	59.8	40.2
4.	S.K 4.2: Introduce suitable idioms and proverbs.	74.7	25.3
5.	S.K 3.4: Introduce the format of the essay.	69.0	31.0
6.	S.K 3.4: Guidelines on how to write an essay.	73.6	26.4
7.	S.K 3.7: Guidelines on revising	48.3	51.7

(b) Online learning platform

The next analysis involved investigation of the online learning platform. Seventy-seven percent of the respondents stated that they opted for messaging application-Whatsapp, as an online learning platform, 58.6% for Instagram, 48.3% chose email and 46% picked Facebook to be utilized. As for blog, 35.6% voted

for it while the rest were 25.3% chose Twitter and only 4.6% opted for Wechat. Table 4.6 presented the findings in a tabulated form.

Table 4.6
Online Learning Platform

Item	Online learning platform	Yes (%)	No (%)
1.	Email	48.3	51.7
2.	Blog	35.6	64.4
3.	Facebook	46.0	54.0
4.	Whatsapp	77.0	23.0
5.	Twitter	25.3	74.7
6.	Instagram	58.6	41.4
7.	Wechat	4.6	95.4

(c) Online learning resources

Learning resources are key components of the learning process. Since the flipped instruction involved an online platform, the aim of this study was also to analyze what learning resources were perceived as having to be included in the instruction module. A number of 78.2% respondents voted for educational videos from internet e.g. YouTube, TedEd. Followed by PowerPoint presentation accounted to 64.4%, and 58.6% tied up between text and instructional videos from teachers. 49.4% of the respondents chose digital photos and 44.8% opted for online dictionary. Meanwhile, 32.2% of the respondents ticked educational videos prepared by their classmates and 24.1% chose hyperlink to the related online sources. The remaining 18.4% votes were for audio file. Table 4.7 tabulated the results.

Table 4.7
Online Learning Resources

Item	Online learning resources	Yes (%)	No (%)
1.	Text	58.6	41.4
2.	PowerPoint presentation	64.4	35.6
3.	Instructional videos from the teacher	58.6	41.4
4.	Educational videos from internet eg. Youtube, TedEd	78.2	21.8
5.	Educational videos prepared by your classmate	32.2	67.8
6.	Audio file	18.4	81.6
7.	Hyperlink to the related online sources	24.1	75.9

Table 4.7 (Continued)
Online Learning Resources

8.	Online dictionary	44.8	55.2
9.	Digital photos	49.4	50.6

4.1.2.4 Face-to-Face Session

In flipped instruction, online session is proceeded by face-to-face session.

This subchapter reported the standard learning and activities that expected to be accomplished during face-to-face session.

(a) *Face-to-face session standard learning*

As for the learning content of in-class session, 85.1% agreed that brainstorming the ideas of the essay (S.P 3.3.1) should be included in the instructional module. Next, 74.7% thought that build up the framework of the essay (S.P 3.4.1) and 54% opted for write the essay by paragraph (S.P 3.4.2 and S.P 3.4.3) need to be included in the module. Besides, 50.6% believed that revising the essay should not be sidelined while only 27.6% of the respondents thought that write their views based on the resources (S.P 3.2.1) should be taught in the module. Table 4.8 is a tabular form of the findings.

Table 4.8
Learning Content for Face-to-Face Session

Item	Learning content for face-to-face session	Yes (%)	No (%)
1.	S.P 3.4.1: Build up framework of the essay	74.7	25.3
2.	S.P 3.3.1: Brainstorming the ideas of the essay	85.1	14.9
3.	S.P 3.4.2 & 3.4.3: Write the essay by paragraph	54.0	46.0
4.	S.P: 3.7.1: Revise the essay	50.6	49.4
5.	S.P: 3.2.1: Write views based on the resources	27.6	72.4

(b) Face-to-face session learning activities

Moving to the next analysis involved what learning activities should be carried out during the in-class session? Highest majority of 87.4% of the respondents agreed that group discussion should be practiced during in-class session meanwhile 72.4% agreed that project-based learning should be conducted. 65.5% stated that station workgroup was good choice of learning activities and 58.6% opted for Think-Pair-Share activity. Role playing gained 48.3% and simulation garnered 37.9% votes. Next, 29.9% of the respondents thought that peer teaching should be included while only a handful of 3.3% believed that forum should be staged during the in-class session. The data tabulated in Table 4.9

Table 4.9
Face-to-Face Session Learning Activities

Item	Face-to-face session learning activities	Yes (%)	No (%)
1.	Think-Pair-Share	58.6	41.4
2.	Project-based Learning	72.4	27.6
3.	Group Discussion	87.4	12.6
4.	Simulation	37.9	62.1
5.	Station Workgroup	65.5	34.5
6.	Peer Teaching	29.9	70.1
7.	Role Playing	48.3	51.7
8.	Forum	3.3	96.7

4.1.2.5 Assessment

Assessment involved assessing the performance of the writers. Largest amount of 87.4% of the respondents opted for teacher's assessment while 40.2% chose group assessment. The rest, 24.1% thought that pair assessment should be utilized and 21.8% believed that self-assessment should be given chance of practice. Table 4.10 represented the findings on a tabulated form.

Table 4.10
Assessment

Item	Assessment	Yes (%)	No (%)
1.	Group assessment	40.2	59.8
2.	Teacher's assessment	87.4	12.6
3.	Self-assessment.	21.8	78.2
4.	Pair assessment.	24.1	75.9

4.1.2.6 Medium of Publishing

On choosing the medium of publishing, 70.1% opted for social media-based medium of publishing. Another 63.2% stated that published it in a book was favorable idea while 55.2% chose email. 32.2% of the respondents thought that blog was suitable to be used as medium of publishing and the remaining 17.2% believed that using e-portfolio would be a better option. Table 4.11 simplified the findings in a tabulated form.

Table 4.11
Medium of Publishing

Item	Medium of publishing	Yes (%)	No (%)
1.	Books	63.2	36.8
2.	Blog	32.2	67.8
3.	Email	55.2	44.8
4.	E-Portfolio	17.2	82.8
5.	Social Media	70.1	29.9

This remarked the last report from the survey research. The results from this sub-section were then triangulated with the other findings and summarized at the end of this chapter.

4.2 Findings from Interview with Teachers

Needs analysis among teachers were conducted to explore teachers' views on their needs for Collaborative Flipped Instruction for Form One Malay Language Writing. It

also aimed to analyze the content and technology needed for the flipped instruction module. The following subchapters reported the findings based on these following research questions;

- i. What are the needs of the teachers in Collaborative Flipped Instruction for Form One Malay Language Writing?
- ii. What are the needs of the students in Collaborative Flipped Instruction for Form One Malay Language Writing?
- iii. What are the needs in terms of content in Collaborative Flipped Instruction for Form One Malay Language Writing?
- iv. What are the needs in terms of technology and infrastructure in Collaborative Flipped Instruction for Form One Malay Language Writing?

4.2.1 Situational Factors

Situational factors examined the teachers' prior writing knowledge, teaching writing, problems on writing instruction, and teachers' online skill.

4.2.1.1 Teachers' Prior Knowledge and Experiences on Writing Instruction

In this study, knowledge of the writing process is based on Process of Writing model by Flower & Hayes (1981). Respondents' knowledge of the writing process could be considered as vague as they described the writing task based on the examination needs; when answering questions about the knowledge of the writing process.

...in terms of writing an essay, we have a section for Form One. We've got a comment and an essay. For

upper secondary, we have more or less summary and general essays. However, there are differences in the number of words and students need to respond on the basis of their level of years (P1L23:NATR1: May 25, 2017).

[Mmm] In my opinion, writing is when we [mmm] as a teacher teaches lower secondary, teaching upper secondary means that there are differences in commentary and summary. Means that when we teach commentary, we should do this format, and when we teach summary, we should do this format. Okay. Okay. What did we have to do as a teacher? The formats had to be known (P1L39:NATR2: May 25, 2017).

However, NATR1 has demonstrated knowledge on the part of the writing process through its teaching practice in the classroom. She used an organized writing process to translate ideas into text and coherency.

Okay, there was no problem in performing class, but we still need to master introductory writing or [pause]. Okay. Okay. When they manage to master introductory writing, all right, we can proceed to write the content paragraphs. General essay content often ranges from three to four [lah]. Okay, then we'll teach them how to write the statement of thesis, the elaboration and the examples. Okay, then we're writing the conclusion. In conclusion, although this section is easy, two to three marks are assigned ... but we [mm] teach students to value the marks (P2L30:NATR1: May 25, 2017).

4.2.1.2 Teaching Writing

Another important analysis is to examine their current practices of teaching writing. Understanding this will help the researcher to address the gaps in the needs for a Collaborative Flipped Instruction on Form One Malay Language Writing. The teaching practices were different-based on the level of knowledge and competence of the students. As far as the weak students are concerned, the teacher scaffolds the learning of writing by practicing 'filling in the blank' technique as implemented by NATR2.

Will make an essay, a full essay, but I'll erase a few words. So, they're going to fill the empty spaces with their own words. By doing so, they will read, fill in the blank and remember what they did and what they didn't do (P2L43:NATR2: May 25, 2017).

He used less scaffolding writing activities among performing students.

..I reminded the students, what do we need? Five!
What five? 5W 1H (P9L15:NATR2: May 25, 2017).

Both respondents practiced an organized in-writing process- as suggested in translation process.

[haa] What are the examples of this? What can our students use [for example]? Grammatically correct phrases. They can organize the writing of [haa]. They had, they had, examples, all of that, [haa] sentences on the subject. We taught them in an essay that we need explanation, examples and sentences on the subject [mmm] and how to use it (P8L9:NATR2: May 25, 2017).

The study also found that teachers are still dominant in the classroom. The rhetoric and knowledge of the subject have been determined by the teachers. Their teaching practices indicated that they were preparing the ideas and contents of writing, potentially inhibiting the pre-writing process, which involved the study of topics, the analysis and, ultimately, the synthesis of content among their students.

If Form One, we still give them ideas and content, for example, if there are four contents, four groups. One of the contents for one group. They need to add more content and ideas, to make it happen. The contents were then shared with other groups (P3L17:NATR1: May 25, 2017).

Despite providing their students with ideas and content, they have implemented innovative ways to facilitate writing, as stated by NATR2.

... if Form One, the most preferred way to teach writing is to use Five Files. There is one content in each file. One content, all right. They need to elaborate ideas for each group. If they have completed [elaborating], the files will be transferred to the other group. The content of the other group will be elaborated with different meanings. They can't have the same elaboration, all right. That fifth group would be a difficult task [for them], because all the other groups have responded, so they need to think. Means that we encourage them to think (P3L24:NATR2: May 25, 2017).

They were also identified to use technology, specifically internet on supplementing their teaching.

For me, I prefer to let them watch a drug addiction video. The one who took drugs, collapsed, killed his mother, and all that stuff. This means all the effects of drug dependence on that video. What is it? Able to kill family members. Means that they understood when they watched the video. The effect of and the potential for drug dependence (P12L49:NATR2: May 25, 2017).

One more, sometimes we gave them news excerpt. A good example of the news from Google. Examples of essay on news report. Accident. (P11L26:NATR1: May 25, 2017).

NATR1 stated that she integrated grammar and idioms into writing lessons.

Based on the essay, even though we are writing an essay, we can include grammar and [mmm] idioms (P1L29:NATR1: May 25, 2017).

Besides, they emphasized on teaching format of the essays.

Form One students, we exposed them with formatted and non-formatted essay. Formatted essay we had formal letter, informal letter, debate, report, notes. Okay. For non-formatted we had factual essay, proverbial essays, narrative essays, descriptive essays and many more (P2L4:NATR1: May 25, 2017).

Apparently, the reason behind this might largely due to the fact that they taught writing with exam-oriented approaches. Thus, teaching writing was more directed into answering the examination instead of developing writing skills itself. Eventually, this explained why the focus was on the format of the essays since it determined the assessment and influenced the marks and achievement.

For weak classes, we suggested general non-formatted essays because [mmm] the assessment is a bit rigid and strict for formatted essay (P2L9:NATR1: May 25, 2017).

Non-formatted essays are more flexible and do not use any writing format. Thus, for struggling learners, they did not have to recall the format of the essay and minimize the risk of losing the marks.

It is easy to get high marks [formatted essay] but for weak classes, they were a bit careless [lah] (P2L12:NATR2: May 25, 2017).

Non-formatted? [mmm] it is more on their opinion. No format. Okay. Like I said before, struggling learners had their own opinions, own experiences (P2L15:NATR2: May 25, 2017).

Examination-oriented approach has made them focus on teaching writing to score higher marks and to reduce errors that will cost lower marks as shown below.

Depending on the suitability [lah], idioms and additional marks will be given (P1L33:NATR1: May 25, 2017).

Another is grammar, as I said, in an essay, we calculate grammar and KOMSAS if there were idioms. Mistakes on grammar or errors on the first sentences, we deduct a half mark and a maximum of two marks. It can't be more than that. So, we need to advise students to be more careful [in writing] (P12L36:NATR1: May 25, 2017).

Okay. For commentary, we, must be 80-100 words. We need to reject the contents more than that. Does'nt count. Wasting the marks. (P12L33:NATR1: May 25, 2017).

Teachers also assessed the essays and also carried out peer reviews on their teaching. Peer assessment involved students assessing their friends' essays and giving feedback on them.

As Puan NATR1 has said, we assess the essay based on the format. Besides, I asked the students to sit in front of me, to evaluate their work, and if there's any mistake I'll tell them on the spot. If they have committed a format error, I'll let them know on the spot. If they have made a mistake about words, I will let them know and ask them what is the right way to do it. Means that we indirectly teach them during the assessment (P13L47:NATR2: May 25, 2017).

Last year, students assessed the works. Form five students assessed by themselves. . Form one, we haven't done that yet. Form five assessed summary. Not as a whole but in terms of nouns. It was almost [mmm] *SPM* is around the corner (P13L7:NATR1: May 25, 2017).

4.2.1.3 Problems on Writing

Identifying problems on writing lesson is vital to examine the gaps between real situation and the goal on writing. As derived from the interview, the problems started at the very beginning of the writing process- understanding the rhetoric. In this study, understanding rhetoric includes understanding the topic of the essay or in a school context, it would be best to be described as understanding the questions of the assigned writing task. Students were often found not to understand the questions that led to an incorrect selection of the types of essays and subsequently affected the selection of the essay format.

As if they had [mmm] at any form level, they had trouble starting the essay [mmm] they might not understand the subject, e.g. the problems of last year's PT3. [Mmm] essay on [eh] not a factual essay [mmm] not a formatted essay. As for the visit or I'm not wrong with the experience of visiting the book fair. Okay. Okay. Question asked them for their experience. They

wrote about [visiting the book fair] during school holidays. This automatically earned you a zero mark (P3L45:NATR1: May 25, 2017).

[Ahaa] Isn't that right? A very dangerous question, because they need to write about the present moment, not the past. For example; at 7.30, I'm preparing for a fair book, and my father is waiting for me; that's the [narrative] journey. They were writing about past things. I went to this last weekend. They earned zero (P4L50:NATR2: May 25, 2017).

Besides that, the students often used slang language on their writing. This national issue affected the students in this school too. Teacher respondents stated the use of informal language on writing marred the grammar and the writing product itself.

Besides that, I think the most problematic thing is that our students used the wrong language to write. In the classroom, I told them not to use WeChat. Grammatically incorrect (P4L14:NATR2: May 25, 2017).

This issue has also made it difficult for teachers, in particular to gain understanding of the writing content.

... means that their essay is not in a language. What kind of language I read and I can't even understand (P4L16:NATR2: May 25, 2017).

Students also expressed their negative perceptions of writing by citing their dislikes of writing essays to their teacher, as stated by NATR2.

They told earlier 'Teacher. We don't like essay'. Maybe they thought writing demands too much of thinking (P4L3:NATR2: May 25, 2017).

Another problem detected is the students' dependency on their teachers during writing lessons especially when reading activities are involved.

As for me, our students really love being spoon-fed means that when we asked them to write, they didn't

want to. Only then do they want to write when we read for them. Means that they didn't want to think about the explanation, the elaboration, the examples, what they didn't want. All required them to think (P5L8:NATR1: May 25, 2017).

The teacher also stated that students had difficulty organizing ideas.

Elaboration of the ideas [mmm] sometimes they included all the ideas in one paragraph. They did not know how to differentiate the main ideas, supporting ideas, examples (P7L41:NATR1: May 25, 2017).

And lastly, the introduction of Standard Based Curriculum for Secondary School allocated one slot of lessons to 30 minutes compared to 45 minutes earlier. The shortening of time required the creativity of teachers in teaching writing since writing acquired over a longer period of time. More careful preparation is needed before executing the lesson plan especially writing lesson.

One slot is only 30 minutes (P5L40:NATR1: May 25, 2017).

Because of those factors, teachers conducted writing class once a month.

Writing? I teach writing once a month (P5L42:RNA1: May 25, 2017).

[Nodding his head] Ha ah [denoting Yes]. Not often. Once a month. Sometimes less (P5L42:RNA2: May 25, 2017).

4.2.1.4 Teachers' Online Skills

The interview revealed that the teacher respondents had fair technology and online skills that involved the use of gadgets provided by the Ministry of Education.

[...] if using the gadget, I am still fine. Not too outdated (P6L48:NATR2: May 25, 2017).

So far, use of gadgets with Form One, we utilized the barcode [mmm] the one on the text book. But we still

haven't had the chance to do a barcode workshop. Just click on the printed barcode (P5L29:NATR1: May 25, 2017).

The respondents also identified themselves as users with fair skills when using VLE Frog. In fact, utilization of VLE Frog for Malay language subject is considered as high.

The Malay language and history were competing for the use of VLE Frog. We differed by 5 marks behind history (P6L4:NATR1: May 25, 2017).

Although I am not that advanced but I can insert questions, how to answer the questions [both on VLE Frog]. Using link and email [mmm] I can too (P6L20:NATR1: May 25, 2017).

However, the utilization of VLE Frog on completing homework or assignments online was often conducted during long school break.

We often use it during school breaks. Two weeks break like this (P15L7:NATR1: May 25, 2017).

NATR2 also identified his skill on using Prezi and Facebook but not websites.

There's no problem using Prezi and Facebook. But it is still impossible to build a website or blogspot (P6L30:NATR2: May 25, 2017).

4.2.2 Content Needs Analysis

Content needs analysis dealt with investigation on what content should be included on Collaborative Flipped Instruction for Form One Malay Language Writing. The content is based on Standard-Based Malay Language Curriculum for Secondary School (DSKP).

4.2.2.1 Themes

When discussing themes that should be included in the instruction module, the respondents chose Unity and Career.

So far, it's supposed to be something like unity or something like that (P8L24:NATR1: May 25, 2017).

Career. It is important for them to know what they want to be (P8L25:NATR2: May 25, 2017).

NATR1 added, it is good to choose themes that all students can easily relate to themselves, and not just to favor part of the class.

Means that sometimes only Malay students can relate to [theme]. They've got some advantages. And technology issues can only be addressed by Chinese students (P8L30:NATR1: May 25, 2017).

4.2.2.2 Genre and Type of Essay

The teachers had suggested formatted essays – formal letter or report. These types of essay do not require lengthy writing.

Type of essay [mmm] we can include formal letter. Students don't like to write in lengthy (P9L26:RNA1: May 25, 2017).

Report. Minimal writing (P9L32:RNA2: May 25, 2017).

However, when further probed, the respondents suggested experience-based essays such as proverb-based since this genre of essay allows students to explore their imagination and creative thinking.

Essay [mmm] based on their experiences (P9L35:NATR1: May 25, 2017).

As for me, my students love proverb-based essay. Means that proverb-based essay, they can create their own story, and what's not. Example of this is *sepandai-pandai tupai melompat*. The students knew the proverb.

Okay. Criminal in their minds and all that stuff.
(P9L44:NATR2: May 25, 2017).

4.2.2.3 Standard Content and Standard Learning

Content analysis also investigated what standard content and learning of writing that should be included on the Collaborative Flipped Instruction for Form One Malay Language Writing. Amidst the exam-oriented teaching approach, the respondents implied the needs for implementing proper writing process through mastery approach among the students. This shifted paradigm focusing on the process instead of end product should be applauded.

Okay. Maybe [...] we teach [writing] step by step. For example how to write an introduction. [Mmm] introduction in terms of factual essay. Sometimes they [students] did not know how to write introduction. Because when we discussed with principal and deputy principal, even me as senior teacher, preferred they [students] learn how to write introduction first. Even it took many sessions for it (P7L24:NATR1: May 25, 2017).

Let it be five or six introductions. Even for one topic. We teach them how to produce five to six introductions. Just focus on teaching to write introduction first. Only after they master it, we move to body paragraph (P7L25:NATR2: May 25, 2017).

4.2.2.4 Learning Resources

When asked on the learning resources that could be used on the proposed instructional module, the teacher suggested videos in social media were excellent on empowering the teaching and learning process especially when it comes to language expressions and literature components.

If we want to teach them *KOMSAS*, poems, if the teachers are not fluent on it, they can use the videos on how poems should be recited (P7L7:NATR1: May 25, 2017).

Besides, informative videos on internet supported the teaching and learning sessions. The rich data of videos saved times for the teachers on preparing the resources.

... if I, I prefer to use video. For example, I used videos on drug addiction. The actor was a drug junkie. Passed out. Asked money to buy drugs from her mother. Killed his mother when she refused to give money. The video showed the effects of drug addiction. Means what? They are willing to kill even their own family for drugs. Then, I asked my students to tell me what happened on the video. If they can understand it they should be able to write the effects of drug addiction (P12L49:NATR2: May 25, 2017).

However, the teacher aware of the responsibility to cite the resources and thought it was important for their students to practice this.

But, we suggest that the students to cite the sources of the knowledge be it an example from Google or others. To be more responsible. (P11L22:NATR1: May 25, 2017).

In spite of the technology-based learning resources, the teacher was also suggesting using the newspaper especially when teaching the news-format essay to the students.

One more, we can give the students news excerpts and asked them to study the format and report a news based on that (P11L26:NATR1: May 25, 2017).

However, when asked whether they had produced any videos by themselves, they had not but willing to do that in future.

To date, we have not produced any videos by ourselves. But, *InshaAllah* in future, coming soon (P12L15:NATR2: May 25, 2017).

4.2.2.5 Learning Activities

In this study, learning activities included both online platform and face-to-face sessions. When sharing opinions on learning activities, both respondents stated that their students showed interest on using online learning as demonstrated during their Frog VLE sessions. They showed inclination towards digital-based learning activities and this attachment is predicted as it is among characteristic of digital natives.

...we used Frog VLE, they preferred typing over writing. They wrote their assignment while playing games online, playing with their computers or gadgets. They typed fast and then submitted to me. Then, Frog [online platform], we gave feedbacks, we gave them positive feedbacks, they love receiving it. They love it even more when their friends read the positive comments (P14L1:NATR1: May 25, 2017).

So far, all is well. They were interested on online learning (P15L27:NATR2: May 25, 2017).

NATR1 was then recommended group works instead of personal work. However, monitoring teacher is important to ensure the activities were properly guided.

If we assigned group works, to prevent longer time, teacher need to monitor. Don't let them out of focus. If they do the assignment personally, I am afraid they won't be able to think. Easier to assign groups (P15L18:NATR1: May 25, 2017).

Besides, respondents suggested active learning to be incorporated into Collaborative Flipped Instruction for Form One Malay Language Writing.

Include interesting learning activities. These students did not want conventional learning. They want something involved physical activities such as football demonstration (P10L26:NATR2: May 25, 2017).

Yes physical activities. We let them active first. But meaningful physical activities. We were taught that when they [students] come into class, they shouldn't be quiet (P10L33:NATR2: May 25, 2017).

They need to move physically. Okay. First station don't be too late to complete your task. If you are late, your station will be late. So you need to find your contents fast (P10L39:NATR2: May 25, 2017).

NATR1 was later added, this strategy is more effective on learning.

Sometimes what we learn through listening, seeing and doing are more effective than just listening, right? Plus if we share with friends (P11L6:NATR1: May 25, 2017).

4.2.2.6 Assessment

When asked on the assessment method that should be used on the proposed flipped instruction, they preferred to use peer assessment as they thought it helps the students to understand more on the writing products.

Last year, Form Five students assessed the works of Form One students. They assessed the summary but they assessed in terms of the grammar for example nouns. It was almost near to SPM (P13L7:NATR1: May 25, 2017).

As for Form One students, I asked them to exchange their essay and they assessed each other's works (P13L29:NATR2: May 25, 2017).

4.2.2.7 Medium of Publishing

The teachers were also asked on the possible medium of publishing that should be utilized on the proposed flipped module. They suggested that using digital platform is favored by the students.

They (the students) preferred to type instead of write, in between of playing online games, they typed and send the works online to me. Then we responded and

congratulated them for their works, they like it (P14L1:NATR1: May 25, 2017).

However, NATR2 suggested digital and analogue medium of publishing.

[Mmm] if I, I will give them piece of papers, make a group, present their ideas in front of class. After several presentation on the phases of writing, students will publish online. Their final essays. Using Frog VLE. Or any digital platform (P14L1:NATR2: May 25, 2017).

4.2.3 Technology and Infrastructure

One aspect that should be carefully considered on designing and developing Collaborative Flipped Instruction for Form One Malay Language Writing is technology and school infrastructure. It involved technological environment support which covered facilities and devices that required during the implementation of the module.

As for devices, teachers in government school received free gadgets (Tab) with mobile 4G internet data to be used during instructional times, as clarified by NATR1. In fact, she received three items instead and these would be very helpful to assist any shortcoming in terms of devices and internet among students.

NATR1: Gadget shouldn't pose any problem. We received many free gadgets. In fact I have already received three Tabs, to date. Researcher: [mmm] the one with YES? 4G [mobile data] right? NATR1: Yes. (P5L25:NATR1: May 25, 2017).

If the lesson needs massive technology requirements, the teacher can always apply and book the media room available in school. Media room is equipped with big screen, internet connection, computer and projector. Computer room is also available in school and it is equipped with desktop and internet connection.

We, teacher, can book the media room, computer room.
Students can use that room if needed (P5L33:NATR1:
May 25, 2017).

However, there is no technician or any technical assist provided if there is any technical problems occurred. So the teachers had to solve the issue by themselves.

No technician. Always one teacher who is good in computer will help out (P5L34:NATR1: May 25, 2017).

Reaching this point, it marked the end of the report from teacher respondents. The findings from this sub-section were then triangulated with the other findings and later summarized at the end of this chapter.

4.3 Findings from Document Analysis

Analysis of the artifacts gave insight on the students' prior knowledge on writing and insinuated the issues of writing among students. This is grounded by the Fink's Model of Integrated Course Design (Fink, 2003). It aids on triangulating the data from the interview and survey. It is aimed to answer the following research questions-

- i. What are the students' needs in Collaborative Flipped Instruction for Form One Malay Language Writing?

4.3.1 Situational Factor: Students

This part of analysis will investigate writing process, type and format of the essay, coherence of the ideas, cohesion of writing, essay writing and components of essay including grammatical structures and vocabulary, through document analysis.

4.3.1.1 Writing Scores

From the scores, the researcher found that the mean for the scores is 64% with SD=11.778. There was no student received grade A for their Malay language writing paper, however, there were 18 students with grade A for the paper. Meanwhile, 20 students received grade C and 10 students with grade D. Four students received minimum requirement to pass, with grade E while two students failed the paper.

Table 4.12

Mid-Term Scores for Malay Language Writing Paper

Grade	Scores	Frequency	Percentage
A	80-100	0	0
B	70-79	18	33.3
C	60-69	20	37.0
D	50-59	10	18.5
E	40-49	4	7.4
F*	0-39	2	3.7

*Unable to meet the minimum requirement/fail

4.3.1.2 Writing Process

Although we cannot accurately determine whether 100% of the writing process took place based on the artifacts; each of the artifacts provided us with valuable information on how the writing process was carried out by the students. From seven artifacts only one artifacts - A4, used mind mapping to generate the ideas or content for the writing. However, A4, A6 and A8 did not utilize the essay framework-the scaffolding sentences of the ideas; whereas A1, A2, A3 and A5 used essay framework to organize hence guiding their writing. The writing process which involved translating the ideas into text were done although differed in competency. The review process could not be detected since the artifacts were the final products of the writing process.

4.3.1.3 Essay Writing

The essay writing was the part where the translation of ideas into text occurred. For factual essay, A1 and A2 presented introductory paragraphs with theme sentences and topic sentences but no thesis statements were given. However, A3 and A5 which were also written as factual essay presented an introductory paragraph with clear theme sentences, topic sentences and thesis statements. Completely ironic for A4, a factual essay too, but there was no introductory paragraph included. For A6, a descriptive essay, an introductory paragraph was included and the same was applied to A7, a narrative essay. The writer of A7 started the writing with sense of surprise that trigger the reader to continue their reading; which indicated a flair of narration skill.

Delving into body paragraphs analysis, some artifacts produced good written body paragraphs with thesis statements, elaboration and examples as demonstrated in factual essays- A3 and A5. As for narrative essay, A7 demonstrated creative and flair writing on this genre. The writer applied monologue (P1L8) and dialogues (P1L9, P1L10, P1L14, P1L20, P1L23, P1L25) cleverly on the writing which successfully glued the reader to read her essay. Meanwhile, A6 was also presented good body paragraphs writing. However, for A1, and A2 their body paragraphs contained thesis statements for each paragraphs but lacking on elaboration, examples and summary. The different writing pattern of body paragraphs documented on A4. In the first body paragraph of A4 (P1L19-23) there was thesis statement and explanation but no example was given. In second paragraph (P1L25-P1L30), there was thesis statement and examples given but no elaboration. In third paragraph (P1L32-P1L36), the writer demonstrated thesis statement and elaboration but with no examples. As for fourth

(P1L38-P2L1) and fifth (P2L3-P2L7) body paragraphs, there were thesis statements with examples but not with explanations and summaries.

Analyzing of the essay continued with the conclusion paragraph, all of the artifacts consisted of factual essay: A1, A2, A3, A4 and A5 did not re-state the thesis statements for each of the body paragraphs, lacking of content summary yet they provided their own opinions on the essays as final impression. Exploring different genres, A6 and A7 provided considerable good conclusion paragraphs based on the writing style of their respective genre.

4.3.1.4 Writing Components

In this section, the researcher analyzed the artifacts based on grammatical sentences, spelling and utilization of language expressions. These three elements were classified as components of language as referred to the Standard Malay Language Curriculum for Secondary School Framework (DSKP) (Kementerian Pendidikan Malaysia, 2016).

The factual essays- A1, A2, A3, and A5 exhibited a good usage of grammatical sentences while A4 contained several incomplete sentences with poor grammar. As for A6 and A7, both artifacts displayed the correct use of grammar on the writing. While, all of the artifacts showed excellent spelling with no mistakes. However, there were no artifacts showing the use of language expressions such as *pantun*, idioms or proverb.

4.3.1.5 Organization: Coherence and Cohesion

All of the artifacts demonstrated low coherence and cohesion level except for A5 and A7. The ideas, paragraphs and sentences on the artifacts except A5 and A7

indicated rough transition between sentences and haphazard ideas organization. However, all of the artifacts except A1 used cohesive words to bridge between the paragraphs. The same ideas were used for two consecutive paragraphs in A4. The use of cohesive words were considerable low and, most of the time the selected cohesive words were not appropriate except for A5 and A7.

4.4 Result of Triangulated Data: The Needs Analysis

All the analyzed data were then triangulated according to the triangulation protocol suggested by Farmer, Robinson, Elliott, and Eyles (2006b) and presented in four key components: teacher needs analysis, student needs analysis, technology and infrastructure needs analysis, and content needs analysis.

4.4.1 Teachers' Needs Analysis

As for the teachers, their knowledge on systematic writing process were still in vague. Examination-based approach was pre-dominant on teaching writing among them. Hence, document analysis has shown that the current writing lesson was aimed to produce end-product with little emphasized on the writing process itself. Since the teaching of writing is largely dominated by the exam-oriented approaches, teacher emphasized on the tips to get the higher marks instead of teaching the writing skills in an organized and systematic way. However, their effort to personalize their teaching according to their students' level of competency should be applauded when they used highly scaffold writing technique as in 'fill in the blanks' to teach low achievers and 5W1H technique among the high achievers. Experienced teacher integrated the teaching language components such as grammar and language expressions into the writing lesson. Most of the assessment used in the class involved teacher assessment

and peer assessment. When it comes to online skill, the teachers stated they familiar with Frog VLE, Facebook and Prezi. They also possessed free gadgets such as tab and 4G internet provided by the government.

4.4.2 Students' Needs Analysis

Writing knowledge and experiences are important on developing writing instruction. Based on the survey among the students, low percentages of below 40% recorded for all items involved the writing process- pre-writing, writing and post-writing, and writing skills. A large percentage consisted of 69% of the respondents believed that it was difficult to grasp writing skills. Artifacts also supported the notion that major problem on writing skills is the absence of thesis statement, which is a central component of essay on the introductory paragraphs. Besides that, students did have problems in coherence of the ideas and cohesive of the sentences. Disorganized ideas have disturbed the readers' understanding of the writing. They also tended to use simple sentences without linking words that led to bumpy transition between sentences.

Moving on to the problems of writing among students, 71.3% cited that they had difficulties in elaborating the content or ideas of their essays and this notion was also supported by the data of the teachers and the students' artifacts. Most of the artifacts have not shown a clear evidence of the thesis statement and the expansion of ideas. The students also believed that they had problems incorporating language expressions such as idioms and *pantun* into their writing, which were exhibited through their writing artifacts. Teachers argued that students depended too much on them, especially the pre-writing phase, which involved the generation of ideas. They

were also speculated that a lack of reading habit could be the cause of this, and 57.6 per cent of the students who saw themselves as reluctant readers agreed on this notion.

Another important component is the accessibility to technology among students. Majority of 94.3% of the students stated that they had access to smartphones while 87.4% said they had access to the internet. This was followed closely by access to a laptop with 70.1% of students citing having access to it.

Access to technology should be followed by pre-equipped online skills, as this study involved an online learning platform. The vast majority of 86.2 percent of students identified themselves as skillful smartphone users. Meanwhile, 79.3 per cent of them perceived that they could carry out research on the Internet, and 78.2 per cent believed that they could communicate online. A similar percentage of 79.3 per cent of students reported that they were able to engage in online discussion. When asked about the ability to understand their teacher's teaching online, 52.8 per cent believed they could understand it.

4.4.3 Needs Analysis of Technology and Infrastructure

Technology support is one of the important feature on flipped education. Thus in this study, it is found that, the teachers were equipped with free gadgets such as tabs and 4G by the government. Besides that, the school has come with a computer lab and a media lab that could be booked if there is a need for a teaching and learning session. However, there is no technician or expert on computers or networking provided by the school. The use of the advanced Learning Management System (LMS) would therefore take time and burden teachers. It is good to note that teachers also need time to become familiar with the Frog VLE.

4.4.4 Needs Analysis of Content

The new *Kurikulum Standard Sekolah Menengah* (Kementerian Pendidikan Malaysia, 2016) was based on thematic approach. Thus, in this study 71.3% of the students chose themes on Integrity, and Politic and Administration. It closely followed by Economy which consisted of 65.5% votes, Art and Culture contributed to 55.2% of the majority and Language and Literature were tied with Industry at 48.3%. Teachers, however, were more flexible in their choice of subjects, as they stated that they should be able to relate to students irrespective of the ethnicity of the students. One of them suggested the theme of Unity is very important to be covered.

Discussing the next component: the genre and type of essays, the teachers felt that it was important to focus on experience-based essays that did not require facts, since most of the students had less knowledge of the content. However, the highest student votes went to the expository essay, which was equal to 40.2%. The data from the artifacts were able to provide insights into why students cast their votes mostly on expository essays. Based on the artifacts, students clearly need a good instruction on writing an expository essay, and this was not limited to the weakness of the idea-generating phase, it was also due to poor writing skills, especially on the initiation of a thesis statement. Meanwhile, on the type of essay, students opted for a forum-format with 83.9 per cent, a proverb-based essay with 77 per cent, an interview-format essay with 66.7 per cent, and an article with 65.5 per cent of the expository essay. However, the teachers preferred the formal letter and the essay format of the report. The analysis of documents has revealed to a number of important findings on the content needs analysis- skills that promote systematic and organized writing, focus should be on the ideas expression and less on format.

Now it's all about the learning content that should be delivered during the online session. A large majority of 82.8% of respondents believed that they should be allowed to conduct research on their essay subject during the online session, as stated in S.K. 3.3. This procedure involved research on the content and ideas of their essays. At the same time, 74.7% opted for the introduction of language expressions such as idioms, proverbs and pantun during online sessions (S.K 4.2). It was followed by guidelines on how to write an essay (S.K 3.4) accumulated at 73.6 per cent of the respondents. Teachers had a similar idea when they suggested that an organized step-by-step writing instruction should be introduced specifically for the expository essay. It should be mastery-based and students should have solid understanding of the initial process before moving to the next level.

As for the online learning platform, 77% of the student respondents chose Whatsapp application whilst 58.6% chose Instagram. There is no mutual opinion with the teachers as they believed that Frog VLE was enough to be used as online learning platform.

With regard to online learning resources, 78.2 percent of students opted for online educational videos as offered on the Youtube, Facebook and social media platforms. Surprisingly, 64.4 percent of students chose PowerPoint slides as their preferred learning resources. Teachers also suggested the use of videos to support teaching and learning processes, especially in the teaching of language expressions and as additional videos to help the brainstorming process.

Now, we have moved on to the face-to-face classroom-based learning session. A huge majority of 85.1% of the students believed that brainstorming the ideas (S.P 3.3.1) should be included whilst 74.7% chose build-up the frameworks of the essay (S.P 3.4.1) should be included too. More than half of the respondents felt that writing

the essay (S.P 3.4.2 and S.P 3.4.3) should also be included in the classroom sessions. These were in line with the opinions of the teachers who thought that it was really important to have writing instruction focused on the process and the level of competence.

As for the learning activities on the classroom, the majority of 84.4% of the students believed that group discussion should be included while 72.4% felt that project-based learning was a good approach to learning activities that should be incorporated into the proposed flipped module. Echoing the similar sentiment, the teachers stated that group-based work that includes collaborative learning and also active learning should be introduced during the classroom sessions. These suggestions supported the demands of 21st century learning, which called for collaborative and active learning approaches.

When it comes to the assessment, the students still believed that it should be done by the teacher, as the majority of them accounted for 87.4%. The same can not be applied to teachers as they believe peer assessment is more beneficial to students. Evaluating their own peers helps them to understand more about their learning so that better assessment can be done. Students will be able to apply the knowledge they have acquired and put it to use.

The most recent component of the content analysis is the publishing medium. A majority of 70.1 per cent of students believed that social media was the best medium for publishing, while 63.2 per cent thought that books were still a good medium for publishing. Teachers, however, suggested using the digital platform as they perceived young people prefer to engage more in the digital environment, while the writing process should be published in paper-based media and group presentations.

4.5 Summary

This chapter reported the result from phase one – needs analysis phase. It is intended to answer first research question: What are the needs of Collaborative Flipped Instruction for Form One Malay Language Writing?

Situational factors that analyze the background issues of teachers in terms of a number of constructs – prior writing knowledge, teaching writing practices, and online skills. Teachers were found to be uncertain and possessed vague knowledge of procedural writing. When it comes to teaching writing practices, it has been found that they have implemented peer-reviewed teaching approaches, generated essay content and ideas, integrated language components into writing lessons, and a writing approach based on student competence. It was also found that, in addition to practicing teacher-based and student-based assessment, 21st century pedagogy and technology were used during writing classes. They were also concerned about the shorter time of the Malay language slot under the KSSM and rarely did writing classes for their students.

In addition to analyzing the problems of teachers, the situational factor also looked at the problems of writing instruction among students, their technology accessibility and online skills. Based on the data, students have been shown to have minimal knowledge of the writing process. This finding is reinforced by their writing scores of an average of 64 per cent. They also perceived writing skills as difficult skills to acquire and master. They have also been found to have shallow ideas on subjects with sometimes no elaboration of the thesis statement. They have also been found to misunderstand rhetoric and have failed to incorporate language expressions such as idioms, proverbs and *pantun* into their writing. Besides, they also lacked reading habits and depended too much on their teachers for their ideas and the content of their essays.

Their essays have been found to be lacking or absent from the thesis statement and struggling with organization of essay – coherence and cohesion. The findings showed that a majority of 94 per cent had access to a smartphone, 87.4 per cent to the Internet and 70.1 per cent to a laptop. When it comes to online skills, they were perceived as smartphone users, and they were also believed to be able to conduct research and communicate online.

Technology and infrastructure are another aspects to be assessed during the needs analysis. Based on the data, teachers received free mobile gadgets from the Ministry of Education with a 4G Internet subscription discount. In the meantime, a computer lab and a media lab are available to teachers and students. Both laboratories are equipped with desktop computers and the Internet. Technical support was not available, however, as there is no technician hired to handle any technical problems.

The last major aspect being analyzed is the content needs analysis. It involves themes, genre and type of essay, learning content (standard content and standard learning), learning platform, learning resources, and learning activities on the face-to-face session. Table 4.13 tabulated the summary of triangulated data findings from needs analysis phase.

Table 4.13

Summary of Triangulated Data from Needs Analysis Phase

Theme	Findings from Students' Survey	Findings from Teachers' Interview	Findings from Document Analysis	Triangulation Inference
Situational factor: Teachers				
Prior writing knowldge	No data	• Tacit writing knowledge. • Writing knowledge based on own experiences.	• Incomplete writing process. • Teacher assessment based on marks. • No clear implementation of writing process.	Tacit writing knowledge.
Teaching writing practice	No data	• Focus on scoring the examination. • Focus on getting marks and avoiding marks deduction.	• Focus on grammar. • Focus on examination marking guidelines.	Exam-based teaching approaches.
	Teacher provided the content.	Teacher provided the content.	Same content and ideas in all the artifacts.	Teacher generated the content and ideas of essay.
	No data	Integrated language components into writing lessons.	No data	Integrated language components into writing lessons.

Table 4.13 (Continued)
Summary of Triangulated Data from Needs Analysis Phase

	No data	Writing technique based on the competency level of students.	Different type of writing technique detected.	Writing technique based on the competency level of students.
	Teacher did the assessment and also practiced peer assessment.	Teacher did the assessment and also practiced peer assessment.	Teacher did the assessment and peer assessment were also detected.	Teacher did the assessment and also practiced peer assessment.
	Teacher did not use technology during writing classes.	Used technology on writing lessons.	Based on the assignment task, teachers asked the students to conduct research online.	Used technology on writing lessons.
	Group-based works	Brainstorming sessions were conducted in a group.	No data	Applied 21st century learning approach in class.
	No data	Shorten time from 45 minutes to 30 minutes for each slot of lesson period under KSSM.	No data	Shorten time from 45 minutes to 30 minutes for each slot of lesson period under KSSM.
	No data	Rarely conduct the writing classes	Based on the assignment entry dates, writing task was assigned once in two months.	Low frequency writing class.
Online skills	No data	Familiar with social media applications: Facebook, Prezi.	No data	Familiar with social media applications: Facebook, Prezi.
	Used Frog VLE.	Used Frog VLE.	No data	Used Frog VLE.

Table 4.13 (Continued)
Summary of Triangulated Data from Needs Analysis Phase

Situational factor: Students				
Prior writing knowledge	No data	No data	Mean scores for Malay language writing paper is 64 with Grade C.	Mean scores for Malay language writing paper is 64 with Grade C.
	Minimal knowledge on writing process and its phases.	Minimal knowledge on writing process.	No data	Minimal knowledge on writing process.
	Perceived writing skills as difficult language skill to be mastered.	- Students have problem to grasp the writing skills. - Writing is a difficult task to accomplish. - Many of the students are struggling writers.	No data	Perceived writing skills as difficult language skill to be mastered.
	- Minimal acquisition of writing skills. - Perceived themselves having a low level of writing skills in each of the phases.	Minimal acquisition of writing skills.	Minimal acquisition of writing skills.	Minimal acquisition of writing skills.

Table 4.13 (Continued)
Summary of Triangulated Data from Needs Analysis Phase

Problems on writing	Shallow elaboration of the content/ideas.	No expansion of the ideas.	Shallow/no elaboration of the content/ideas.	Shallow/no elaboration of the content/ideas.
	Believed they understand the rhetoric.	Some of the students did not understand the rhetoric.	Struggling students did have problems on understanding topic	Misunderstood the rhetoric
	Less knowledge on idioms and <i>pantun</i> .	Students are not confident to use idioms.	Only one artifact included <i>pantun</i> .	Failed to incorporate language expressions e.g idioms, <i>pantun</i> .
	Reluctant readers.	Students rarely reads.	No data	Lacking on reading habits.
	Teachers provided the content.	Teachers provided the content.	Each of the artifacts has the same content / ideas.	Depended too much on teacher to generate the ideas/content of the essay.
	Students perceived they don't have problem on thesis statement.	Lacking of thesis statements on the essay	Lacking/absent of thesis statements on the essay	Lacking/absent of thesis statements on the essay.
	No problem with coherence and cohesive.	Rarely used linking words. Inorganized essays.	Coherence and cohesive issues	Coherence and cohesive issues
Technology ownership	Had access to smartphone.	Had access to smartphone.	No data	Majority of 94.3% had access to smartphone.
	Had access to internet.	Had access to internet.	No data	87.4% had access to internet.

Table 4.13 (Continued)
Summary of Triangulated Data from Needs Analysis Phase

	Had access to laptop.	No data	No data	70.1% had access to laptop.
Online skills	Good at using smartphones	Skilful on using smartphone.	No data	Skilful on using smartphone.
	Believed they can conduct research on internet.	No data	No data	Believed they can conduct research on internet.
	Perceived they can communicate online.	Students are good online communicators.	No data	Perceived they can communicate online.
Situational factor: Technology and Infrastructure	No data	Free mobile gadgets from Ministry of Education for teachers.	No data	Free mobile gadgets from Ministry of Education for teachers.
	No data	Discounted 4G internet.	No data	Discounted 4G internet.
	No data	Computer lab and media lab are available.	No data	Computer lab and media lab are available.
	No data	No technician or any technical support available.	No data	No technician or any technical support available in formal for any teaching and learning purposes.
Content Needs				

Table 4.13 (Continued)
Summary of Triangulated Data from Needs Analysis Phase

Themes	Integrity	Disagreed	No data	Integrity
	Politic and Administration	Disagreed	No data	Politic and Administration
	Economy	Disagreed	No data	Economy
	Art and Culture	Art and Culture	No data	Art and Culture
	Language and Literature	Language and Literature	No data	Language and Literature
	Industry	Disagreed	No data	Industry
	Unity	Unity	No data	Unity
Genre	Expository	Expository	Expository	Expository
	Experience-based essay	Experience-based essay	No data	Experience-based essay
Types of essay	Forum	No data	No data	Forum
	Proverb-based essay	No data	No data	Proverb-based essay
	Interview	No data	No data	Interview
	Article	No data	No data	Article
	Formal letter	Formal letter	No data	Formal letter

Table 4.13 (Continued)
Summary of Triangulated Data from Needs Analysis Phase

	Report	No data	No data	Report
Online platform	Whatsapp	No data	No data	Whatsapp
	Instagram	No data	No data	Instagram
	Disagreed	Frog VLE	No data	Frog VLE
	Disagreed	Facebook	No data	Facebook
Online standard content	Conduct research based on the rhetoric	Doing research on topic	No data	S.K 3.3 Conduct research based on the rhetoric (essay question)
	Introducing language expressions	No data	No data	S.K 4.2 Introducing language expressions
	Guidelines on writing	Writing essay guidelines.	No data	S.K 3.4 Guidelines on how to write an essay
Online learning resources	Videos from social media	YouTube	No data	Supplementary educational videos from social media
	PowerPoint slides	No data	No data	PowerPoint slides
	Educational videos	Informative videos on topics	No data	Supplementary videos with educational and informative values

Table 4.13 (Continued)
Summary of Triangulated Data from Needs Analysis Phase

Face-to-face standard content	Brainstorm the ideas/content for essay	Discussed the ideas and content	No data	S.P 3.3.1 Brainstorm the ideas/content for essay
	Build the framework of essay	No data	Build the framework of essay	S.P 3.4.1 Build the framework of essay
	Write the essay	Write the essay	Write the essay	S.P 3.4.2 and S.P 3.4.3 Write the essay
Face-to-face learning activities	Group discussion	Group discussion.	No data	Group discussion
	Project-based learning	No data	No data	Project-based learning
	Group-based work	Group-based work	No data	Group-based work
	Collaborative learning	Collaborative learning	No data	Collaborative learning
	Active learning	Active learning	No data	Active learning
Assessment	Teacher-based assessment	Teacher-based assessment	Teachers assessed works	Teacher-based assessment
	Peer assessment	Form Five students assessed works of Form One students.	Peer assessment	Peer assessment with guidance
Medium of publishing	Social media	Digital platforms and books.	No data	Social media and books

CHAPTER 5

RESULT OF DESIGN AND DEVELOPMENT PHASE

This chapter reported findings from second phase of the study: design and development phase. This phase is intended to answer the following research question: What are the experts' views on design and development of the Collaborative Flipped Instruction for Form One Malay Language Writing?

5.1 Design Phase

In this phase, design process of the Collaborative Flipped Instruction for Form One Malay Language Writing was conducted. The findings for this phase were segmented into two main procedures- design of Fuzzy Delphi questionnaire and Fuzzy Delphi sessions.

It was started with identification of components and sub- components of the Collaborative Flipped Instruction for Form One Malay Language Writing. It is based on the systematic literature review, findings from needs analysis phase, and experts' interview sessions. Based on the findings of these three methods, Fuzzy Delphi Method questionnaire was later developed. This Fuzzy Delphi questionnaire was later being used to gather consensus of experts through Fuzzy Delphi sessions. The expert consensus informed the development of Collaborative Flipped Instruction for Form One Malay Language Writing. This chapter is intended to answer these following research questions:

- i. What are the components and sub-components of Collaborative Flipped Instruction for Form One Malay Language Writing?

- ii. What are the consolidated experts' consensus on designing Collaborative Flipped Instruction for Form One Malay Language Writing?

5.1.1 Result of Experts' Interviews

5.1.1.1 Standard Content and Learning

All experts agreed on all elements of online learning and face-to-face content. They argued that since the content is based on the Standard Curriculum and Assessment Document or in the Malay language *Dokumen Standard Kurikulum Pentaksiran* (DSKP) and is used in the school system, all the contents must be revised in accordance with the strict educational standard imposed by the Ministry of Education. Thus, all of the sub-components listed were considered appropriate and did not require any additional sub-components.

However, most experts believed that Malay language learning should be highlighted the students' very fundamental issues and their socio-cultural influences – the origins of the language in which it involves incorporating the native language culture – i.e. the arts, literature, cultural values, and the emphasis on moral values and good practices.

It is like what I told based on Learning Approach Theory. The themes should be the most relatable to the students. Starts with the basic hygiene, this is foundation. Then, we moved to culture, literature and language. (L62-63: DDIV4: May 30, 2017).

The very basic and fundamental [*lah*]. Foundation of life. Health and hygiene. Safety. Unity. Unity is so important in our multicultural country. And also our roots. History, culture and heritage. Sports. Language and literature. (L303-303: DDIV1: May 24, 2017).

I reckoned something like culture, unity should be emphasized. I also think green technology is indeed

important. It teaches us how to sustain our earth. Healthy hygiene is a very practical for Form One students. Most of them are reaching puberty at this age, either a bit earlier or later (L19-20: DDIV2: May 1, 2017).

Another notion proposed by DDIV 1 and DDIV 4 experts is; re-introduction to the one of Malay language's original scripture-*Jawi*. This scripture adopted Arabic fonts and widely used before the introduction of Latin characters.

I think there is a huge need to reintroduce *Jawi*. This is the Malay language heritage. Actually it's our written scripture. Doing this will encourage the Malay language art and history. Suitable for the theme of Language and Literature. Requires re-learning. If not, we lose important root of ours (L303-303: DDIV1: May 24, 2017).

Jawi is to be included. Not that much. An introductory statement. The characters. For example, the art of *khat* [Malay calligraphy]. Language is not just a matter of communication. There's beauty on it too (L62-63: DDIV4: May 30, 2017).

Extending this notion, DDIV1 stated that socio-cultural factors, including the socio-economic and family environment, had a significant impact on students' learning and their behavior towards the learning environment.

In fact, if we want effective learning, we need to look around students' lives and the issues around (L303-303: DDIV1: May 24, 2017).

Besides, DDIV4 and DDIV1 suggested that content could be integrated with other language skills or subjects so that the purpose of the Malay language as a medium of communication could be empowered.

So, we can do writing activities, [mrm] do [together] with what, reading activities. As long as it [content] related with the themes. Besides, we can combined with other subjects. Cleanliness can be combined with Islamic Education and Moral [Education]. Puberty

[combined] with Science (L166-169: DDIV4: May 30, 2017).

Collaboration between subjects is a good practice. Malay language is a medium. By collaborating, we are giving the students real world application. We are also enriching the content (L123-125: DDIV1: May 24, 2017).

DDIV2 viewed that type of essays are unnecessary for the first two months of writing lesson. She stated that, in the beginning, it is best to let the students explore the nature of writing before employing types and formats. Earlier introduction of format and type of essays may interfere with the development of writing skills among students and those struggling with writing could be the worst impacted.

... the format does not pose much problem because it is usually very simple but the tendency for weaker students to forget some details for example such as the name of the author and signing off for report writing [...] that can happened (L16-18: DDIV2: May 1, 2017).

The above-mentioned factor is also supported by the statement from DDIV1, which stated that most of the school writing classes focused too much on evaluation and schema. Sometimes too much emphasis has been placed on format and grammar. It should, in the first place, focus on the very basic thing-conveying of ideas.

The main [goal] is the essay. We are trying to see their ideas. Are they really answering the questions? Instructions. Grammar is a bit of it. Writing is really a skill. We did not teach writing (L619-620: DDIV1: May 24, 2017).

5.1.1.2 Online Learning Resources

All experts agreed with the constructs and Sub-components on online learning resources based on the systematic literature review. DDIV3 and DDIV2 suggested the collaborative tools- Wiki and Padlet were added as options under online

learning resources.

Use the digital platform. Use the blog. Write the blog. Or you write the Wiki. One group write certain things and put it together. Wiki allows you to write. So, use the Wiki, Padlet. (L188-190: DDIV3: May 23, 2017).

[Mmm] Padlet, Padlet.com, where students can post their ideas [...] and then afterwards the teachers checked it (L101-102: DDIV2: May 1, 2017).

5.1.1.3 Online Learning Platform

The sub-components listed on the online learning platform accepted mixed reactions from the experts. DDIV3 stated that the chosen platform should be relevant to students and suggested that social media is the appropriate platform to be considered.

Because the Form One student is about thirteen years old, right? They are very comfortable with their phones. They are very comfortable with the social media. So they're only learning that behavior. So it's best to take advantage of that behavior rather than force them to do something they're not used to. So look at the stuff, mini mobile technology (L46-52: DDIV3: May 23, 2017).

He also added that their routine behaviour with social media creates engagement while using the learning platform.

But engagement is important. How do you create the engagement that allow the students to learn the 21st century skills? Social media (L65-66: DDIV3: May 23, 2017).

Additionally, DDIV4 suggested Schoology and Telegram (L384: DDIV4: May 30, 2017). Meanwhile, DDIV1 and DDIV2 disagreed on the listing of WeChat as a learning platform. They argued that WeChat as messenger application imposed an unsafe social environment on students in local context.

WeChat? No! No! Many teenagers misused WeChat. They used it to find boyfriend or girlfriend [platonic] and having fun. Going out together. Send indecent pictures. (L303-303: DDIV1: May 24, 2017).

I do not think WeChat is appropriate to be included as an option. WeChat, somehow, has a negative connotation in our local context especially among teenagers. Some people preying on these young teenagers. I, myself, disagreed if my children have to use it (L19-20: DDIV2: May 1, 2017).

5.1.1.4 Face-to-Face Learning Activities

As for the face-to-face learning activities, all the experts agreed on the sub-components presented. However, DDIV2 proposed Placement Consensus (L135: DDIV2: May 1, 2017). DDIV2 described Placement Consensus as below;

Each student is going to write his own ideas. And then they have to come to a consensus where they have to identify [mmm] ideas similar to those shared by all the members, and from there the students will be able to identify points, and from there the students can write their essay based on the points they have put together (L136-140: DDIV2: May 1, 2017).

DDIV1 and DDIV2, both teachers, have stated that review is the most neglected writing process especially in school settings. They suggested that the review process should begin to be focused and collaborative review would benefit students.

This paragraph is assigned to this group. Another paragraph, a different group. Let's start with paragraph writing in front of the whole essay. Then we're going to make a review. Then we ask them to review the other paragraph of the group in writing. They're going to learn different points in different paragraphs. They're learning how others write. They learn how to review, criticize, and understand the essay from the point of view of others. Learn from your peer. Review, I'd say, almost none of them did. Unless [by] an expert teacher. (L303-303: DDIV1: May 24, 2017).

... this task of reviewing can be done collaboratively in a group. In this sense, they may not be writing an essay,

but they are going to do it by paragraph. This means that one by one is assigned. Rather than reviewing as a whole, they can do so only partially (L55-58: DDIV2: May 1, 2017).

5.1.1.5 Assessment

All the experts agreed on the sub-components listed in the assessment constructs. Each of the sub-components has their own advantages and disadvantages that complement each other. However DDIV4 stated that students should be provided with assessment rubric, so that they know what are they assessing and learn on their own at the same time.

[Haa] that assessment, if we need, we must create a guidelines. How to do it. Sort of rubric. Rubric and class culture. We explain okay “if we assess, do not simply deduct the marks and all (L395-397: DDIV4: May 30, 2017).

5.1.1.6 Medium of Publishing

Since this study involves writing, publishing media is the space in which students publish their works to the public, i.e. teachers, peers. Despite the digital waves that transform the instruction, the expert DDIV1 suggested a paper-based medium is still very much needed.

On paper. Writing. This should include handwriting. The very basic of writing process. Then we added any digital-based medium (L412-412: DDIV1: May 24, 2017).

Later, he suggested electronic portfolio could also be incorporated. The platform could be from Facebook, blog and even Instagram.

Facebook is also good to deposit their writing. Blog. Instagram suitable for writing task (L412-413: DDIV1: May 24, 2017).

5.1.1.7 Reflection Session

When it comes to reflection section- content and medium of reflection, all the experts agreed on the sub-components listed. DDIV4 proposed Telegram to be added as a medium of reflection (L400: DDIV4: May 30, 2017) while DDIV2 suggested sticky notes to be included as a good old technique that effective (L189-192: DDIV2: May 1, 2017). Besides, DDIV2 thought that it is good to provide the students with a reflection checklist so that they would be aware on the procedures and points on which their essays were evaluated. Thus, in the future, they will be alert to their own writing.

Number three the teacher can add to the convention. Do you check your sentences, are they written in the right capital letter? Have they put the full stop? It's a simple thing. But this is the mechanism, the main mechanic of writing. So, self-reflection, [and] evaluation can be carried out by Form One and reluctant students. Provide them with a Reflection Checklist (L189-192: DDIV2: May 1, 2017).

5.1.2 Summary of Experts' Interviews

The findings from the experts' interviews were then summarized and tabulated as in Table 5.1.

Table 5.1
Summary from Experts' Interviews

No	Constructs	The findings
1	Macro content Standard content and learning	1. Fundamental issues surrounding the lives of students. 2. Roots of the language - culture, arts and moral values. 3. Re-introducing Jawi scripture. 4. Concern on the socioeconomic background of the students. 5. Integrated language learning.
	Genre of Essay Type of Essay	1. Explore the writing process. 2. Less emphasize on formatted writing.

Table 5.1 (Continued)
Summary from Experts' Interviews

2	Online learning resources	1. Wiki 2. Padlet
3	Online learning platform	1. Social media technology. 2. Schoology 3. Telegram 4. WeChat is not suitable due to negative connotation in Malaysia context.
4	Face-to-face learning content	1. Placement consensus
5	Learning activities	1. Focus on collaborative review process
6	Assessment	1. Provide assessment rubric
7	Medium of publishing	1. Paper-based medium. 2. Handwriting is important. 3. Electronic portfolio should be explored especially social media technology.
8	Reflection content	1. On the writing process 2. Provide students with reflection checklist.
9	Medium of reflection	1. Telegram

5.1.3 Experts' Reviews on the Fuzzy Delphi Questionnaire

This subchapter presented expert reviews of the content and face validity of the Fuzzy Delphi questionnaire on Collaborative Flipped Instructions for Form One Malay Language Writing. Two experts have been involved in these reviews. The first expert is a lecturer in Malay language from the public university in Kuala Lumpur, who has been a Malay language teacher for seventeen years before joining university for eleven years. He is also an avid enthusiast of technology in Malay language learning. The second expert is the Malay language teacher in *Sekolah Kluster Kecemerlangan*.

The Fuzzy Delphi questionnaire with the constructs and sub-components to be reviewed was submitted. Both experts agreed on the components and sub-components presented and asked the researcher to clearly define the unknown sub-components

involving rare jargon to future respondents, i.e. Traveling File, Placement Consensus. This is important in order to make it clear to future respondents what options they are choosing.

5.1.4 Findings from Fuzzy Delphi Method Session

The following sub-chapters reported the findings from the Fuzzy Delphi Method and segmented into the components of the proposed Collaborative Flipped Instruction for Form One Malay Language Writing.

5.1.4.1 Macro Content

In this sub-chapter, macro content referred to what content should be included in the Collaborative Flipped Instruction for Form One Malay Language Writing. It covered themes, genre of essays, and type of essays. These constructs and sub-components were based on Document of Standard Curriculum and Assessment for Malay Language or in Malay language - *Kurikulum Standard Sekolah Menengah Bahasa Melayu Dokumen Standard Kurikulum dan Pentaksiran Tingkatan Satu* (Kementerian Pendidikan Malaysia, 2016).

(a) Themes

For themes, threshold value calculation with a value of $d \leq 0.2$ kept nine sub-components out of eighteen and the second requirements of consensus percentage of more than 75% excluded two sub-components thus left seven sub-components accepted. From that, panel of experts ranked Integrity as the most preferred element to be included on the module. This was followed by Language and Literature, and Culture, Art and Aesthetic in third place. Theme based on Cleanliness

and Health was ranked fourth and Unity came fifth. Education were placed at sixth while Environmental and Green Technology was the last sub-components accepted by the panel of experts, thus ranked seventh. Eleven sub-components were rejected due to failure meeting the Triangular Fuzzy numbers requirements – History and Heritage, Patriotism, Sports and Recreation, Tourism, Science, Technology and Innovation, Agriculture, Career, Safety, Economy and Entrepreneurship, Industry, and Politic and Administration. Table 5.2 tabulated the findings.

Table 5.2
Fuzzy Delphi: Themes

Sub-components		Triangular Fuzzy numbers requirements		Defuzzification process requirement		Rank
		Threshold value (d)	Consensus percentage (%)	Fuzzy evaluation	Fuzzy score	
1	Integrity	0.158	78	15.733	0.874	1
2	Language and Literature	0.174	95	15.567	0.865	2
3	Culture, Art and Aesthetic	0.165	95	15.367	0.854	3
4	Cleanliness and Health	0.184	94	15.300	0.850	4
5	Unity	0.147	100	15.220	0.844	5
6	Education	0.168	95	15.000	0.833	6
7	Environmental and Green Technology	0.152	100	14.933	0.830	7
8	History and Heritage	0.149	72	15.667	0.870	R
9	Patriotism	0.156	72	15.867	0.881	R
10	Sports and Recreation	0.250	50	13.600	0.756	R
11	Tourism	0.240	45	12.900	0.717	R
12	Science and Technology	0.211	89	14.567	0.809	R
13	Agriculture	0.300	33	12.400	0.689	R
14	Career	0.203	56	13.967	0.776	R
15	Safety	0.231	50	13.567	0.754	R
16	Economy and Entrepreneurship	0.222	50	14.267	0.793	R
17	Industry	0.244	45	11.533	0.746	R
18	Politic and Administration	0.334	45	11.533	0.641	R

(b) **Genre of Essay**

For genre of essay, threshold value calculation with a value of $d \leq 0.2$ retained all the sub-components and the second requirements of consensus percentage of more than 75%, also accepted all the sub-components. The expert panel ranked narrative essay in the first place, followed by descriptive essay and then expository essay. Table 5.3 tabulated the findings.

Table 5.3
Fuzzy Delphi: Genre

		Genre				
		Triangular Fuzzy numbers requirements		Defuzzification process requirement		Rank
Sub-components		Threshold value (d)	Consensus percentage (%)	Fuzzy evaluation	Fuzzy score	
1	Narrative	0.158	78	15.733	0.874	1
2	Descriptive	0.123	100	15.633	0.869	2
3	Expository	0.169	89	15.233	0.846	3

(c) **Type of Essay**

For type of essay, threshold value calculation with a value of $d \leq 0.2$ kept five of the sub-components and the second requirements of consensus percentage of more than 75%, has shown only five sub-components accepted out of fourteen . The expert panel ranked article in the first place, followed by proverb-based essay and formal letter format essay in third place. Explanatory essay is placed at fourth and closely followed by news format essay. Table 5.4 tabulated the findings.

Table 5.4
Fuzzy Delphi: Type of Essay

		Type of Essay				
		Triangular Fuzzy numbers requirements		Defuzzification process requirement		Rank
Sub-components		Threshold value (d)	Consensus percentage (%)	Fuzzy evaluation	Fuzzy score	
1	Article	0.165	100	15.133	0.841	1
2	Proverb-based essay	0.166	100	14.600	0.811	2
3	Formal letter	0.179	94	14.567	0.809	3
4	Explanatory essay	0.159	94	14.533	0.807	4
5	News	0.164	94	14.367	0.798	5
6	Forum	0.322	67	11.133	0.619	R
7	Debate	0.259	50	13.300	0.739	R
8	Interview	0.258	44	12.833	0.713	R
9	Oratory speech	0.205	56	12.867	0.715	R
10	Opinion-based essay	0.207	56	13.667	0.759	R
11	Speech text	0.141	72	13.167	0.731	R
12	Informal letter	0.271	50	13.633	0.757	R
13	Dialogue	0.244	45	12.533	0.696	R
14	Diary entry	0.291	57	11.600	0.644	R

5.1.4.2 Findings from Online Session

There are four major components classified under pre-class session- online standard content, online standard learning, online learning resources, and online learning platform. The following sub-chapters reported the sub-components chosen by the experts through consensus.

(a) Online Standard Content

For online standard content, threshold value calculation with a value of $d \leq 0.2$ retained all of the sub-components and the second requirements of consensus percentage of more than 75%, also accepted all of the sub-components. The expert panel agreed that sentence construction based on selected words and jargon to be

placed at the first place. This follows by guidelines on how to write an essay and later the technique on how to write an essay. At the fourth rank is introducing the format of the essay, follows by suitable idioms and proverbs. They ranked guidelines of revising at the last place. Table 5.5 tabulated the findings.

Table 5.5
Fuzzy Delphi: Online Standard Content

Online Standard Content						
Sub-components		Triangular Fuzzy numbers requirements		Defuzzification process requirement		Rank
		Threshold value (d)	Consensus percentage (%)	Fuzzy evaluation	Fuzzy score	
1	S.K 3.1: Build sentences based on selected words and jargon.	0.163	100	15.500	0.861	1
2	S.K 3.4: Guidelines on how to write an essay.	0.168	100	15.267	0.848	2
3	S.K 3.4: Technique on how to write an essay.	0.168	100	15.00	0.833	3
4	S.K 3.4: Introduce the format of the essay.	0.192	100	14.767	0.820	4
5	S.K 4.2: Introduce suitable idioms and proverbs.	0.172	100	14.733	0.819	5
6	S.K 3.7: Guidelines on revising	0.197	89	14.367	0.798	6

(b) Online Standard Learning

For online standard learning, threshold value calculation with a value of $d \leq 0.2$ retained all of the sub-components and the second requirements of consensus percentage of more than 75%, also accepted all of the sub-components. The expert panel ranked brainstorming ideas in the first place, followed by building up framework of the essay and then building sentences based on selected words and jargons to communicate ideas in grammatical way in third place. Then, it followed by discussing

the format and rhetoric of the essay at the fourth place and conducting the research on the topic given at the fifth place. The expert panel agreed on the needs of writing or printing the findings of the research and the last rank is using the proverbs and idioms in writing with right application and context. Table 5.6 tabulated the findings.

Table 5.6
Fuzzy Delphi: Online Standard Learning

Online Standard Learning						
	Sub-components	Triangular Fuzzy numbers requirements		Defuzzification process requirement		Rank
		Threshold value (d)	Consensus percentage (%)	Fuzzy evaluation	Fuzzy score	
1	S.P 3.3.1: Brainstorm the ideas of the essay.	0.123	100	15.633	0.869	1
2	S.P 3.4.1: Build up framework of the essay	0.123	100	15.633	0.869	2
3	S.P 3.1.1: Build sentences based on selected words and jargon to communicate ideas in grammatical way.	0.138	100	15.467	0.859	3
4	S.P 3.2.1: Discussing the rhetoric and format of the essay	0.138	100	15.467	0.859	4
5	S.P. 3.2.1: Conducting the research on the topic given online	0.111	100	15.433	0.857	5
6	S.P 3.2.1: Write or print the findings of research	0.133	100	15.367	0.854	6
7	S.P. 4.2.1: Use the idioms or proverbs in written communication	0.141	100	15.100	0.839	7

(c) *Online Learning Resources*

In this sub-chapter, online learning resources referred to any learning materials including texts, pictures, photos, videos that should be used on the online

learning part of Collaborative Flipped Instruction for Form One Malay Language

Writing in order to assist students' learning. Table 5.7 tabulated the findings.

Table 5.7
Fuzzy Delphi: Online Learning Resources

Online Learning Resources						
Elements		Triangular Fuzzy numbers requirements		Defuzzification process requirement		Rank
		Threshold value (d)	Consensus percentage (%)	Fuzzy evaluation	Fuzzy score	
1	Digital photo	0.090	100	16.333	0.907	1
2	Hyperlink	0.114	83	15.900	0.883	2
3	Related videos available on web e.g Youtube, TedEd.	0.102	83	15.700	0.872	3
4	Related instructional videos created by teachers.	0.138	100	15.467	0.859	4
5	Google	0.165	94	15.900	0.883	5
6	Online dictionary	0.179	94	14.967	0.831	6
7	Powerpoint™	0.182	94	14.400	0.800	7
8	Online forum	0.221	50	13.467	0.748	R
9	Related videos created by students.	0.311	56	13.233	0.735	R
10	Text-based resources	0.345	39	10.933	0.607	R
11	Audio	0.259	61	11.767	0.654	R
12	Email	0.287	33	12.667	0.704	R
13	Twitter	0.367	17	9.500	0.528	R
14	Padlet	0.289	56	11.767	0.654	R
15	Wiki	0.309	72	12.100	0.672	R

For online learning resources, threshold value calculation with a value of $d \leq 0.2$ retained seven out of fifteen sub-components and the second requirements of consensus percentage of more than 75%, accepted all seven sub-components too. The expert panel ranked digital photos in the first place, followed by hyperlink and then relatable videos in social media e.g. YouTube, TedEd. They placed instructional videos produced by teachers at the fourth place, using Google at number five, and

online dictionary at sixth place. They also ranked the use of Powerpoint in a seventh place.

(d) Online Learning Platform

Online learning platform is an integrated set of interactive online services that provides the teachers, the learners, parents and others involved in education with information, tools and resources to support and enhance educational delivery and management (Cartelli, 2009). Thus, in this study, the expert panel shared their opinion on the suitable online learning platform that should be used. Table 5.8 tabulated the findings.

Table 5.8
Fuzzy Delphi: Online Standard Platform

Online Learning Platform						
Sub-components		Triangular Fuzzy numbers requirements		Defuzzification process requirement		Rank
		Threshold value (d)	Consensus percentage (%)	Fuzzy evaluation	Fuzzy score	
1	Facebook	0.117	100	15.533	0.863	1
2	Frog VLE	0.315	72	12.200	0.678	R
3	Whatsapp	0.387	39	11.767	0.654	R
4	Instagram	0.373	28	12.067	0.670	R
5	WeChat	0.502	22	7.533	0.419	R
6	Schoology	0.199	50	12.367	0.656	R
7	Telegram	0.345	50	10.767	0.598	R

For online learning platform, threshold value calculation with a value of $d \leq 0.2$ retained two out of seven sub-components and the second requirements of consensus percentage of more than 75%, accepted only one element. Facebook and Schoology (LMS) had threshold value less than 0.2, however, with only 50% of consensus percentage, Schoology is rejected and only Facebook remained.

5.1.4.3 Findings from Face-to-Face Session

This subchapter reported the experts' consensus on the sub-components that should be included during in-class session in Collaborative Flipped Instruction for Form One Malay Language Writing. For face-to-face session, there were four components being investigated namely face-to-face standard learning content, face-to-face learning activities, assessment, and medium of publishing.

(a) *Face-to-Face Standard Learning*

Face-to - face standard learning is the learning content of a classroom session. It's a conventional learning hour in a school, and it's supposed to be the time when learning has taken place. Abbreviation S.P stands for *Standard Pembelajaran*, which means Standard Learning.

For face-to-face learning content, threshold value calculation with a value of $d \leq 0.2$ retained all the five sub-components and the second requirements of consensus percentage of more than 75%, also accepted all the sub-components. The fuzzy score ranked S.P 3.4.1-build up the framework of the essay in a first place. Second place were shared by two sub-components: S.P 3.1.1- build sentences, and S.P 3.3.1-brainstorming the ideas on the essay. It followed by S.P 3.4.2 and 3.4.3 -write the essay by paragraph. The last element is S.P: 3.7.1- revise the essay. Table 5.9 tabulated the findings.

Table 5.9
Fuzzy Delphi: Face-to-Face Standard Learning

Face-to-Face Standard Learning						
		Triangular Fuzzy numbers requirements		Defuzzification process requirement		Rank
	Sub-components	Threshold value (d)	Consensus percentage (%)	Fuzzy evaluation	Fuzzy score	
1	S.P 3.4.1: Build up framework of the essay.	0.168	100	15.600	0.867	1
2	S.P 3.1.1: Build sentences	0.170	94	15.467	0.859	2
3	S.P 3.3.1: Brainstorming the ideas of the essay.	0.170	94	15.467	0.859	3
4	S.P 3.4.2 & 3.4.3: Write the essay by paragraph.	0.165	94	15.367	0.854	4
5	S.P: 3.7.1: Revise the essay	0.200	94	15.000	0.833	5

(b) Face-to-Face Learning Activities

For learning activities, threshold value calculation with a value of $d \leq 0.2$ retained all of the eleven sub-components and the second requirements of consensus percentage of more than 75%, accepted all of that sub-components too. The expert panel ranked group discussion in the first place, followed by workstation and then Gallery Walk. They placed Think-Pair-Share at the fourth place, Project-based Learning number five, while role play and peer coaching at sixth place. They also ranked the use of simulation at seventh and authentic learning at eighth. Placement consensus is at number tenth followed by travelling files. Table 5.10 tabulated the findings.

Table 5.10
Fuzzy Delphi: Face-to-Face Learning Activities

Learning Activities						
		Triangular Fuzzy numbers requirements		Defuzzification process requirement		Rank
Sub-components		Threshold value (d)	Consensus percentage (%)	Fuzzy evaluation	Fuzzy score	
1	Group discussion	0.137	78	15.933	0.885	1
2	Workstation	0.109	89	15.800	0.878	2
3	Gallery Walk	0.123	100	15.633	0.869	3
4	Think-Pair-Share	0.138	100	15.467	0.859	4
5	Project-based learning	0.173	89	15.333	0.852	5
6	Role play	0.127	100	15.267	0.848	6
7	Peer coaching	0.160	94	15.267	0.848	6
8	Simulation	0.147	100	15.200	0.844	7
9	Authentic learning	0.184	89	14.700	0.817	8
10	Placement	0.164	89	14.667	0.815	9
11	consensus Travelling file	0.172	94	14.467	0.804	10

(c) Assessment

Experts' consensus is also consolidated to select type of assessment that should be used in this study. Assessment type in this study is referred to the way of assessment will be conducted. Threshold value calculation with a value of $d \leq 0.2$ retained three out of four sub-components and the second requirements of consensus percentage of more than 75%, accepted all of that three sub-components too. The expert panel ranked group assessment in the first place, followed by pair assessment and teacher-based assessment came at the third place. Self-assessment is rejected. Table 5.11 tabulated the findings.

Table 5.11
Fuzzy Delphi:Assessment

Assessment						
Sub-components		Triangular Fuzzy numbers requirements		Defuzzification process requirement		Rank
		Threshold value (d)	Consensus percentage (%)	Fuzzy evaluation	Fuzzy score	
1	Group-based assessment	0.144	100	15.567	0.865	1
2	Pair-based assessment	0.174	100	15.100	0.839	2
3	Teacher-based assessment	0.178	94	14.833	0.865	3
4	Self-assessment	0.291	50	11.733	0.652	R

(d) Medium of Publishing

Fuzzy Delphi session is also used to seek experts' consensus on medium of publishing. Threshold value calculation with the value of $d \leq 0.2$ kept two out of six sub-components and the second requirements of consensus percentage of more than 75%, accepted both of the sub-components too. The expert panel ranked both paper-based medium and e-portfolio in the first place. Table 5.12 tabulated the findings.

Table 5.12
Fuzzy Delphi:Medium of Publishing

Medium of Publishing						
Sub-components		Triangular Fuzzy numbers requirements		Defuzzification process requirement		Rank
		Threshold value (d)	Consensus percentage (%)	Fuzzy evaluation	Fuzzy score	
1	Paper-based medium	0.192	94	14.767	0.820	1
2	E-portfolio	0.192	94	14.767	0.820	1
3	Padlet	0.254	100	12.733	0.707	R
4	Wiki	0.285	100	11.800	0.656	R
5	Blog	0.212	100	13.367	0.743	R
6	Telegram	0.459	100	8.667	0.481	R

5.1.4.4 Findings from Reflection Session

This subchapter reported the expert consensus on sub-components that should be included in the Collaborative Flipped Instruction on Form One Malay Language Writing. During the reflection, two components were examined, namely the content of the reflection and the medium of reflection.

(a) *Reflection Content*

For reflection content, threshold value calculation with a value of $d \leq 0.2$ retained both sub-components and the second requirements of consensus percentage of more than 75%, also accepted both of the sub-components. Reflection placed by the experts' consensus should be on writing knowledge first, while reflecting on writing experience second. Table 5.13 tabulated the findings.

Table 5.13
Fuzzy Delphi: Reflection Content

Reflection Content						
Sub-components		Triangular Fuzzy numbers requirements		Defuzzification process requirement		Rank
		Threshold value (d)	Consensus percentage (%)	Fuzzy evaluation	Fuzzy score	
1	Reflection on writing knowledge	0.144	83	16.00	0.889	1
2	Reflection on writing experiences	0.188	89	15.167	0.843	2

(b) *Medium of Reflection*

For medium of reflection, threshold value calculation with a value of $d \leq 0.2$ retained two out of seven sub-components and the second requirements of consensus percentage of more than 75%, accepted both of the sub-components. The experts' consensus placed sticky notes at the first place whilst microblog at the second place. Table 5.14 tabulated the findings.

Table 5.14
Fuzzy Delphi: Medium of Reflection

Medium of Reflection						
Sub-components		Triangular Fuzzy numbers requirements		Defuzzification process requirement		Rank
		Threshold value (d)	Consensus percentage (%)	Fuzzy evaluation	Fuzzy score	
1	Sticky notes	0.155	94	15.633	0.869	1
2	Microblog	0.186	94	14.433	0.802	2
3	Books	0.212	100	13.433	0.746	R
4	Frog VLE	0.307	100	12.633	0.702	R
5	Email	0.288	100	11.633	0.684	R
6	Blog	0.318	100	11.600	0.682	R
7	Telegram	0.362	100	9.433	0.524	R

5.1.5 Summary from Fuzzy Delphi Method Session with Experts

The result from the Fuzzy Delphi Method session were then summarized by listing the accepted sub-components and its ranks as in Table 5.15.

Table 5.15
Result of Fuzzy Delphi Method

No	Constructs	Elements
1	Macro content Themes	1. Integrity 2. Language and Literature 3. Culture, Art and Aesthetic 4. Cleanliness and Health 5. Unity 6. Education 7. Environmental and Green Technology
	Genre of Essay	1. Narrative 2. Descriptive 3. Expository
	Type of Essay	1. Article 2. Proverb-based essay 3. Formal letter 4. Explanatory essay 5. News

Table 5.15 (Continued)
Result of Fuzzy Delphi Method

2	Online standard content	1. S.K 3.1: Build sentences based on selected words and jargon. 2. S.K 3.4: Guidelines on how to write an essay. 3. S.K 3.4: Technique on how to write an essay. 4. S.K 3.4: Introduce the format of the essay. 5. S.K 4.2: Introduce suitable idioms and proverbs. 6. S.K 3.7: Guidelines on revising.
3	Online standard learning	1. S.P 3.3.1: Brainstorm the ideas of the essay. 2. S.P 3.4.1: Build up framework of the essay 3. S.P 3.1.1: Build sentences based on selected words and jargon to communicate ideas in grammatical way. 4. S.P 3.2.1: Discussing the rhetoric and format of the essay. 5. S.P. 3.2.1: Conducting the research on the topic given online. 6. S.P 3.2.1: Write or print the findings of research 7. S.P. 4.2.1: Use the idioms or proverbs in written communication with right application and context.
4	Online learning resources	1. Digital photo 2. Hyperlink 3. Related videos available on web e.g Youtube. 4. Related instructional videos created by teachers. 5. Google 6. Online dictionary 7. Powerpoint™ slides
5	Online learning platform	1. Facebook
6	Face-to-face learning content	1. S.P 3.4.1: Build up framework of the essay. 2. S.P 3.1.1: Build sentences 3. S.P 3.3.1: Brainstorming the ideas of the essay. 4. S.P 3.4.2 & 3.4.3: Write the essay by paragraph. 5. S.P: 3.7.1: Revise the essay
7	Learning activities	1. Group discussion 2. Workstation 3. Gallery Walk 4. Think-Pair-Share 5. Project-based learning 6. Role play 7. Peer coaching 8. Simulation 9. Authentic learning 10. Placement consensus 11. Travelling file

Table 5.15 (Continued)
Result of Fuzzy Delphi Method

8	Assessment	1. Group assessment 2. Pair assessment 3. Teacher assessment
9	Medium of publishing	1. Paper-based medium 2. E-portfolio
10	Reflection content	1. Reflection on writing knowledge 2. Reflection on writing experiences
11	Medium of reflection	1. Sticky notes 2. Microblog

5.2 Development Phase

This section presented the development phase of Form One Malay Language Writing in Collaborative Flipped Instruction. It reported the following development procedures; development of macro-levels, development of learning activities, development of learning resources, manual development of teachers, setting up of teaching platforms, feedback from experts and excerpts from Collaborative Flipped Instruction for Form One Malay Language Writing.

5.2.1 Macro-Level Development

This module consisted of six themes -Cleanliness and Health, Unity, Language and Literature, Culture, Art and Aesthetic, Education and Integrity. It is organized based on the Document of Standard Curriculum and Assessment or in Malay language *Dokumen Standard Kurikulum Pentaksiran* (DSKP). Since Malay language implements thematic concept thus integrated content-area subjects should not be neglected. Based on the expert's suggestion, Unity theme was integrated with History, while Cleanliness and Health was paired with Physical Education. Meanwhile, the other themes stand at its own content.

5.2.2 Learning Activities Development

Learning activities are built based on the Flower & Hayes (1981), where the study, however, adapted the model to fit into the collaborative context through a prevailing cognitivism (Paavola et al., 2011). The writing instruction is divided into three main components-the working environment, the long-term memory of the writer, and the writing processes. The development of collaborative learning activities shall be guided by the design principles (DP) proposed by (Paavola et al., 2011) and listed as follows (p.238);

1. Organize trialogical activity around shared objects.
2. Interaction between personal and social levels of activity.
3. Flexible tool mediation for trialogical activity.
4. Fostering long term processes of knowledge advancement.
5. Development through transformation and reflection.
6. Eliciting (individual and collective) agency.
7. Cross fertilization of knowledge practices.

Different learning activities were employed for different standard of content and learning. For example, under Cleanliness and Health theme- students were exposed into the fundamental of writing skills- to build the sentences based on targeted words. The combination of themes, standard content, standard learning and learning activities were developed based on the findings from Fuzzy Delphi Method. Figure 5.1 presents example of learning activities from theme Cleanliness and Health.

Arahan: Bekerja di dalam kumpulan, senaraikan jenis gizi yang terkandung dalam satu hidangan nasi lemak. Bina ayat berdasarkan jenis gizi tersebut.

Contoh: Kekacang-

Kekacang mempunyai kandungan lemak sihat yang baik untuk perkembangan otak.



Figure 5.1. Learning activities from theme Cleanliness and Health

5.2.3 Learning Resources Development

Kurikulum Standard Sekolah Menengah (KSSM) or Secondary School Standard Curriculum in English provides the student with content and learning through their standard learning materials. Learning tools are built based on the criteria in the Standard Curriculum and Evaluation Document or *Dokumen Standard Kurikulum Pentaksiran* (DSKP) in the Malay language. Several content resources are based on the preferences of the experts as follows; instructional videos, supplementary videos, digital notes and social media resources that have been curated.

5.2.3.1 Instructional Videos

Instructional videos are at the center of a flipped approach. For this study the researcher and the instructor respondents produced instructional videos. The content of the instructional videos was based on the *Dokumen Standard Pentaksiran Kurikulum* (DSKP). It is produced using the smartphone video maker applications- VideoMaker, VideoShow and VivaVideo, but not limited to them. Each video was recorded between 3-4 minutes, and from two and four instructional videos are uploaded for one learning session.

The contents of the instructional videos were first drawn up and then illustrated in a storyboard. The researcher then recorded a session with a Malay language teacher

certified as a *Jurulatih Utama* (Trainer) using smartphones. Editing has been done using an android-based editor application.

In addition to the ease-of-use, the ideas of using the smartphone application to produce the instructional videos are based on high source accessibility. It saves the teachers' time, without much time and money, to produce their own instructional materials. They also save time in preparing for the technical part and more time can be allocated for the process of teaching and learning. The screenshot of the instructional videos was shown in Figure 5.2.

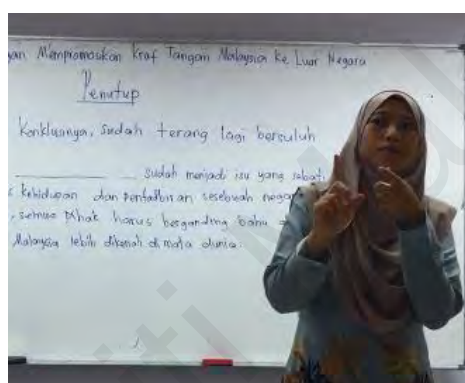


Figure 5.2. Screenshot of the instructional video

5.2.3.2 Supplementary Videos

There are plenty of supplementary videos available online, but it should be noted that some of the videos required permission to be used, while most owners said it was free for educational purposes. It is good to note that, with the owner's permission, the researcher used the videos. In this study, the teacher respondents were taught how to create additional videos and also how to select the appropriate additional videos for Form One Malay Language Writing in the Collaborative Flipped Instruction. In this study, both supplementary videos from the respondents of the teachers and online sources are used to give the real experiences of implementing flipped instructions among educators. The videos were created using apps-

VideoShow. Figure 5.3 showed a screenshot from one of the additional videos available in Collaborative Flipped Instruction for Form One Malay Language Writing.



Figure 5.3. Screenshot of the supplementary video

5.2.3.3 Digital Notes

Digital notes consists of notes of writing process, content topic and integrated learning components such as proverbs, idioms and grammar. Digital notes are also used to present content of essay topic to the students. Text and photos are being used as the media element while the final product of the digital notes are published as infographics and mind-maps. Digital notes are prepared using different types of application and software – such as Piktogram, Freepic, Canva, and Microsoft PowerPoint. The first three applications offer free resources for users. In this study, the researcher used the free materials offered by the applications. This material can be downloaded and printed by the students.

5.2.3.4 Digital Photos

Photos are also used either captured by the researcher, or with the owners' permission. Photos are used to spark interest and motivation, in addition to acting as material of induction. The example photo used in the study was shown in Figure 5.4.



Figure 5.4. Photo used with permission from Canva

The researcher also explored the use of illustrated photographs in addition to the real photos. The original resources are hardly to be found when it comes to content which revolves around literature and history. The researcher then resorted to illustrated photographs. The researcher bought the Malaysian artist's works for this study mainly because of copyright issues. Figure 5.5 showed the illustrated photo used in this study as an example.



Figure 5.5. Example of illustrated photo with copyright

5.2.3.5 Related Hyperlinks

It also included several related hyperlinks to guide the students through the process of research. Facebook has several hyperlinks and that includes the 'shared link'

feature. Figure 5.6 is a screenshot of the hyperlinks used in the study and Figure 5.7 shows the shared link from Facebook.



Figure 5.6. Example of embedded hyperlink



Figure 5.7. Example of ‘shared link’ featured on Facebook

5.2.4 Worksheet Development

The Worksheet is developed as a preparatory training guide for students. It involves a number of types of worksheets, segmented according to the phases of writing, to help students understand the process. These are the types of worksheets used in the study: Research Worksheet, Essay Framework Worksheet, Introductory Worksheet, Body Paragraph Worksheet, Finding Worksheet and Project Checklist (project-based approach).

5.2.4.1 Research Worksheet

The research worksheet is created intentionally to guide the students during the research process based on the given topic. In this study, the students were scaffolded on procedures to find information source, gather information, curate the information, and verify the information. In the beginning, the hyperlink was embedded on the worksheet as the students improved their skills throughout the process, they were expected to use the search engine for their assignments.

5.2.4.2 Essay Framework

The essay framework is a graphic organizer that organizes the ideas and information on the given topic. It started with the default mind-map based on the scaffolding concept and students are required to fill in the boxes with the information and content they collected. They will however be given autonomy to organize their own ideas and thoughts as they progressed.

5.2.4.3 Introduction Worksheet

This worksheet is prepared to guide the writing of the paragraph for introduction. It requires students to write down their information, their chosen proverb or idioms or any appropriate sentences to start writing. Additionally, there are also hints on using the conjunction or any grammar elements.

5.2.4.4 Body Paragraph Worksheet

The worksheet on body paragraphs is a template of how the content should be organized according to the paragraphs, proper use of the conjunction, example of the contents and the flow of the writing, so that their essay will be coherent. The

students were initially scaffolded with heavy structured template, and more flexible structure was introduced towards the end of the process.

5.2.4.5 Conclusion Worksheet

Conclusion worksheet is a writing template which guides the students in producing the paragraph of conclusion. Since this study is implementing the theory of scaffolding, the worksheet starts with heavy structured template and diminishes slowly by the end of the course.

5.2.4.6 Project Checklist

Project checklist is a workbook which guides the students to organize their project. It is based on the collaborative approach that needs the products of teamwork. In this study, the project checklist was given to the students completed with timeline and work that should be done in the estimated time. They need to keep up with the timeline and report the milestones to their class teacher.

5.2.4.7 Reflection Checklist

Reflection checklist guides the students to reflect on their learning experiences and what they have learnt. Each time the new themes are started, students were given the checklist.

5.2.5 Teacher Manual Development

Manual development of teachers is a manual book on the operation of the Collaborative Flipped Instruction for Form One Malay Language Writing for the educators. It includes standard content and learning, hyperlinks of learning sources and

materials, names of folders and files to be used, setting up the learning group on Facebook, and timelines for uploading learning sources, running online learning sessions, and face-to-face learning sessions.

5.2.6 Learning Platform Set-Up

This study utilized Facebook as a platform for learning. Facebook is a well-known social media website created for the purposes of social connection. However, as Facebook has expanded, it offers features that have supported educational purposes. The teachers created a closed group in this study and invited her students to become group members. Closed group ensured group privacy and security feature when it comes to young learners. Furthermore, the activities and interactions are easier to control. The teacher administered the group. Series of screenshots were taken from the second learning session to help the readers on visualizing the platform set-up. Figure 5.8 is a group page screenshot.



Figure 5.8. Screenshot of the home of group page

Learning material is uploaded based on the learning session, means that one session of learning at a time. For example, on 26th of January 2018 learning session covers Standard Content (SK): 3.1, 3.3, and 3.4, and for that day only the content

related to it will be posted on the wall. Figure 5.9 showed a screenshot for the theme Unity with the task-research on noble countrymen. Meanwhile, Figure 5.10 is a screenshot of an instructional videos on conducting research.



Figure 5.9. Screenshot of the first post on 26th January 2018



Figure 5.10. Screenshot of the instructional video

Teacher respondent posted instructions and related instructional videos, supplementary videos, infographics, and group worksheets on Facebook. All these learning resources are also uploaded to the files section, and students can download them for their own references or as the teacher has instructed. Figure 5.11 is a screenshot of the students' feedbacks.

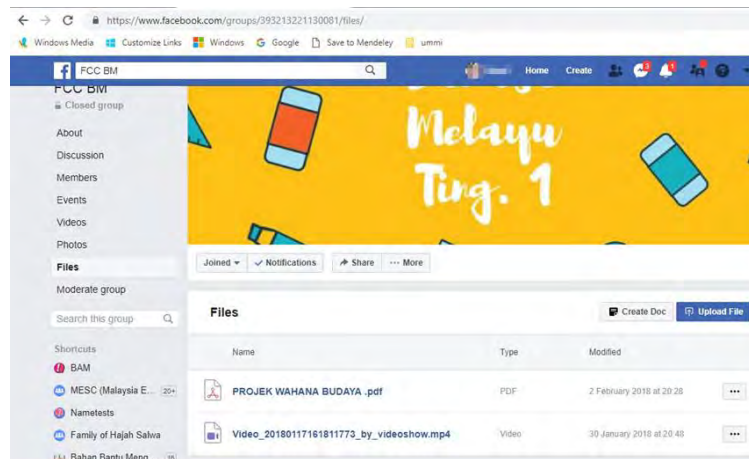


Figure 5.11. Files section where the related files are uploaded.

Instructional videos and supplementary videos are shared on the wall of the group. Questions regarding the assignment and content of the videos will be posted and then students' feedback will be collected by the teachers. Figure 5.12 is a screenshot of the feedbacks.

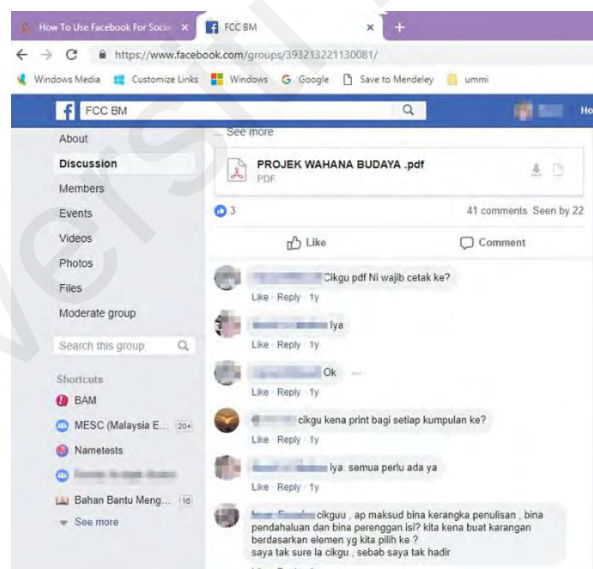


Figure 5.12. Feedback from the students

The teacher is also encouraged to use the available features offered by Facebook such as event invitation to invite the students to the program related to their learning programs and acted as reminder, and also poll that can be used to survey on the students' preferences on learning. Figure 5.13 is a screenshot of the poll.

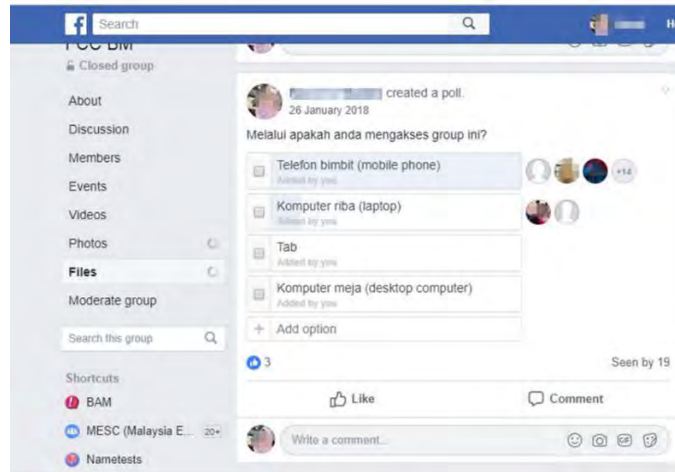


Figure 5.13. Poll feature

5.2.7 Experts' Reviews

This subchapter reported the experts' reviews on the content of Collaborative Flipped Instruction for Form One Malay Language Writing. Two experts were involved in these reviews. First expert is a lecturer in Malay language from public university in Kuala Lumpur, who has been a Malay language teacher for seventeen years before joining academia for eleven years. The second expert is a Malay language master teacher in a cluster school in Selangor. The reviews are as follows;

1. Clearly stated the Standard Content (*Standard Kandungan*) and Standard Learning (*Standard Pembelajaran*) on each of the learning session.
2. Also, stated the Standard Content (*Standard Kandungan*) and Standard Learning (*Standard Pembelajaran*) on each of learning materials.
3. For integrated subjects such as History or Physical and Health Education, it is good to include the Standard Content (*Standard Kandungan*) and Standard Learning (*Standard Pembelajaran*) of each respective subjects.

4. For Form One, they still need moderate structures on scaffolding their knowledge and skills of writing. Thus, topics of assignment or writing should be narrowed down suiting their needs.
5. More reading materials should be included. *HEBAT Bacaan Bahasa Melayu* is suggested as a good resource to support this purpose.
6. Instructional and supplementary videos produced by the teachers should be deposited on the school repository, so that other teachers can use it during teaching and learning sessions.
7. Alternative materials should be prepared for those who are unable to access the internet.

The researcher edited the instructional module after having received the feedbacks from experts. However, because of the copyright issue, the suggestion to use *HEBAT Bacaan Bahasa Melayu* is not conducted. The researcher provided hyperlinks from verified and trusted sources such as the Ministry of Health, Malaysia Anti-Corruption Commission and the National Archive for extensive reading. It is good to note that with permission, every sources of reading material on Collaborative Flipped Instruction for Form One Malay Language Writing is cited and used. A copy of this module is made available via pen-drive to cater for those without internet access.

5.3 Summary

This chapter presents the findings of the second phase – design and development phase of the study. Though grouped into one chapter, writing is divided into two subchapters to ease the reading flow. For the design phase, the expert interview sheds in-depth insights into the sub-components that should be included in Collaborative Flipped

Instruction for Form One Malay Language Writing. Furthermore, the findings revealed some unexpected findings regarding the relevant issues relating to this study. Fuzzy Delphi's findings are important in selecting the appropriate sub-components in terms of content, resources, platform, evaluation and learning medium. Based on the findings of the Fuzzy Delphi Method sessions, the researcher developed the Collaborative Flipped Instruction for Form One Malay Language Writing with guidance from the following model – flipped learning instructional design (Lee et al., 2017), writing instruction (Flower & Hayes, 1981) and collaborative learning model (Paavola & Hakkarainen, 2005).

CHAPTER 6

RESULT OF IMPLEMENTATION AND EVALUATION PHASE

This chapter reported the usability evaluation of Collaborative Flipped Instruction for Form One Malay Language Writing. Prior to that, four weeks implementation of the module had taken place. It is aimed to answer the following research question- What are the users' retrospectives on usability of Collaborative Flipped Instruction for Form One Malay Language Writing in general? And specifically;

- i. What are the users' retrospectives on the strength of Collaborative Flipped Instruction for Form One Malay Language Writing?
- ii. What are the users' retrospectives on the weakness of Collaborative Flipped Instruction for Form One Malay Language Writing?
- iii. What are the users' suggestion on Collaborative Flipped Instruction for Form One Malay Language Writing?

6.1 Implementation Phase

The implementation phase lasted for four weeks with teacher training, and the rest with the implementation of the student module. Ten Malay language teachers from Sekolah Menengah Kebangsaan 2 participated in teacher training, which took place from 1400 to 1730 on 17 January 2018 at *Bilik Gerakan* (Command Center) Sekolah Menengah Kebangsaan 2. During the training, participants were exposed to 21st century language pedagogy and received hands-on experience in developing their own digital learning materials using free cloud-based applications. In addition, they sought knowledge on how to flip their classes using the Collaborative Flipped Instruction for Form One Malay Language Writing. Specifically for Malay language teacher of Form One Ungu,

the researcher trained her for another two sessions: 19th and 23rd January 2018 for one and half hour for each session, on the details of flipped instruction that delivered by her during four weeks of implementation phase. Figure 6.1 is the visual representations taken by the researcher during the teacher training sessions.

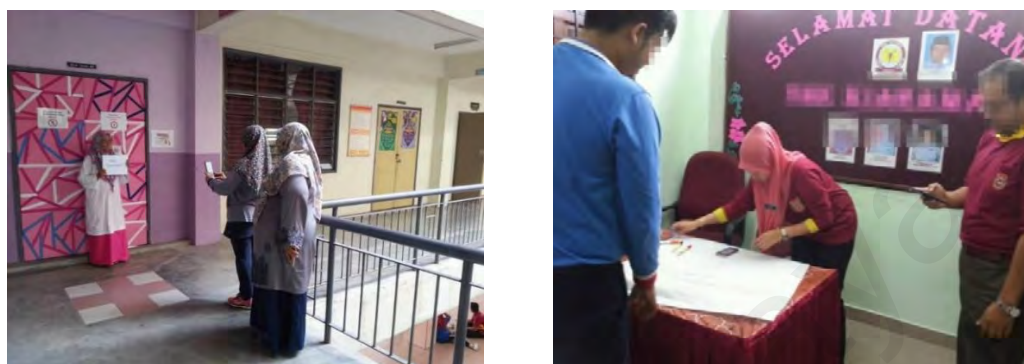


Figure 6.1. Teachers' training sessions

Implementation of module involved 31 students from Form One *Ungu* and their Malay language teacher at Sekolah Menengah Kebangsaan 2, Kuala Lumpur. The sessions were implemented during the existing slots for four sessions per week. Except for Fridays, the teacher taught grammar or language styles depends on the needs of the module and integrated it into the writing task. During the implementation, there were two themes covered namely – *Perpaduan* (Unity) and *Seni Bersendikan Budaya* (Cultural and Arts). These themes were delivered based on the current pace of teaching and learning of the class. Table 6.1 tabulated the implementation of Collaborative Flipped Instruction for Form One Malay Language Writing.

Table 6.1
Implementation Procedures

Week/Date/Session	Respondents	Time (hours)	Activities
1/17 th January 2018/Face-to-face	10 Malay language teachers from Sekolah Menengah Kebangsaan 2	1400 – 1730	Teachers training session.
1/19 th January 2018/Face-to-face	1 Malay language teacher of Form One <i>Ungu</i>	1100-1230	1. Teacher training. 2. Planned the implementation.
2/23 rd January 2018/Face-to-face	1 Malay language teacher of Form One <i>Ungu</i>	1100-1230	Teacher training session.
2/23 rd January 2018/Face-to-face	31 students of Form One <i>Ungu</i>	1230-1330	Circulating permission form to parents of the students.
2/26 th January 2018/Face-to-face	1 Malay language teacher of Form One <i>Ungu</i> 31 students of Form One <i>Ungu</i>	0940-1010	Session 1: In-class 1. Briefing session with the students. 2. Students were asked to join FCC BM group.
2/26 th January 2018/Online	1 Malay language teacher of Form One <i>Ungu</i> 31 students of Form One <i>Ungu</i>	2000	Session 2: Pre-class Implementation of Theme: Unity 1. Content of learning were uploaded to FCC BM group: • <i>Standard Kandungan</i> (SK):3.1, 3.3,3.4 • <i>Standard Pembelajaran</i> (SP):3.1.1, 3.3.1, 3.4.1 2. Students were asked to respond to pictures given in grammatical sentences. 3. Students need to complete worksheet given.

Table 6.1 (Continued)
Implementation Procedures

3/29 th January 2018/Face-to-face	• 1 Malay language teacher • 1 History teacher of Form One <i>Ungu</i> • 31 students of Form One <i>Ungu</i>	1030-1130	Session 3: In-class Implementation of Theme: Unity. <i>Standard Pembelajaran</i> (SP):3.1.1, 3.2.1,3.3.1,3.4.1 1. Students did brainstorming session in a group. 2. Presented their synthesized ideas in mind mapping format.
3/30 th January 2018/Online	• 1 Malay language teacher of Form One <i>Ungu</i> • 31 students of Form One <i>Ungu</i>	2000	Session 4:Pre-class Implementation of Theme: Unity. 1. Content of learning were uploaded to FCC BM • <i>Standard Kandungan</i> (SK):3.2, 4.1 • <i>Standard Pembelajaran</i> (SP)3.1.1, 3.2.1 2. Students need to complete worksheet given.
3/ 2 nd February 2018/Face-to-face	• 1 Malay language teacher • 31 students of Form One <i>Ungu</i>	0940-1010	Session 5: In-class Implementation of Theme: Unity. <i>Standard Pembelajaran</i> (SP):3.1.1, 3.2.1 1. Students wrote paragraph based on content mind map from Session 2: In-class. 2. The writing was presented in form of poster.
3/2nd February 2018/Online	• 1 Malay language teacher of Form One <i>Ungu</i> • 31 students of Form One <i>Ungu</i>	2000	Session 6:Pre-Class Implementation of Theme: Cultural and Art 1. Content of learning were uploaded to FCC BM group. • <i>Standard Kandungan</i> (SK):3.2,3.3,3.4 • <i>Standard Pembelajaran</i> (SP):3.2.1, 3.3.1,3.4.1,3.4.2

Table 6.1 (Continued)
Implementation Procedures

4/5 th February 2018/Face-to-face	1 Malay language teacher of Form One <i>Ungu</i> 31 students of Form One <i>Ungu</i>	1030-1130	Session 7: In-Class Implementation of Theme: Cultural and Art <i>Standard Pembelajaran (SP):</i> 3.2.1, 3.3.1, 3.4.1, 3.4.2 1. Students brainstormed and build framework based on IThink map. 2. Students started to write an introduction
4/5 th February 2018/Online	1 Malay language teacher of Form One <i>Ungu</i> 31 students of Form One <i>Ungu</i>	2000	Session 8: Pre-Class Implementation of Theme: Cultural and Art <i>Standard Kandungan (SK):</i> 3.4, 3.7 <i>Standard Pembelajaran (SP):</i> 3.4.2, 3.4.3, 3.7.1
4/7 th February 2018/Face-to-face	1 Malay language teacher of Form One <i>Ungu</i> 31 students of Form One <i>Ungu</i>	0910-10100	Session 8: In-Class Implementation of Theme: Cultural and Art <i>Standard Pembelajaran (SP):</i> 3.4.2, 3.4.3, 3.7.1 1. Students wrote their content paragraph. 2. Students wrote their conclusion. 3. Students edited their works.
4: 8 th February 2018/Face-to-Face	1 Malay language teacher of Form One <i>Ungu</i> 31 students of Form One <i>Ungu</i>	0930- 1300	Session 9: In-Class Exhibition open to all Form One students and the teachers.
4: 9 th February 2018/Face-to-Face	1 Malay language teacher of Form One <i>Ungu</i> 31 students of Form One <i>Ungu</i>	0940-1010	Session 10: In-Class Reflection Students wrote on ‘what have they learn’ in a sentence on sticky note.

6.2 Result of Evaluation Phase

In a nutshell, this phase used a qualitative method with a thematic analysis approach to answering the research question. It involved a series of in-person interviews with selected students and teachers, spanning a week. To this end, the researcher adopted the Usability Testing Model by Chai and Chen (2004) – to evaluate users' perceptions on the usability of the instructional module. The findings of the study were reported in the following sub-chapters. Several issues emerged from the data – strength, weakness, and suggestion.

6.2.1 Strength

Based on the analysis of eight interview transcripts, it has been shown that students and teachers perceived the flipped instruction module as saving more instructional time, promoting ubiquitous learning, perceived ease of use, multimodal resources supported better learning-indirectly supported pre-writing, personalized learning is promoted in both online and face-to - face sessions. In the meantime, a collaborative approach has been established to support shared information and knowledge, promote joint activities and facilitate inter-subject collaboration. It is also capable of encouraging the development of soft skills. While this instructional module was also able to deliver systematic writing and post-writing instruction. All of these were intentionally clarified in the following subchapters.

6.2.1.1 Flipped Instruction Saves More Instructional Time

Pre-class session is perceived to promote the smart use of instructional hours by saving more time off-class teaching. Thus, implementation of flipped

instruction prepared the students with lessons ahead of class hours and resulted in time reduction on knowledge acquisition. As ESR4 states;

I can prepare [classes] earlier. I'm not flustered, I'm not rushing and everything. [It] helps me to manage my time (L135-136: ESR4: February 9, 2018).

KSSM implementation reduced facilitating and learning time for one session from 45 minutes to 30 minutes. As clarified by ESR7 and ETR1 it is perceived that flipped strategy saved the duration of the instruction delivery and resulted in more remaining time on class session.

In my opinion, is is great. Timed save. So teacher will be able to use classroom time to concentrate on writing the essay (L5-6: ESR7: February 12, 2018).

The advantage is that we can save time. As we know, for a single period of time KSSM provides 30 minutes. We heard a lot of dissatisfaction, complaints, based on the implementation which started last year. [Mmm] It is more about expressing their dissatisfaction at an inadequate time of instruction. It is worst if the lessons were held in a laboratory or workshop (L207-210: ETR1: February 12, 2018).

This allows for completion of homework or assignment during class hours.

Homework [pause] group project can be completed in school (L15: ESR2: February 9, 2018).

Facebook allows teachers to share expertise or proprietary learning resources. This feature helped teachers save time in preparing for learning-especially in preparing resources and materials for learning. The teacher also admitted that she saved time by creating instructional videos compared to conventional teaching. It can be used by all students without replicating it plus it can be catered to the needs.

Actually for Malay language, Madam [...]. It [writing instruction] involves Form 1, 2 and 3. So, we are going to use it again. OK. At the same time, it saves my time on preparing the lesson (L215-216: ETR8: February 12, 2018).

6.2.1.2 Flipped Instruction Offers Ubiquitous Learning

With trillions of data being transmitted every second, the roles of technology should not be sidelined, specifically in this study, social media technology. The old learning paradigm that harbored on the 'I teach, you learn' approach was insufficient to meet the demands of the learning strategy of the 21st century. Ubiquitous is a concept that respects the role of the learner in deciding what, where and when to learn (Iannarelli, 2009). In this study, it is recognized to offer learning on demand using Facebook-a social media platform, to deliver the instruction. The following statements from ESR1, ESR2 and ETR1, described learning can occur at any location and beyond the school boundary;

I can learn anywhere (L9: ESR1: February 8, 2018).

So, we can chat, discuss, study with friends anywhere (L70: ESR2: February 9, 2018).

Before this we see how students are restricting their use of technology in school compound. If outside, we asked for permission from their parents to participate in their online learning, students can explore the knowledge or topics everywhere. (L18-20: ETR1: February 12, 2018).

It also means that learning can be occurred any time and this feature preferred by the students.

Then students can attend [the learning session] everywhere (L226: ETR1: February 12, 2018).

When researcher asked R2 the following question, he nodded;

Means that you can watch the videos anytime? (L122: ESR2: February 9, 2018).

Flexibility comes from unlimited learning time, giving the absentee a chance to catch up with missed learning sessions.

All the groups were absent since four of us were involved in sports representing our school, except Nina, but she was also absent. So, we were all stucked! Oh, my God! There's a project here. What are we supposed to do? What do we need to prepare for? We've opened the Facebook [FCC BM Group] Thank God! There were all the instructions. What do you have to do? What's next, huh? How do I write? Luckily, there's the Facebook [FCC BM Group]. If it doesn't, it will give us trouble. Have to ask the members of the other group. What's your homework? Everything is done with the Facebook [FCC BM Group]. We knew what to do about our assignment. (L7-12: ESR3: February 9, 2018).

Ubiquitous feature also provided opportunities for the students to select their own learning content based on their needs. Technology-based learning platform can store the lessons and this feature helps students to prepare, practice and review their learning accordingly.

Homework for example, if our friends tell us to find the information on Facebook [FCC BM group]. If Facebook [FCC BM group] is not available we didn't know where to find the information (L117-119: ESR2: February 9, 2018).

Yes. I don't understand, I repeated [the lesson]. But, I didn't repeat it on the same day. I repeated it on the next day, next day. I repeated it until I really understand it. (L38-42: ESR6: February 12, 2018).

The role of teacher as facilitator during the in-class session is also promoted, as revealed in the ESR5 interview session,

The Researcher: By that you mean your teacher is in the class? Or how, then?
ESR5: es it does. There's a Teacher. Help me.

The Researcher: Does it mean your teacher is on-site available to help?

ESR5: Yes (L44-45: ESR5: February 9, 2018).

6.2.1.3 Perceived Ease of Use on Flipped Instruction

Perceived ease of use is defined as “the degree of person which a person believes that using a particular would be free of effort” (Davis, 1989,p. 320). All of the respondents involved in this study perceived that this instructional module is ease of use. Some of them thought that the learning platform based on social media made their learning easier compared to conventional text-based platform.

First time for me. Using technology. But, I felt comfortable using it [on my learning session] (L7: ESR2: February 9, 2018).

It is easier. I don't need any books. I just need to log in and visit the Facebook [FCC BM group] and everything [regarding the lesson] is available (L88-89: ESR5: February 9, 2018).

Easier to use and easier to understand the lesson. I am happier. We've learnt the different way compared to conventional class. We don't have to depend on books. Before, I had to depend on book but now I can study using my smartphone (L22-23: ESR1: February 8, 2018).

The students and their parents' familiarity on using Facebook helped them to minimize the anxiety on exploring new platform.

For me, advantage of using Facebook, easy for me to ask questions. If my friends post questions on the Facebook, I will see the answer from my teacher. I will get clearer understanding. My mother was also helping me by downloading the notes and exercises given on the Facebook [FCC BM group]. (L15-16: ESR3: February 8, 2018).

In addition, the teacher reacted positively on Facebook as an online learning platform stated that with abundant learning resources their workload on the preparation of learning materials is eased.

Mentioning the video on Facebooks, providing them with short teledrama is a good move. If related to grammar, we can, OK, teach them on how to use exclamatory sentences or words. For example, if we want to change it from passive sentence to active sentence. Example, yes, like, we use the word *Cis! Nyah kamu dari sini!* How to change it to declarative sentence? Ok. We have concept, procedure to do that. Indirectly, the students learnt the reaction and emotional attachment with the sentences. We started with anger. Sometimes, they did not know how to change the sentences, *Cis!* to declarative sentence. Video, then, helps them with what emotion attaches to the exclamatory word (L221-225: ETR1: February 8, 2018).

If songs, maybe we can, before that we checked the songs. We asked them to identify and exclude countable noun from the song. For example, we have countable noun 1-10. Also predeterminer, all, (L230-232: ETR1: February 8, 2018).

In a related search tool, embedded hyperlink is thought to be more trusted feature in learning. Hyperlink prepared by teacher is perceived as more accurate and gave more related content. Besides that, hyperlink saved more time on researching, as told by respondent;

Advantage is, I can get the information there more than I want to. It makes my job easier. Don't need to Google. (L40-42: ESR5: February 9, 2018).

Yes. Hyperlink is more [mmm] targeted (L42: ESR6: February 9, 2018).

The use of videos for educational and informative purposes was seen as easier to use. It is also helped to build better understanding without the teacher having to repeat the lectures, which indirectly allowed self-paced learning.

Video on Facebook [FCC BM] is easy, easier to understand. Simple (L32: ESR1: February 8, 2018).

It's easier for me to complete my assignment, and I've also learned more about the cultural aspects of Malaysia. I never knew that before. Traditional costumes, culture, culture. I'm just watching the videos provided [on FCC BM groups] (L195-196: ESR1: February 8, 2018).

6.2.1.4 Multimodal Resources Supported Better Learning

Flipped instruction offered multimodal resources that were delivered via Facebook online platform. This feature provided the advantages of using multimodal materials such as instructional videos, informative videos, digital photos, digital posters and infographics. Student respondents saw the use of instructional videos as beneficial for their writing skills.

The videos [instructional videos] make me like [mmm] easier to understand [the content]. A simple video (L32: ESR1: February 8, 2018).

The videos provided [on FCC BM group] help me study [competence] at my own level. The videos clearly explained the process of writing, step by step. To me [smile] is more than enough. I learnt how to write a good essay from the videos. Which is the statement of thesis, words of explanation, examples (L7-8: ESR7: February 12, 2018).

Besides that, video gave students control. Depending on their needs they may pause, replay or forward.

Easier using videos. It is instruction, step by step. It is not too quick. If this is to be quick, we can replay or rewind it (L81-82: ESR 6: February 12, 2018).

They were also acknowledging the advantages of using informative videos to supplement their learning especially on content information.

Easier for me to complete the projects. I learnt new culture elements in Malaysia. Traditional costumes, culture (L31-32: ESR5: February 9, 2018).

Examples of good essays and news embedded in the module scaffolded their writing process as stated in;

The advantage [...] Example of essay given, the one from Internet, they gave sentences. Example. So I know. How to write good sentences (L91: ESR4: February 9, 2018).

Digital photographs also helped respondents to recall the preceding knowledge and to construct the sentences as shown below;

The photos, when we saw the photo, it is like this. Many similar photographs, at times. Familiar, [television] on TV too. Sometimes they put together the information [with photograph]. Sometimes we'll memorize the facts given every day when we've seen the face on the photos. Then we have continued to add our knowledge and write sentences (L38-42: ESR6: February 12, 2018).

It is easier for me to understand and to produce sentences with the aid of photographs (L34-35: ESR1: February 8, 2018).

I prefer to look at the picture [photo]. I look at the questions with the photos. I can describe with more details. Easier to describe something with photos [accompanied] (L69-70: ESR1: February 8, 2018).

Multimodal features suited students who inclined to visual learning approach with its graphical and colourful presentations.

If we are watching the videos, photos. Easier to understand and more interesting than text and words only (L35-36: ESR1: February 8, 2018).

I prefer visual and photos. I really like it (L36-37: ESR1: February 8, 2018).

Infographic and all those are in colors. So, it is easier to read. To memorize. I read it and memorized. Even the

posters have different colors and shapes. We also love the photos used (L74-76: ESR6: February 12, 2018).

(a) Pre-Writing Process Supported By Social Media Technology

Content-area knowledge has been reclaimed through precedence and shared knowledge. Students were also identified to search for information using the internet and the books. These were supported by social media technology during schema activation.

The themes gave us many ideas. Through Internet, books and also friends (L114: ESR4: February 9, 2018).

For me, Facebook is easier to use. In Facebook, we can get the information and knowledge easier (L8: ESR1: February 8, 2018).

6.2.1.5 Personalized Learning in both Online and Face-to-Face Sessions

Personalized learning is defined as learning that recognizes diversity, differences, and individuality in the ways that learning is developed, delivered, and supported (Traxler, 2009). From the interviews, respondent ascertained that face-to-face session enabled them to clarify any of their misunderstandings or confusions about learning to the teacher.

In class, I don't think we have problems. If we commit any mistakes or wrong sentences, teacher helped to correct it (L222-223: ESR1: February 8, 2018).

Sometimes, [mmm] the teacher helped. Sometimes I was confused, on how to write, to do the task. Teacher re-explained to me in class. (L74-76: ESR2: February 9, 2018).

Teacher was also able to check the progress of the students personally as perceived by ESR7,

Compared to previous [conventional] learning, even though we're working in a group, the teacher didn't know who did it, who did it. For example, we're doing this project, we're designing a pamphlet. We've prepared a dress for the exhibition. Preparing the pants, being a spokesperson. The teacher knows what [as an individual] we can do. (L84-90:ESR7: February 12, 2018).

Students were also given the option of selecting their own learning content and empowering themselves over their own learning through a web-based learning platform, as cited in ESR7,

The videos prepared by the teacher helps me a lot. It let me learn within my capability (L7: ESR7: February 12, 2018).

The teacher also confirmed that personalized learning took place;

Because the students have come to me, please refer to me. What they've learned. Is there anything left? Anything more they should know about (L286-287: ETR8: February 12, 2018).

6.2.1.6 Collaborative Approach Supported Shared Information and Knowledge

Shared object is the element under Trialogical Learning Approach – later defined as conceptual object e.g. idea, opinion, knowledge, which is being externalized before systematically collaborated through the collaborative activity and become knowledge artifacts (Paavola & Hakkarainen, 2009b). In this study, object is referred to writing and content knowledge based on the *Dokumen Standard Kurikulum dan Pentaksiran* (DSKP) for Malay Language Form One.

All of the respondents' statements suggest that collaborative learning is practiced when they systematically share their knowledge of the pre-writing process. They were also perceived as externalizing their knowledge. As modeled by Flower

and Hayes (1981), the pre-writing process involved the retrieval of knowledge on writing plans, content knowledge and audiences. Knowledge sharing involved those with a flair understanding of writing instruction to discuss their expertise with struggling peer writers. In fact, they scaffolded their peer learning process.

In our group, there are ones who smart and intelligent. There are also those who are not. Those smart friends can teach the one who is less performed. We are not that good, so we can ask those good on writing (L167-169: ESR1: February 8, 2018).

We acquire writing knowledge. We can use it during examination. We also received general information about our [country] history (L119: ESR1: February 8, 2018).

In terms of knowledge sharing [...] we have our own groups. All of us know our strength and weaknesses. We are able to identify which friends in need. If they need help, we helped (L23: ETR1: February 12, 2018).

The respondents perceived that traditional learning, which required them to learn individually, did not help them to clarify their misunderstanding of writing knowledge in comparison to a collaborative approach.

If we learn on our own, I'm a little shy to ask a friend of mine. If we're in a study group, we can ask if we don't understand. If not, our friends will explain it to us (L175-176: ESR2: 9 February 2018).

As far as the teacher is concerned, she agreed that-among the teachers, they should also practice collaborative learning in order to deliver their lessons.

At the same time, teachers who have been trained in this practice [we] can share the knowledge with our colleagues. Not only do we focus on our own class, the other class should practice the same approach. I think that by next year or in the future, we can work together better than we do today. (L33-35: ETR1: February 12, 2018).

Another element of pre-writing is the recollection of the subject's knowledge. It is a knowledge of content – addressing the question "What should I write?" And this happened to be one of students' greatest problems. Collaborative learning seems to have had a positive impact on the students' knowledge of content research. They also argued that shared knowledge of content provided extensive and rich information about the topic chosen.

The topic Unity [mmm] there were friends who are already know about the topic. So, we didn't have to search online. General knowledge. (L21: ESR1: February 8, 2018).

Advantage is we are able to share our ideas. It is not only me who have shared the ideas. My friends have two or three ideas and continue to contribute to our group. I really do appreciate that. It helps me write when I have exchanged ideas with friends (L155: ESR5: 9 February 2018).

When commenting on this, the teacher agreed that collaborative approach enabled learning to be shared within group members.

But I do think it's all right. In one group there are at least two or three people who [...] can at least share and exchange ideas with the group members (L31: ETR1: February 12, 2018).

6.2.1.7 Collaborative Approach Promoted Joint Activities

Shared activities are systematic and iterative practices during the collaborative session that focused on modifying knowledge artifacts to the desired products (Paavola & Hakkarainen, 2009b). In this study, interview transcripts indicated that students practiced collaborative writing activities in different phases of writing such as-

construction of sentences,

During write process, we share our ideas. Maybe I got those ideas, and they got their own ideas. We exchange the writing style, the idea and the suggestion while explaining and expanding the sentences (L173-175: ESR4: 9 February 2018).

construction of framework,

Eventhough it is a framework, we need to complete it in a pair (L125: ESR5: February 9, 2018).

construction of phrases and paragraphs,

Yeah. Same with writing paragraphs. I'm still unclear if there is anything, I asked our friends (117: ESR2: February 9, 2018).

We exchanged ideas during discussion and brainstorming about the origins, background, elements and events in culture. We had not done it on our own. We each write specific sentences and paragraphs. We then combined the paragraphs, and edited them. So it's well written (L123-125: ESR6: February 12, 2018).

editing process,

R: Means that you discusses on the writing of sentences?

ESR4: Yes

R: Then all of you edit it together?

ESRR4: Yes. We edited the writing together

(L186-188: Respondent 4: February 9, 2018).

And lastly when they published their essay to the public and received feedbacks on their works.

There are questions and feedback, a bit tricky. We discussed how to answer the questions in front of Puan Rozi [Assistant Principal]. But we've managed to do it. If we're not trying to trust ourselves, we're never going to get that chance. (L189-190: ESR1: February 8, 2018).

Collaborative learning is said to benefit students by cultivating peer learning as stated by the teacher;

We can not assume that 100% of them will complete the task. But, it is a group. If there is lack anywhere, the other group's members will help. But at the same time, teacher has to monitor. So that there is no sleeping partner (L180-182: ETR1 February 12, 2018).

Collaborative activities also helped students to share the tasks among the group members so that they all participated in the process equally. It is perceived as alleviating stress among students.

We divided the task given. All of us do the jobs (L141: ESR4: February 9, 2018).

We divided the jobs. I don't feel stress when completing the task (L127: ESR3: February 9, 2018).

It is also ensured that those with scarce resources like internet, printer, or laptop do not miss the participatory. Collaborative learning cultivated a sense of collaboration which resulted in shared resources.

I went to Lia's house for internet (L156: ESR1: February 8, 2018).

If we have friends with internet, they can help us. Friend, like Bat [Batrisyia], she had an internet access, she snapped [instruction], she send it to Whatsapp group of [Form] 1 *Ungu* (L84-86: ESR 6: February 12, 2018).

Those who have printer, they will print [assignment] for the group (L80: ESR7: February 12, 2018).

6.2.1.8 Collaboration between Subjects Is Made Possible

Collaboration between subjects was also undertaken in this study. During the implementation phase, two subjects – Malay Language and History – were

collaborated. This approach encouraged students to work together on their knowledge of writing and history.

I might be good in History. I helped those who weak at it. And those who good at Malay language, writing essay, I learnt from them. So we learnt together (L276-278: Respondent 1: February 8, 2018).

Teacher perceived that this method yielded deep learning among students and they were able to apply the writing skills based on real content.

I would say that, if we implement this module [Collaborative Flipped Instruction for Form One Malay Language Writing], other than promoting collaboration among students, we are also collaborating between subjects. It enables them to learn more about the content-area topic and to apply [writing] skills (L141-143: Respondent 8: February 12, 2018).

History means a lot of writing. The same thing as writing an essay. There's only one difference. Essay, we didn't know the subject that was going to be released for the exam. History, we know the subject. Historical figure, the history of Malaysia, for example. OK. As I said before, students can learn through knowledge of the contents of history (L86-88: ETR1: February 12, 2018).

The teacher also recommended the collaboration of other subjects, in line with the role of language as a medium of communication.

The future of collaboration with other subjects that I can see is History, Civic Education and Mathematics. If we expand the scope, Geography could be included. For example, the origin of *gasing*, *bahulu*. Those contents can be used on English classes too (L113-115: ETR1: February 12, 2018).

6.2.1.9 Development of Soft Skills through Collaborative Learning

Most of previous study postulated that collaborative learning were able to cultivate soft skills among the learners. Thus, this study was also exploring the usability of collaborative learning in terms of its interaction with the development of

soft skills. From the transcripts, five types of soft skills emerged as follows- positive self-perception, social skill, communication skill, higher-order thinking skill, and self-control. The researcher then reported the findings accordingly.

(a) Positive Self-Perception

Positive self-perception is an intrapersonal skills that honors self-confidence, self-efficacy, self-awareness and beliefs as well as self-esteem of oneself (Lippman, Ryberg, Carney, & Moore, 2015). This feature is vital on shaping healthy self-perception among students and strong predictors of success in the future including in the workforces. The finding from the interviews revealed students' perceived their positive self-perception is heightened with their participation on collaborative learning sessions.

... it helps on elevating my self-esteem. Before, I was shy and not confident with myself, now not anymore! (L185: ESR1: February 8, 2018).

I can feel I become more confident. Many times have to present in class. Especially that one, using the microphone (L178: ESR6: February 12, 2018).

I told them there was no right or wrong during the execution of the project. They are free and brave enough to express their opinions. It was clearly visible. So different from before. Before that, they were shy. Even raising their hands, they look shy and scared. They're talking and sitting. And now, I didn't know who I was supposed to choose, because too many of them tried my questions. Yeah, indeed. I can clearly see that. (L280-283: ETR1: February 12, 2018).

Better self-perception seems to incite competitiveness among the students- especially introvert students as perceived by;

If we want to talk in groups and everyone else, we'll feel left out if we don't. So we're going to try harder. So, we want more knowledge when we did this. When I saw my

friends, compete in class, ask questions, ask questions again, I want to ask questions, too (L95-98: ESR7: February 12, 2018).

Another value emerged based on the data is an act of responsibility. Students perceived that they became more responsible on their learning and also their group.

I feel like, after that, our teamwork is more strengthened. More responsible. If one person did not complete her/his task, all of the members will be affected (L149-151: ESR6: February 12, 2018).

It taught us to be more discipline and responsible (L22: ESR7: February 12, 2018).

(b) Social Skills

Social skills are referred to a group of attributes that essential to get along with others. This skill is essential for successful teamwork. Data from respondents indicated that they learnt being helpful to each other to ensure their project successful during execution of the instructional module.

We worked together, helped each other to complete the project (L155: ESR1: February 8, 2018).

They were also taught to understand the differences in character between their peers, which led to better relationship and good teamwork.

We understand each other more. I understand them more, too. I think I can share and work better with them. I can identify the characteristics of these. Which one is speaking faster. Which one speaks slower (L25-28: Respondent 7: February 12, 2018).

They were also perceived as being tolerance on facing conflicts.

If any mistake occurs, we'll correct it. Occasionally my friends rectified my errors. I just accepted it. Tolerance (L68: ESR7: February 12, 2018).

Even though we're members of a team, there was still conflict. But we can deal with that (L121: Respondent 6: February 12, 2018).

(c) Communication Skills

Communication skills elements included effective expression, transmission, interpretation of knowledge and idea (Lippman, Ryberg, Carney, et al., 2015). Respondents ascertained that their communication skills were developed throughout the learning process.

We let all members of the group talk, introduce and participate. If they haven't done that yet we're going to let them first. If they hadn't been able to present, participate, or discuss, we helped. If she forgot, we were helping her too (L129-131: ESR6: February 12, 2018).

However, isolated cases of communication problem did occurred and indicated the essential of communication skills in a collaborative setting.

We need to communicate more, for example, within our group. Lia did not understand [...] Lin did not understand. I just got to explain. In Mandarin. Sometimes. We rarely communicate with each other aside from this project (L173-175: ESR3: February 9, 2018).

Our group communicated less. Every one doing their own stuff. Difficult to complete the project (L141: Respondent 4: February 9, 2018).

Thus, the group member suggested more communication should take place.

I suggest communication is the key. The most important (L206: Respondent 4: February 9, 2018).

(d) Higher-Order Thinking Skills

Lippman, Ryberg, Terzian, Tarzian, Moore, Humble and McIntosh (2015) stated that higher order thinking skills includes problem solving, critical

thinking and decision making. They later added that, these components are also supporting leadership. Although, many elements could be included, specifically for this study those three category were identified.

Collaborating involves dealing with human being. There is a possibility of having misunderstanding, difference opinions and arguments. Derived from the interview data, students exercised problem solving skills when they faced conflicts with their group members.

We argued. Ideas clashed. We came up with solution.
Everyone needs to respect the decision made. (L147:
ESR4: February 9, 2018).

Besides, they were perceived to carry out decision-making acts when dealing with uncertainty about workloads as stated below;

We are not bossy but we have split the works. So that
we will all have the same weighted task (L140-141:
ESR6: February 12, 2018).

There were some friends who were absent. So I have to
give her the task so she won't leave that behind (L192-
193: ESR5: February 9, 2018).

(e) Self-Control

Lippman, Ryberg, et al., (2015) defined self-control as "one's ability to delay gratification, control impulses, direct and focus attention, manage emotions, and regulate behaviours" (p.34). Working in a team or collaborative setting, self-control is a fundamental attribute that leads to better social skills, communication skills and leadership.

Based on the transcripts, respondents were perceived controlling impulses and managing emotions when dealing with differences of opinion as stated by ESR4 and non-cooperative group members as stated by ESR5.,

We learnt how to think before act (L150: ESR4: February 9, 2018).

I became more patient towards my group members. Even when they did not help me (L178: ESR5: February 9, 2018).

It was come to the surprise that the respondents learnt how to delay gratification and control their buying impulses when handling the financial part of their groupworks as stated by ESR7 and ESR1.

The problem is when we have to buy Punjabi suit. If we bought many pieces of it, it will cost us a lot. So we learnt how to manage our money (L111: ESR7: February 12, 2018).

We are learning how to manage our finances, too. How to save money if we purchase chocolate as reward. And batik sarung too. We choose batik sarung as our subject matter. We have also learnt how to save money (L206-208: ESR1: February 8, 2018).

6.2.1.10 Systematic Pre-Writing Process

Pre-writing process which is represented by two components; task environment and long-term memory of the writer. Students were given rhetorical problems based on themes in this study, and they were free to select the specific topics for their writing tasks.

They were then given the freedom, based on the topic, to choose the audiences which later led to the selection of language style and writing format. Analysis indicated that, during the writing process, respondents were aware of and applied the elements.

In this approach, the students externalized their preferences;

I love this module, because I was free to select my research topic. It's not specifically asking us to list three ways of encouraging culture. Instead we were asked to select one element of culture and do research on it. We have to find our way and apply ours (L148-150: ESR5: February 9, 2018).

This writing project is good. The best part is we are free to choose what topic we want to cover. Some of it we have already known. And some we haven't but we interested on the topic and we did it (L271-273: ESR1: February 8, 2018).

Later, they were also consulting the teacher on suitable language style that should be used based on their chosen topic and audience.

It could have been from the meaning of the words. The writing style, the jargons. Because they've got audiences for their writing project. They knew that the audience was friends of theirs. Youth. And there was a target group of members of the society. Teachers, school staff, students. So, they asked for an appropriate style of language (L194-196: ETR1: February 12, 2018).

6.2.1.11 Systematic Writing Process

Analysis from the interviews revealed that students practiced systematic and organized writing process based on Collaborative Flipped Instruction for Form One Malay Language Writing. The writing started with planning phase consisted of generating and organizing the ideas for writing, and setting up writing goals. These attributes were identified leading to a more organized and coherence writing.

Framework really helps! (L70: ESR4: February 9, 2018).

The part which I need to organize my content, made my writing better (L171: ESR5: February 9, 2018).

Teacher respondent also echoed the same perception on her students' writing progress after using this instructional module.

If we look at the content of the essay. Okay. Okay. Before this, if the question referred to five main points [content point], three points were merged into one paragraph. When we did it this way, we can clearly see the introduction, the main points, the explanations and

the examples. They didn't put it all in the same paragraphs (L273-276:ETR1: February 12, 2018).

Translation phase comes after planning phase; in which the ideas will be translated into written items. During this phase, ability to construct sentences, build paragraphs, and cohesion should be developed. The analysis of interview transcriptions unveiled students' perceptions on their interactions with the instructional module specifically on translation phase which involved;

sentence construction,

It helps in terms of [pause] how to construct the sentences. From the video [instructional video], they taught us how to construct the sentences. How to write introduction sentences. We used that videos on learning (L102-103: ESR6: February 12, 2018).

content paragraph's development and elaboration of content,

The content paragraph. On how to expand the content points. How to elaborate. How to expand sentences. And how to write an interesting conclusion. (L117: ESR4: February 9, 2018).

cohesion,

We tried to write all the content and link it with linking words and grammatical sentences. The teacher has taught us through the videos, on how to use linking words, nouns, so, it is more helpful (L149-150: ESR1: February 8, 2018).

6.2.1.12 Systematic Post-Writing Process

The post-writing process consisted of a review phase that includes two components – revision and evaluation of the writing. From the analysis, the respondents practiced collaborative revision among them, as stated below;

All of us write. Then, we combine our writing. Then, we revised which one need to be excluded or added. And

later we edited the writing (L93-94: ESR6: February 12, 2018).

They were also full of excitement about publishing their works and presenting it to the audiences. They made extra effort to deeply understand their writing, and issues revolved around it, and considered it an important preparation for publishing their assignment to writing.

We really need to understand the whole of the essays. Because we have to present it before a lot of people that day. They were reading out our essays. Really have to understand. Because if they asked questions, we are prepared with answers at least (L30: ESR3: February 9, 2018).

They really excited to let me know their progress. The writing project on that culture elements were fun and enjoyable. And it is easy to execute (L152-153: ETR1: February 12, 2018).

6.2.1.13 Writing is Perceived as Positive

Writing has received negative connotation among secondary school students, as reported by the teacher respondent. Traditional writing instruction practices which involved five thesis statement for five paragraph is inherited for quite a long time. Writing is deemed as a boring activity and students disinterested on it as postulated by ETR1.

Yes, it is true, Madam. Students are like that. Not just Form One students. Form Five too. They often had negative feelings, thinking on writing lesson (L91-94: ETR1: February 12, 2018).

This module has, however, transformed their perception into a more positive tone – writing is not just about writing. Writing can be a very engaging language activities, rather than simply a writing on a piece of paper. Changing the paradigm of

writing unleashed their creativity and raised the Malay language to a more universal language.

I would say that, having continued this process, too many advantages. Alhamdulillah. Lots of advantages. The students, among others, seem more engaged and happy during classroom instruction (L10: ETR1: February 12, 2018).

We practiced openness and freedom to pick their own subjects. As for the theme of culture, they have vast topics covering all of Malaysia's culture. They just felt happy. Oh, oh! This is a lesson on writing, too. Writing essay! (L94-95: ETR1: February 12, 2018).

If we aware on the new 21st century learning, we should not limit the creativity. Indirectly, we are upholding Malay language to the next level. More universal (L78-79: ETR1: February 12, 2018).

The teacher reported that the writing of her students matures more with this instructional module.

I can testify that, their writing, elaboration on the essays are more matured (L272-273: ETR1: February 12, 2018).

She also attested that students were also developing listening, reading and communication skills through the use of this instructional module. Based on her opinion, at the end of the implementation the students were able to develop and master all the language skills.

I assessed them and re-check with the DSKP [*Dokumen Standard Kurikulum Pentaksiran*], there were four language skills tested. Writing skills, at its core, reading. Listening skill when they listen to instructions given. So, I assumed that listening skills assessment is quite good. When they managed to write on paper, on books, I assumed they were successful on acquiring writing skills. And when they presented their works and exhibited it in a showcase, they managed to acquire speaking skills. For me, yes. This program is successful

on promoting four language skills (L71-76: ETR1: February 12, 2018).

6.2.2 Weakness

There are several weaknesses detected from the users – accessibility issues, uncooperative members, cost-effectiveness issues, and inaccurate Google searching results.

6.2.2.1 Accessibility Issues

Accessibility here is best described not only as a capability to access the internet but including capability to do activities online without hassle (DiMaggio & Hargittai, 2001). Although respondents were living in Kuala Lumpur, accessibility issues still existed with low accessibility to internet, slow internet connection, and limited time to access the online platform recognized as major problems faced by the respondents.

It is good to note that not all have access to internet and student did extra effort just to get connected as what stated by ESR1;

For me, Facebook is abit difficult for me to access. It needs Internet connection. I haven't subscribe to any Internet connection. I depends on free Wifi (L13: ESR1: February 8, 2018).

I need to find a place with good Internet connection for free Internet or else I have to pay subscription to mobile data Internet (L18: ESR1: February 8, 2018).

Most respondents, cited as having restricted access because only their parents have internet access via their smartphones. They had to wait until their parents came from work to access the online learning platform.

I don't have my own smartphone. I need to wait for my parents to come home, only then I can access the

Facebook [FCC BM group] (L21-23: ESR3: February 9, 2018).

The teacher corroborated that the age factor could be the reason behind this restriction.

Since they are still 13, 12 years old and under 14 years old, their parents still have no trust on them [mmm] in using their smartphones on the Internet. Even if they were given confidence, the parents in the major urban city are busy and do not have enough time to monitor the learning of their children. (L251-255: ETR1: February 12, 2018).

Slow internet connection is also hampered their learning via internet.

All is good except when the Internet become slower. Quite difficult to catch the information on Facebook [FCC BM group] (L15: ESR5: February 9, 2018).

The weakness is, slow internet! The page is down. Can not do the research online (L49-50: ESR2: February 9, 2018).

Besides that, it is understood that video viewing consumed higher internet bandwidth (Liang Chen, Zhou, & Chiu, 2015) and slow internet connection or unstable connection interrupted the video watching as stated by R2;

Slow internet and suddenly lost connection made me lost my focus (L60-61: ESR3: February 9, 2018).

The hyperlink given, sometimes it is too slow to reload the pages. Maybe slow internet. Even watching the videos too! Slow Internet means we can't access the videos. Everything is depends on internet. If we haven't connected to internet, we lost the learning (L197-199:ESR1: February 8, 2018).

Although online learning was perceived as time-wise and offered unlimited access to lessons, respondents ironically argued that they had packed daily routine and little time left for them to participate in online learning sessions.

Yes. Not enough time. We don't have internet at home. Going back from school is already late. With homework from other subjects. I don't have enough time to ask my friends (L246-247: ESR1: February 8, 2018).

The teacher also speculated to that fact that;

Maybe the students have extra-curricular activities. Then, at night they have to complete other subject's homework (L258-259: ESR8: February 12, 2018).

6.2.2.2 Uncooperative Member

This is the main issue of collaborative learning and group work. It potentially diminished the motivation of the other group members to learn and affected the harmonious climate of the group.

If we chose low achievement class, high achiever or moderate students might help the others. But if only one or two members working on the task, the other kept playing truant, neglect the responsibility, those good one might feel unmotivated. Giving up. As if they were being bullied to complete the homework. We don't want to ruin their motivation (L211-213: ETR1: February 8, 2018).

Sometimes, the members we ask to come [for meeting] didn't turn up. We ask many time but still they didn't come. (L133-135: ESR2: February 8, 2018).

6.2.2.3 Cost-Effectiveness Issues

The teacher concerned on the needs for stationary items, rewards, and extra items to support their presentation or exhibition, and the cost to conduct the research on content-area topics require amount of money.

Token for the students. I need that. It is a reward for them so that they will be happy to learn. At least RM10 per groups. I noticed that when we implemented the project, it is not the same as other subjects' approach. We notice the students were more motivated. But, we didn't aware of the hidden cost behind it. I am sure quite

a sum of money needed for their research project.
(L297-300: ETR1: February 8, 2018).

6.2.2.4 Inaccurate Findings from Google

However, the use of Google as one of the learning tools in this instructional module has received mixed reactions among respondents. Although Google's benefit is undeniable but impediment to use it crept in as determined by respondents.

Using Google is actually easier for me. I can easily get the information. Search something and many results appeared (L34-35: ESR3: February 8, 2018).

Maybe in terms of disadvantages of Google, as for me, some of the links result are not accurate. Displaying what is not supposed to be (L54-55: ESR4: February 9, 2018).

It is found that Google as a search engine gives inaccurate findings and displays unrelated hyperlinks. In addition to that, the information trustworthiness is compromised. Therefore, respondents recommended having Google research skills and verifying the content to teachers or parents before using it for their learning purposes.

If I, I need to find the title, keyword, main points when I search something on Google. Important. Must aware. If not our search are not fruitful. Then I asked the teacher (L44-45: ESR5: February 9, 2018).

6.2.3 Suggestions

Suggestion from the user's perspective gave the researcher insight on the best practice from the eyes of users. This emphatic feature on usability testing helps the designer and researcher to cater to the needs of the users when using the module. Among the suggestions emerged are- teacher should be prepared with digital gadgets

and Internet during class session, more time should be allocated for online sessions, and pre-class discussions were preferably conducted via Whatsapp.

6.2.3.1 Teacher Should Be Equipped with Connected Smartphones during Class

Inaccessibility is potentially failing the adoption of flipped instruction. Thus, respondents also proposed teacher should be prepared to face this accessibility issues by bringing the smartphone or gadget with internet during class hours.

The teacher need to know if her student didn't have an access to internet. Maybe she should bring the phones with internet during class hours (L217-218: ESR1: February 8, 2018).

I suggest that teachers should prepared, at least, smartphones, of course, with internet during classes. Because, not all students have internet. Especially those from poor family. A quick reading on the Facebook [FCC BM group] during classes might help them, at least, slight ideas on the lesson (L324-326: ETR1: February 8, 2018).

6.2.3.2 Longer Interval Time between Material Uploading and Face-to-Face Sessions

Accessibility is also due to the packed schedule and restricted access to smartphones. They therefore suggested that they be given more time, for example, two to three days before the class session, to access the learning platform. The resources for learning should be uploaded earlier.

Maybe teacher can give us more time. Teacher need to understand. Internet problem. Teacher give us two to three days before the class for us to reach the lesson. I have to find suitable places with strong internet connection. Maybe I can get it from free connection. Or anyone else. Give me extra two to three days (L239-242: ESR1: February 8, 2018).

The online lesson should be uploaded earlier, for example three days above before the class, [it] is the best time frame (L262: ETR1: February 12, 2018).

The teacher suggested online-based content should be uploaded on weekends so students will have three days on the weekend to learn.

Actually, there is no issue if we uploaded the online content on Saturday and Sunday. The online session is not even reach one hour [lesson] (L255-256: ETR1: February 12, 2018).

6.2.3.3 Pre-Class Discussion is Preferred through Whatsapp

Although this study utilized Facebook as a learning platform – for its multipurpose features including messenger and comment panels, the students preferred to discuss the standard content on Whatsapp – a messenger application.

We have our own Whatsapp group. So, anything from the Facebook, we discussed on our group. Whatsapp group (L93-94: ESR6: February 12, 2018).

Yes. They have their own Whatsapp group. Most of the time they discussed on the assignment and project on the Whatsapp group (L185-186: ETR1: February 12, 2018).

Among the factor that contributed to the preference is the easy access to Whatsapp compared to Facebook.

In terms of time, a bit hard. My father is working and coming home late. Sometimes, I did not know anything about the assignment. So, I just checked my Whatsapp group. It is easier (L183-185: ESR4: February 9, 2018).

6.3 Summary

This chapter reported findings from implementation and evaluation phases of the study. Implementation phase involved five weeks duration including teachers training and instructional module implementation. After the implementation completed,

evaluation phase was conducted. The analysis encapsulated that Collaborative Flipped Instruction for Form One Malay Language Writing saved more instructional time, offered ubiquitous learning, personalized learning, perceived ease of use, multimodal resources supported learning in which indirectly supported pre-writing process. It was also revealed that collaborative promoted shared learning on knowledge and information, writing activities and inter-subjects. It is also found that, this module promoted development of soft skills among the students. Following that, writing instruction is stated to provide systematic pre-writing, writing and post-writing process hence positive interactions yielded from the implementation. The overall usability is perceived positive by the respondents.

Although the module received positive reviews among the respondents, several weaknesses were identified, with the major and fatal issue of accessibility. Other flaws identified include non-cooperative members, cost-effectiveness issues, and misleading Google findings.

Besides that, respondents also shared their suggestions to improve the module as follows- teacher should be prepared with digital gadgets and internet on class, more time should be allocated for online session, and pre-class discussion is preferred to be conducted on Whatsapp. The findings were then tabulated in Table 6.2 for easy viewing.

Table 6.2
Result of Evaluation

Theme	Category
Strength	Saved more instructional time Ubiquitous Perceived ease of use Multimodal resources- supported pre-writing process Personalized learning Shared object – knowledge and information Shared activities Collaboration between subjects Development of soft skills Pre-writing was systematic Systematic writing process Systematic post-writing process Overall usability is reviewed as high
Weakness	Accessibility issue Inaccurate search results through Google Uncooperative members' groups Financial demands
Suggestion	Teacher should be equipped with gadgets and Internet during class Longer interval between upload and face-to-face session Pre-class discussion is preferred on Whatsapp

CHAPTER 7

DISCUSSION, IMPLICATION AND CONCLUSION

This is the final chapter of the study which discusses the findings of the study, the implications, the recommendations and the conclusion of the study.

Language is the road map of a culture. It tells you where its people come from and where they are going (Brown, 2011).

The interrelation between human development and language is unique thus many researchers tried to understand the relationship from different notions. Vygotsky is one of the famous philosopher attending to the development and language of human cognition. His insight into learning and human development focused on external influencing factors- social, historical and cultural aspects of learning in addition to the concept of mediation and social interaction (Matusov, 2015).

Language development requires systemic changes thus evolvement on sociocultural and history besides social interaction largely impacted the successful evolution of learner's cognition and subsequently the mental processing (Vasileva & Balyasnikova, 2019). As we move towards Industrial Revolution 4.0, the main concern among language educators is how language learning should be designed, without compromising the value of language in a futuristic environment. On the basis of these principles, the researcher broadens the initial socio-cultural factors with additional technology utilization to create a favorable learning ecosystem within the local framework.

7.1 Needs Analysis Phase: The Discussion

The Needs Analysis phase is often the most overlooked phase when instructional products are developed (Roblyer, 2006). However, with current trends in instructional design showing a shift from one-size-fits-all to more user-centric instructional products, needs analysis is gaining more attention among practitioners. This concept was introduced earlier by Levy (1997) when he argued that instructional products should always take into account the needs of users. In the context of Vygotsky (1978), students come to school with different backgrounds and cultures, so understanding these factors would benefit them and create meaningful learning.

7.1.1 Teachers

The discussion of findings from the teacher's needs analysis is divided into four key points – knowledge of the writing process, inadequate in-class instructional hours, writing instruction technology, and integrated writing instruction.

Knowledge on writing process

Based on the findings, the central point on the background problems among teachers is that teachers possessed tacit writing knowledge which is based on their own experience. They were found applying unclear guidance instead of empirical and evidence-based writing instruction in schools. Tacit knowledge is largely based on mimicry and rarely based on sound knowledge (Nash & Collins, 2006). Nevertheless this is not an isolated issue, as Slavin, Lake, Dachet, and Haslam (2019) reported school settings in the world rarely carry out research-based writing instruction, but instead depend on teacher-created writing instruction. Connecting with Roselan Baki (2003) and Rozita Radhiah Said and Abdul Rasid Jamian (2012) in local context, the

findings from this study extending the notion that the teachers teach writing based on experience rather than evidence-based instruction.

Many factors contributed to this problem, however, significance factor is based on the fact that it is inherited from generation to generation (Roselan Baki, 2003), and too much emphasis is placed on end-products specifically for examination, rather than developing writing skills. Based on Vygotsky (1994), the knowledge based on social context is less fluid and often resulted to inability to interpret it from the receiver's side. This problem existed for a long time, as Derrick-Mescua (1985) stated writing from Malay students indicated straight-forward organizational style largely shaped by the premise that writing should be attempted to answer the examination. It is also known that our education system is too exam-oriented thus teaching and learning are restricted by the examination guidelines (Nurul-Awanis, Hazlina, Yoke-May, & Zariyawati, 2011). Although this problem has been reported since the 1980s, the writing instructions remain unchanged and this sends an urgent signal to the stakeholders, specifically the government, to find a solution to this plaguing condition.

The main impact of tacit knowledge is that-it is difficult to transfer or disseminate knowledge to others because it may create multiple understandings and knowledge between recipients (Panahi, Watson, & Partridge, 2016). This led to serious impact on their teaching and explained the rationale behind their practice of spoon-feeding the contents of writing to their students during instructions. This finding is consistent with the study by Abdul Rasid Jamian (2011,2012), Zulkifli Osman (2015), and Lai, Chin, and Chew (2017). Unfortunately, this affects not only the novice teachers but also the master teacher (*Guru Cemerlang*) as reported in Rozita Radhiah Said and Abdul Rasid Jamian (2012).

Inadequate in-class instructional hours

Struggling with limited in-class instructional hours is a common problem among educators working on literacy area as shared by Lai Lee Chung (2017); Anders (2016); Balzotti and McCool (2016) and Nurul Aisyah Abdullah et al. (2016). In line with these statement, the implementation of Secondary School Standard Curriculum (KSSM) resulted shorter instructional time for Malay language class, from 45 minutes per session to 30 minutes per session. With shorter pedagogy time, teachers had to struggle over content delivery and conducting learning activities. It is getting worst when the pedagogy sessions were mainly consumed by teaching process instead of student-based learning activities. Only a minimal fraction of the time is allocated to student-centered learning and this statement echoes the work of Lai Lee Chung (2017). As for the writing class, the majority of the writing instruction is done without the facilitation of the teachers. As a result, teaching writing focuses on producing an end product – an essay, instead of a writing process, and unfortunately without expert facilitation. It's no surprise, therefore, to find that teachers have taught writing lessons once a month and sometimes less. This finding was echoed by Hsiang, Graham, and Wong (2017), when they stated that the unavailable writing module had forced teachers to design their own hence much time allocated for that purpose and less time to execute it. The rigorous writing process usually consumed loads of times that were supposed to contribute to infrequent writing lesson. As a result, literacy development specifically writing skills in this study is potentially stunted as sessions are not routinely conducted to establish competency among students.

Technology integration in writing instruction

Looking at the technology knowledge of the teacher respondents, they were well-versed on using social media and messaging applications besides the formal VLE-Frog. They are exposed to computers and Internet in the early phase of their adolescence ages (Solomon & Schrum, 2007). This contributes to their good technology knowledge and skills. Among application being regularly used in daily basis is Facebook while VLE-Frog is used in school settings and teachers need to meet certain requirements to implement it in the pedagogy plan (Ministry of Education, 2013). School makes the use of VLE-Frog on their lesson plan compulsory for all teachers. Not unexpectedly, during their teaching practice both teachers need to master the use of VLE-Frog. The Ministry of Education presents the 21st century learning methods to be applied in instructional hours (Ministry of Education, 2013). This explains on the practices of team-based activities such as group discussion, Gallery Walk, Travelling File among the students. The practice is found to motivate the students and heightened the engagement on the learning.

Integrated writing instruction

Integrated writing instruction is conducted especially when it comes to grammar integration, based on the notion endorsed by Halliday (1997) and Vygotsky (1978) - under the great umbrella of Social Functional Linguistics. It fosters the practical use of grammar by writing in the real world. Nonetheless, Jesson, Mcnaughton, Rosedale, Zhu, and Cockle (2018) noted that certain language skills or components should be carefully integrated into the writing instruction taking into account the needs of each writing phase. It is important to give priority to writing instructions and other components should stand as additional components. While the integrated writing

instruction is stated to be administered, given the teachers' tacit knowledge of writing, it would be a disaster for the development of writing skills. So instead of writing instructions, the planned integrated writing instruction focused more on teaching grammar. Ultimately, writing skills remains the same with no significant improvement, as evidenced on the artifacts of the essay.

7.1.2 Students

The following sub-chapters discuss the findings of the student needs analysis. It is divided into three main issues – writing issues, technology ownership, and online skills.

Problems on writing

Inadequate knowledge on teaching writing which is largely based on tacit knowledge among the language teachers, contributed to the poor level of writing skills among the students (Lai Lee Chung, 2017; Roselan Baki, 2003) . Tacit writing knowledge has disrupted transferable knowledge and skills from instruction to students. Thus, answering why writing will always remain stagnant throughout the school years (Pathak et al., 2019). Empirical-based writing instruction as suggested by (Roselan Baki, 2003), as it is an evidence-based writing instruction, should provide clearer and more custodial writing process. It will help the students to understand the unconscious writing process as opposed to the current practice of writing instruction based on the experiences of the teacher (Silby & Watts, 2015).

Based on the findings, most of the writing skills problems are due in large part to the teachers' implicit writing instruction, which is difficult to transfer, replicate, understand and master. These issues, including perceived lack of knowledge regarding

writing processes, resulted in negative perceptions towards the writing process. The influence of tacit writing awareness among students has generated a sense of writing difficulty and consequently established negative attitudes towards writing experiences.

Positive perceptions of learning and skills are important features for good academic achievement, in addition to cognitive ability and good knowledge of content (Jones & Carter, 2019). This could also be an alternative explanation of students' inability to master writing skills, in addition to a low level of mastery. The link between positive perception and good learning outcomes is bridged by engagement during the learning process. Engagement drives optimal and effective learning process and, as a result, increases student achievement (Zainuddin & Perera, 2017). It is therefore capable of developing positive perceptions among students.

As a consequences of negative perception – either on the writing instruction and self-ability, the student's writing has shown shallow preparation of the main content, with a lack or absence of the thesis statement and/or the supporting statement. It reflected the undeniably red zone of writing problems when the writer was unable to connect with their writing. Much can be said about this, however, in relation to the way the teachers delivered the instruction – the teachers provided the content of the essay should also be the other possible factors of their writing detachment. Past studies by local researchers - Che Zanariah Che Hassan and Fadzilah Abdul Rahman (2011); Lai et al. (2017); Rozita Radhiah Said and Abdul Rasid Jamian (2012) and Marzni Mohamed Mokhtar et al. (2013) reported the similar teaching and learning strategy being practiced in school settings. This will force students to copy in written form what the teachers said, without any real involvement in the writing process.

However, on the defense of the teacher is concerned, this is probably the final resort for the delivery of the instruction, since the students are unable to carry out their

own research on subjects as requested by the teachers. They were only able to activate the survival mode to ensure that their writing class was conducted. Additionally, students claimed that they had not incorporated language expressions such as idioms and *pantun* into their writing. Language expression requires higher language skills and is rarely used in current daily conversations, which are more straightforward and highly influenced by slangs and local accents. Language expression, such as *pantun*, needs the user to have a vast knowledge of vocabulary and repetitive practice of composing and understanding *pantun*. Putri Dyah Wulandari, Shaifuddin, and Ismail (2015) stated that composing *pantun* strengthen when the speakers immerse themselves with reading habit. In response to that finding, although there is no causal-effect factor, by listing lacking on reading habit, it comes to no surprise – many writing development were stunted by this deficit. It is well-known that, reading and writing is interrelated across the languages as backed by numerous studies (Campbell & Filimon, 2018; Seaboyer & Barnett, 2019). Reading is capable of fostering motivation for writing, fostering creativity, expanding vocabulary, providing good examples of writing, and also providing content for writing (Seaboyer & Barnett, 2019; Wallace & Wray, 2011). Lacking on reading often bring less knowledge on content area or subjects which is important component on writing. It is also affected the vocabulary enrichment and learning of writing style that could be gained through reading. All of these benefits tremendously help writing process. Again, loads of precedent studies demonstrated that strong relationship existed between reading and writing and it should not be easily rejected in this study (Abdul Rasid Jamian, 2011; Campbell & Filimon, 2018; Che Zanariah Che Hassan & Fadzilah Abdul Rahman, 2011; Nurul Aisyah Abdullah et al., 2016; Roselan Baki, 2003; Seaboyer & Barnett, 2019).

Following the inability to expand their ideas, other implications of implicit instruction are problems of coherence and cohesive involving disorganized content and ideas on writing. There were repetitive material on different paragraphs and the key text was written as an example rather than a thesis argument. In most of the sample essays, there was inconsistency in conveying their ideas into written products. Cross-examined with interviews of teacher respondents, it was also said that the students face problems in organizing their essay material. However, when it comes to other language components in a sentence-level, i.e. grammar and vocabulary; the samples exhibited average competency over those components. It may send a signal according to this finding – the respondents in this study may not have had major problems on language components. Alas, they faced major obstacles, especially at paragraph level, in delivering their ideas on writing essay systematically. This echoed the statement by Arteaga-Lara (2018) when he found that upper elementary students were struggling most on paragraph writing . Yet, it becomes clearer, major hauling works needed on re-construction of writing instruction for school children in Malaysia.

Technology and online preferences

Based on the findings, Collaborative Flipped Instruction for Form One Malay Language Writing should be designed and developed with emphasizes on mobile interfaces, however, it should not be restricted to one. Mobile phone ownerships are the largest segment of technology utilization in Malaysia (Department of Statistics Malaysia, 2019) Gikas and Grant (2013) stated that mobile devices are the youth preferences and exploiting this will heighten the level of perceived ease of use.

Respondents who were also identified as Gen Z, are identified as digital native by birth and mobile technology is priming alongside their childhood (Solomon &

Schrump, 2007). Thus, their preferences for mobile devices should therefore be taken into account. Based on the findings above, there are mixed feedbacks on their online skills especially when it involves educational purposes and unfamiliar technology. As Gen-Zs, their capabilities to conduct research online is expected to be high at-par with their level of communication online. A clear and crisp instruction should be delivered for each assignment that required them to use internet. For example, time management issues could be addressed by providing them with regular contact time with online content, as suggested by Jovanovic, Mirriahi, Gašević, Dawson, & Pardo (2019). Homework or assignment could be organized in such a way that they can complete online assignments as required (Siti Hajar Halili et al., 2015a).

7.1.3 Needs Analysis of Technology and Infrastructure

From the findings, school infrastructure were found to be equipped with computer and media lab. Both labs are situated at the ground floor can be used by teachers and students by booking a slot with the school administration. The computer lab is sophisticated enough for any online learning with a free internet service provided by YES Telecommunication. Teachers have also been provided with free mobile gadgets from the Ministry of Education and come with a discounted 4G internet subscription. However, no formal technical support is available during school hours if there are any technical problems involving online services. Roblyer, McDaniel, Webb, Herman, and Witty (2010) argued that infrastructure and technical support are two important features for online learners so that any disruption to the learning process could be dealt with quickly or could potentially undermine the integration of technology into education.

7.1.4 Needs Analysis of Content

Content needs analysis involved three main dimensions: content, teaching and learning activities and, feedbacks and assessment. It is good to aware that, sub-items under content are derived from Document of Standard Curriculum and Assessment or in Malay language *Dokumen Standard Kurikulum Pentaksiran* (DSKP) published by Ministry of Education.

Based on the findings, teachers stated that theme Unity should be emphasized since living in a multicultural society, it is the utmost important factor that should be nurtured especially among young children. However, majority of the students chose Integrity and Politic and Administration, which are subjected under social studies cluster, besides of Economy and Culture, Art and Aesthetic- which needed to be included on the module. Young secondary schooler tend to distance themselves from those heavy topics and social studies because it is irrelevance to them. In a study by Mangano (2018), high schoolers hold mixed views on social studies subjects but stated irrelevancy of the subjects make they feel it as a dead subject. This 'dead' issues are also shared by Chiodo and Byford (2004) and youngsters felt that their voices are unheard on these heavy themes those explaining on irrelevancy. Both studies also stated, youngsters' views on politic and administration are affected by the adult around them and this biasness influenced their negative perceptions thus further deter them from those themes.

Moving to the genre of essay, experience-based and expository discourse shared similar traits on describing, explaining and informing the readers on specific issues. However, the differences in writing with experience-based essays focus more on students' personal experience of sensory, memory and emotions, while the expository discourse called for students' informational opinions and views on specific

issues – but not necessarily bound up with scientific and statistical facts, as well as health issues, and science-based issues (O’Hallaron & Schleppegrell, 2016). The teachers believed that writing should be taught on free topics while students stated expressing their opinions on certain issues is needed in the module. Difficulty on expressing opinions is common among young writer since it involves re-organizing their own thinking into writing. Price and Jackson (2015) stated this action needs procedural step from cognitive to the written products and most of the time students need scaffold from their teacher to accomplish this task.

When it comes to type of essay, there are contrasting responses between teachers who thought that the flipped instruction should include structured essays with minimal written text and their students described expository discourses are needed. Again, this clearly indicates that students understood their shortcomings in writing and indicated that forum text, interview transcript and article should be taught on the flipped instruction. These three types of essay are expository in nature. The discrepancy in this finding shows the students need to learn general writing instead of formatted writing, which is part of advanced writing. The development of basic writing skills should refrain from any disrupters, including too much regulation of grammar and format, but should instead allow students to express their views or thoughts through the text (Aldridge & Fontaine, 2014).

Digital platform and information highway offers plethora of information to support schema activation among the students. Besides, the feature of social media technology allows flexible collaborative writing promises better learning experience and knowledge co-construction (Ansarimoghaddam & Tan, 2013) and tremendously promote activation on content and topics.

7.1.5 Summary of the Discussion on Findings from Needs Analysis

In summary, a discussion of findings from a needs analysis indicates the need for research-based writing instruction using collaborative learning in a blended setting. The writing instruction should be based on the writing process and focus on the development of writing skills. It is also important to address the tendency of students and their teachers towards Internet and social media technology. The next sub-chapter discusses the findings of the design and development phase.

7.2 Design and Development: The Discussion

This sub-chapter is divided into two parts- design and development for better organization.

7.2.1 Design Phase

Design phase involved several rigorous methods – systematic literature review, expert interview, and Fuzzy Delphi Method. The findings from those methods were discussed.

Discussion on Experts Inputs – Interview and Fuzzy Delphi Method

The discussion is compartmentalized into three major areas- content with themes and essays, and technology utilization.

Content - Themes

Malay language is a native language for Malay people. Malay people is highly interconnected with their roots- in terms of culture, ancestors and religion. In a work by Abdullah Hassan (2009), he added language and locality as the another rooted

elements that shape the identity of Malay language. Several works in Malay studies supported the notion as demonstrated in Arina Johari & Indirawati Zahid (2016), Marlyna Maros (2011) and Tuti Andriani (2012). Thus, when we talk about the Malay language, we should not exclude the fact that it is highly interrelated with the Malay community, although it is a national language. Hence, any political or racial perception should be carefully screened on handling the arguments.

Based on the above-stated notion, it is no surprised that the experts' consensus on themes emphasized on the identity of the Malay community itself – culture, language and moral values (*adab/akhlak*). The shared decision-making process reached consensus by choosing Integrity, Language and Literature, Culture, Art and Aesthetics, Cleanliness and Health, Unity, Education and Green Technology. By linking the findings of experts interviewed in the previous process, we could see a distinct pattern of highlighting the culture and moral values on Malay language learning – which, among others, suggested reintroducing *Jawi* script and hygiene practices specifically to discuss puberty issues. In addition, we might want to include the fact that Form One is the foundation year of secondary schooling, so that exposure to the roots of the Malay language during this time is time-wise and appropriate before students explore other themes. These results are based on the socio-cultural theory of Vygotsky and Luria's works published in Kozulin (1990, 2015) proposed that people from the same or similar sociocultural shares similar perception and abstractive point of view. Therefore, mental processing is hypothetically influenced by the social community and culture of the native speaker. Each ethnic community has its own distinctive traits and that lends the premise- language evolved in two stages – sociocultural-based and individual (Vasileva & Balyasnikova, 2019) . Malay language

is rooted on a very conservative base, however, the selection of Green Technology theme- sends a signal of adaptation to more scientific exposure.

How will Malay language sustain itself in a multicultural setting and a quest for knowledge? Malay language identity must be preserved at its core, but the dynamics of language should celebrate the multi-diversity ethnic and races of Malaysian social backgrounds. It is important to consider this assumption when designing and developing the Malay language curriculum or instructional products, since the Malay language serves as a national language in Malaysia. The neglect of the multicultural composition of society is likely to create empty spaces that could potentially be a place for racial isolation. In the case of Malay language as knowledge, more work should be done on the translation of another language and vice versa.

In addition, Integrity is ranked first. It is a vast theme of moral value that should be imbued within our lives. Löfström, Trotman, Furnari, and Shephard (2015) studied academic integrity and argued that integrity is a very subjective matter that others can not easily grasp. This major issue needs to be supported by data and facts from verified sources, such as the Malaysian Anti-Corruption Council (MACC). Based on the needs analysis, the highest percentage of students also selected Integrity as a theme to be included in the Collaborative Flipped Instruction on Form One Malay Language Writing. It indicates that – integrity requires highly validated information and mature writers to understand the issues. Besides that, Unity is considered as suitable theme to be included on Collaborative Flipped Instruction for Form One Malay Language Writing. With a multiracial settings, Unity theme is deemed important for young people since it is strongly inter-related with assimilation and tolerance (Hinton, 2011).

Content – The essay

Narrative is ranked at the first place, followed by descriptive and lastly expository. Dollins (2012) stated that narrative essay is an easy writing genre that could be grasp at younger age- transcribing their feelings and experiences into writing. Alongside, in a middle school, more emphasis should be placed on an expository essay. With a rich abundance of data ruling the world, students need to learn how to extract and write all of these data into informational text, and this skill is taught through expository writing process (Cutler & Graham, 2008). Thus, entering the 21st century learning space, middle school students are advised to master the writing of the expository essay before the argumentative essay comes in during high school age (Dougherty, Bilings, & Roberts, 2016).

Technology Utilization

In this study, flipped learning utilized variety of multimedia resources on the approach, and that includes videos, photos, online dictionary, Google and hyperlink. . In addition, the use of Facebook is beneficial for learning.

There are several types of videos – instructional videos, supplementary videos, and curated videos. Instructional video is important as it was specifically tailored to the planned lesson. Most of the flipped language learning studies such as Ekmekci, (2017), Moranski and Henery (2017), Liao (2014), Hsieh, Wu, and Marek (2016) and Wahindah Suhari, Wan Alfida Suleiman and Zuraidah Saidin (2015) used instructional videos produced by the teachers /instructors on their studies. Illka and Lockwood (2015) stated that the teacher's instructional videos made students feel connected to learning. At the same time , supplemental videos activated prior knowledge on topic and help students gather information and knowledge for the content (Balzotti &

McCool, 2016; Gustilo, 2013). However, Sohrabi and Iraj (2016) differed in this regard when they found that curated videos from readily- available videos on internet such as Udemy and Ted Talk are more interesting. Besides, it saves time and cost for the instructors to prepare it. Despite this, it is quite difficult to select appropriate videos that meet the needs of the lessons, since each video is created on the original owners' lesson plans. It is interesting to note that differences in age and level of study determine the preferences for the type of instructional videos.

The next sub-component chosen is photos. Killian and Woods, (2018) utilized photography on their flipped session. Photography is said to be able to increase student motivation and stimulate creativity during the writing process. 'A picture worth thousand words' is a popular quote without nothing. Secondary school students were able to produce a better essay with a broad vocabulary and a description based on the images given (Megawati & Syarif Agussaid Alkadrie, 2017). They also stated that photographs are good resources from the past especially when learning involves historical cases.

In addition, expert consensus has shown that the online dictionary should also be included in the flipped instruction. Online and electronic dictionaries were used more frequently than printed dictionaries (Dwaik, 2015). It also offers rare and authentic vocabulary compared to the printed version. In our local context, *Dewan Bahasa and Pustaka* have developed an online portal offering, among others, online dictionaries, thesaurus and language discussion boards specifically for Malay language on the following hyperlink: <http://prpm.dbp.gov.my/>.

Google has also been selected as learning resource by the panel of experts. As familiar as we've heard and used Google in our lifetime, Google is a search engine with extensive hyperlink storage developed by an algorithm. Users can search their

needs by entering keywords, and the rest will be handled by Google. Alharbi (2015) used Google during the flipped session of his students in his study. Similar resources are hyperlinks-a technology that allows you to click on any text, photos, videos or medium that connects to other targeted sites. This enables content to be forwarded through this link and facilitates the research process, especially when it comes to content research (Park & Thelwall, 2003).

When it comes to the online learning platform, expert consensus has decided that Facebook should be used as an online learning platform. The issue of familiarity with the Facebook interface, in addition to its accessibility, is cited as one of the justifications for using it as a learning platform (Lai et al., 2017). As supported by Dwaik (2015), familiarity with any learning technology tool helps students to adopt it better. Furthermore, Facebook supported collaborative learning activities with its readily available features (Gikas & Grant, 2013; Sherina Shahnaz Mohamed Fauzi & Raja Maznah Raja Hussain, 2016).

7.2.2 Development Phase

Development of Collaborative Flipped Instruction for Form One Malay Language Writing involved several steps: development of content, development of learning materials and set-up of learning platform.

The content of the flipped instruction is based on the Document of Standard Curriculum and Assessment for Form One or in Malay language- *Dokumen Standard Kurikulum Pentaksiran* (DSKP). It applies collaborative approach with Zone Proximal Development and scaffolding concept underpinning the development of it. These two concepts were vastly used in education especially in language education as demonstrated in the recent studies by (Blau & Shamir-Inbal, 2017; M. Kim et al.,

2016; Könings, van Zundert, & van Merriënboer, 2019; Rafiza Abdul Razak et al., 2016; van de Pol, Volman, Oort, & Beishuizen, 2015) Koukourikou, Manoli, and Griva (2018). According to World Economic Forum (2017), the arrival of Industrial Revolution 4.0 needs collaborative skills and investment in human development as part of the 21st century curricula. The training of the workforce is started during the school years thus schools are expected to manage the expected skills in the curricula.

Under the new Secondary School Standard Curriculum / *Kurikulum Standard Sekolah Menengah* (KSSM) implemented starting 2017, emphasis was placed on the empowerment of Malay language among Malaysians, and the role of Malay language in the dissemination of knowledge. Thus, Malay language at school level required teachers and students to master a wide range of content across the curriculum in order to be a competent speaker. Thus, in line with the spirit of the new curriculum, this Collaborative Flipped Instruction for Form One Malay Language Writing is developed on this basis, where collaboration between subjects has taken place in selected themes. It is conducted within several subjects such as Cleanliness and Health in which the lesson is designed with the collaboration of Physical and Health Education. This practice of collaboration across subjects has been implemented in most European countries, and lower secondary schools have been more active exercising this practice, as stated in Hertzberg and Roe (2016). In addition, the expert respondents of this study proposed pedagogy across subjects, especially when it comes to a very technical and scientific subject, such as health and green technology. Cross-subjects help deepen learning and enhance content knowledge as suggested by Harmon and Wood (2018).

The abundance of learning resources is another advantage of using Facebook. However, when it comes to educational content in the Malay language, the numbers are still far behind English-based content. In spite of this, a teacher or educator might

be able to fix a specific time for selecting and curating learning resources. The Ministry of Health, My Health portal, *Institut Alam dan Tamadun Melayu* (ATMA) UKM, *Ajar*, The Patriots, *Raja Teromba*, *Ini Sains Beb!*, and *Lembaran Sejarah* are among the trusted Facebook pages with official and reliable administrators. These pages offer exciting and fresh information in a wide range of disciplines. It is very important for teachers to select and stream sources on social media and, more specifically, on Facebook.

7.3 Implementation and Evaluation: The Discussion

The findings have shown several strengths of the module-offering multimodal learning resources, perceived ease of use, and saving more instructional time led to personalized learning and offers ubiquitous learning. However, accessibility issues arised potentially defeated the function of flipped approach, and potentially disrupted the learning process among the children.

7.3.1 Multimodal Learning Resources

One of the positive aspects of flipped instruction is the freedom to use multimodal learning resources during the completion of writing assignments. Multimodal learning resources available through Web 2.0, including social media sites, facilitate the creation of tacit knowledge on the content of writing (Panahi et al., 2016). Knowledge and ideas are then co-constructed among group members and, with the help of multimodal learning resources available through social media sites and Web 2.0, the anxiety of online research among students is reduced (Challob et al., 2016). However, the use of the Internet for research purposes requires digital literacy in which the awareness of using the right tools during online research is reduced. Based

on the findings of this study, the ability to judge online information among the student respondents was quite impressive when they noticed that some sites offered false and inaccurate information. Digital literacy skills are important skills when it comes to online learning, as skilled online learners should be able to critically evaluate the information available online and avoid bias in the information they receive (Boyd, 2014).

However, there is another concern – the chances of pseudo-writing and plagiarism being conducted, as the role of writers in the process is compromised by a plethora of online information and knowledge (Skaar, 2015). Explaining the world-famous issue, students have a tendency to copy-paste writings on the Internet, unfortunately, without quotation. As for pseudo-writing, the higher rate of copied-pasted writing, although with quotation, leads to a truncated writing process.

Schema-activation-in which writers recall the memory of knowledge of discourse and topics, plays a key role in being a competent writer (Ramos, 2010). The real practices in locale context, the schema-activation is the part where students find it difficult to execute since it demands vast knowledge on the content of the themes and experiences plays major role on supporting this process-thus resulting weak problem statement and writing at large (Abdul Rasid Jamian & Hasmah Ismail, 2013; Nurul Aisyah Abdullah et al., 2016). The adaptation of Flower and Hayes (1981) with a collaborative approach within the flipped learning framework therefore promotes the co-construction of knowledge among members and promotes the use of social media technology for schema-activation.

The finding also demonstrated that social media technology and collaborative learning support during the schema activation process tremendously helps the students in constructing their knowledge on the topic of writing. At the same time, knowledge

of writing guides them in the writing process. In order to have wider prior knowledge, reading is interrelated with writing, whereas the former gives input to the latter. However, students were found to lack reading habits as postulated in this study and supported by others such as Masyuniza Yunos (2015); Abdul Rasid Jamian (2011) and Nurul Aisyah Abdullah et al., (2016). Thus, by supporting them with social media technology to conduct research on themes and topics during this process, they are compensated for their lack of knowledges and experiences.

In spite of that, this feature opens up the possibility of excessive usage of screen time. In a western country, specifically in the United States as reported by Common Sense (2019), excessive attachment to mobile phones contributed to social exclusion, negatively impacted family bonding, and disrupted sleeping time of the children. Since the pattern of technology could have been a precedent for another country, it is best to plan the time of the screen carefully for educational purposes after school hours. Although the findings of this current work have shown the effect of digital inequality on disadvantaged children, the other side of the coin may inevitably have affected the advantaged one. This may contribute to an increase in anxiety and depression among children, especially adolescents, due to over-exposure to screen time, including social media technology and internet addiction (Mojtabai, Olfson, & Han, 2016).

7.3.2 Perceived Ease of Use

Based on the findings, there is almost no contradictory evidence of perceived ease of use while using Facebook as a learning platform. This study, which echoed the previous studies, reported similar effects to Cheung, Chiu, & Lee, (2011); Moorthy et al., (2019); Tubaishat, 2018). Several factors may have contributed to perceived ease

of use among respondents while using Facebook – a well-known social media platform and easy access to the social media platform.

Facebook is one of the most popular social networking sites with 2.41 billion active users worldwide in the first quarter of 2019, of which 22.7 million are from Malaysia (Statista, 2019). This popularity lends familiarity on using the platform including the function, features and tools of the Facebook. Besides, parents also use Facebook and it is easier for the parents to guide and support their children on learning through Facebook as a platform. Familiarity on the platform is a demonstration of experiences and awareness and it tremendously aids the learning process among students (Oyelere, Paliktzoglou, & Suhonen, 2016).

Moreover, fast access to Facebook is one of the factors cited for perceived ease of use among respondents. This factor should be complemented by the Facebook system architecture that uses the Content Delivery Network (CDN) protocol. It is a content delivery system that uses geographically distributed servers to enable faster delivery of content to end-user locations locally rather than remotely (Bartolini, Casalicchio, & Tucci, 2004). Meanwhile, it is also stated that the process of fast uploading to Facebook is likely to be due to the data storage system implemented by Facebook. To minimize the operating costs and infrastructure of Facebook, open source technologies have been used to support the data compression protocol on their system (Thusoo et al., 2010). This protocol helps creating smaller sizes of data and encouraging faster and reliable uploading process.

7.3.3 Saving More Instructional Time for Personalized Learning

Flipped approach purposely flipped the teaching process outside the classroom thus the class time left is designed for specific collaborative activities. This session is

specifically designed to enable students to learn and understand the concepts of learning (Hwang, Lai, & Wang, 2015). In the foreseeable future, this setting will foster personalized learning among the students involved. With more hours of personal contact time, teachers are able to engage in personalized consultation based on the student's pace. In addition to personalized consultation, personalized learning can be provided to students. Thus, the potential development of students could be achieved through the help from adults.

7.3.4 Ubiquitous

The omnipresent of learning mediated by technology and real time access due to internet connectivity revolutionized the shape of education. As long as the internet and accessibility are available, the e-learning will never be diminished. The respondents posited that ubiquitous feature helps them learn without much restriction on time and place. The lessons can be accessed at their preferred time and space, making their learning process easier. Later, Balzotti and McCool (2016) cited the importance of the digital platform for flipped learning as an indispensable learning platform and as a means of promoting ubiquitous learning. The content of learning is made available online so that students can reach it at any time and place. The study by Odewumi and Yusuf (2018) and Tao, Huang, and Tsai (2016) also supported the notion of flipped learning that offers ubiquitous learning.

7.3.5 Accessibility Issues Creating Homework Gap

Malaysia's national level of Internet accessibility has risen from 76.9 per cent in 2016 to 87.4 per cent in 2018, with 93.1 per cent of users connected via smartphones expected to rise over the next few years (Malaysian Communication and Multimedia

Commission, 2018). Similar trends in technology and accessibility of devices are also evident among respondents to this study, with 87.4 per cent having access to the Internet, while 94.3 per cent said they had access to smartphones. However, the bitter truth of accessibility issues revealed in this study raises some serious issues that need to be discussed intentionally – home accessibility and homework gaps.

In the hype of online pedagogy, children who have been deprived of Internet access at home have thus hindered their chances of learning and hindered their access to learning. This learning obstruction creates a homework gap between students who have access and students who do not (Meyer, 2016a; Reisdorf, Yankelevich, & Shapiro, 2019). Instead of technology as a golden opportunity to enhance learning, accessibility issues become a deserted opportunity for those affected. The next paragraph discussed the factor behind the issues of accessibility and the impact of accessibility.

7.3.5.1 Affordances

Disparity in internet accessibility is often seen as an urban versus rural issue among researchers in the past, but similar dichotomy has gone beyond that in the current situation (DiMaggio & Hargittai, 2001). Although the study was conducted in the urban area, issues of accessibility still exist, although the good infrastructure of internet service is readily available. There are several possible answers to this situation, one of which is that there are households that simply could not afford to subscribe to the internet service, and this condition is not an isolated case, but has appeared worldwide (Meyer, 2016a).

Inaccessibility due to affordability, however, includes not only Internet connections, but also those with lack of access to technology devices and peripherals

such as printers and computers. In the 21st century pedagogy approach, teacher often uploaded worksheets online and students are expected to complete and print the assigned task (Meyer, 2016a). Peripheral prices are high compared to the family's gross income of low social economy status and, most of the time, they are unable to complete the assignment given when print notes are required, especially when the timeframe is too short. Most of those who could not afford to do so come from poor urban families or economically disadvantaged urban households – which further exacerbated the gap in homework between low and high socio-economic status children.

7.3.5.2 Limited accessibility and parental involvements

In addition, the issue of accessibility also stems from limited household connection and parenting approaches to technology integration (Bolkan, 2017; Tsuei & Hsu, 2019). Statistical data may show high percentages of Internet access per household, but as a result of ownership, connections are scarcely available to children. As this study involved 13-year-old school children, Internet subscribers (parents or older siblings) could be connected via their personal smartphones. As a result, children are left behind and must wait for their turn to use the internet for homework purposes. Taking into account the routine in the Malaysian context, working parents in the government and private sectors work 8 hours a day in a normal shift, thus shortening the time for parental support to academic.

The case potentially getting worst in a home climate where academic is not prioritized (Kozulin, 2015). One of the current researcher on Vygostky theory, stated that sociocultural theory listed parental roles as mediator for children's development including in the field of psychology and cognitive. . Children's academic needs are

often neglected, thus widening the gap between them and those with supportive parents (Bjerede & Krueger, 2015). Among the findings of the study, parents are skeptical about the integration of technology into the teaching and learning process, especially when it comes to using the Internet for their children's learning. This belief could lead to reluctant or constraining the use of the Internet in the learning process and possibly widening the gap between homework and, ultimately, their achievement gap, echoing the similar views of Tsuei and Hsu (2019).

7.3.5.3 Slow connection

The issue of accessibility concerns the quality of technology connections, and one of the issues that plagues the user is a slow internet connection. One of the reasons for slow connection, especially while streaming video content, is the low bandwidth of the internet. Video streaming requires high data consumption compared to other media types and therefore lacks the bandwidth that could potentially affect the video streaming process (Mondal et al., 2017). Disruption of video streaming leads to a distracted focus and possibly poses a threat to the level of motivation for completing the pre-class session, especially when it is mandatory to watch the assigned instructional video.

7.3.6 Summary for Accessibility Issues

Based on the discussion above, accessibility to internet serves as gatekeeper on ensuring successful blended teaching and learning process. Accessibility in lower secondary school ages is highly dependent on parental support and learning agents around the circle. Any disruption on the accessibility will clearly halt the Internet-based learning which further lead to abandonment of adoption.

7.3.7 How Collaborative Writing Minimizes Homework Gap

Collaborative learning is defined by Laal and Ghodsi (2012) as ‘an educational approach to teaching and learning that involves groups of learners working together to solve a problem, complete a task, or create or product’ (p. 486). It is known for its advantages in enhancing learning experience, achievement and also personal development among the collaborators. On the basis of the findings, collaborative learning has shown a reduction in the effect of the homework gap between respondents.

From the findings, there are major indicators that posited collaborative learning narrowed down the homework gap affecting student respondents. This statement is supported by the works of Mendoza, Arteaga, & Broisin (2019) and Siti Hajar Halili & Zamzami Zainuddin (2015) stating that the collaborative learning environment provided an opportunity to minimize digital inequality through joint work. Extrapolated from the findings of this study, collaborative learning has promoted shared knowledge and activities among respondents. Based on the socialcultural theory (Vygotsky, 1978), knowledge construction is not limited to personal brain and cognitive activities, but also includes social activities within the community. Thus, this premise lends the foundation to the expanded model as Paavola & Hakkarainen (2005) suggested that, internalized knowledge which is representing by the monologue metaphors are being externalized during the dialogue process. The processes were explained thoroughly on the following discussion.

7.3.7.1 Shared Knowledge and Activities

Writing has been dominated by cognitive processing theory, but recently, researchers and practitioners have gradually accepted the notion that writing is also a cultural product (Hayes, 2006; Sharp, 2016).

Collaborative learning involved the sharing process – in terms of knowledge and activities, but not limited to. Students come to school with their own background, including prior knowledge, culture and history (Vygotsky, 1978). Applying the DP1 from the Trialogical Learning Approach Design Principle, the task were designed around the shared ‘object’ which in this case, the topic based on the thematic content. Thus, when they are prepared before class with the intended learning content, they have created new prior knowledge that needs to be externalized during the collaborative learning approach dialog process (Hakkarainen, Paavola, Kangas, & Seitamaa-Hakkarainen, 2013). The process of externalizing the ideas or knowledge in a group, often conducted during the brainstorming sessions, has enabled the creation of new knowledge among the group members. This particular feature of collaborative learning is capable of compensating for any differences in individual knowledge through new knowledge-creation among peers (Gendole & Coenders, 2019).

In addition to the sharing of knowledge, collaborative learning also promotes joint on-task activities among the collaborators (Siti Hajar Halili et al., 2015a). In this study, they were assigned with writing task based on thematic content given. Implementing the DP2, personal works were supported to be integrated into the collective works and each of the groups were given specific task to complete (Paavola & Hakkarainen, 2005). In the lesser known tenet of Vygotsky's theory – extended by his followers, the period of child development lends its foundation on premises – children are developed according to their ages through specific social and cultural

activities. Whereas Piaget focused on internal-driven development, Vygotsky argued that social-based activities supported the development of children (Kozulin, 2015).

Working in a group, the students have also produced the writing products together. Another components of socialcultural theory by Vygotsky (1978) are The More Knowledgeable Other (MKO) and Zone of Proximal Development (ZPD). These two components proposed in Vygotskian could be the factors behind better writing of the products. Their work has shown improvement in terms of content-area, maturity in expression of opinion and a better style of organization. Generally, better writing products were the results of collaborative approach as demonstrated in studies by Chu, Capio, van Aalst, and Cheng (2017) and Storch (2005). Collaborative approach works by increasing the engagement of the students on the learning and one of the opportunity is to engage on sharing feedbacks on their writing. Through joint process, students learn to be receptive on receiving opinions of others thus lead to more rich and succinct works. This feature is not available for individual writing and could be the best explanation for improving the quality of their writing. This peer-to - peer writing co-construction plays a key role for the novice learner before they develop as competent learners-who are more independent and self-reliant as in the works of Ansarimoghaddam and Tan (2013); Rahman (2018); Reusser and Pauli (2015). Besides that, learning anxieties could possibly be minimized through peer collaboration as demonstrated by Pruet, Ang, and Farzin (2016).

7.3.8 Development of Soft Skills

Collaborative learning is also known to support the development of communication skills as demonstrated in several studies (Angelini, 2016; Koroğlu & Çakir, 2017; Ortiz Colon, Munoz Galiano, & Jesus Colmenero-Ruiz, 2017). According

to Paavola and Hakkarainen (2005), the participation metaphor, which includes dyad and group participation in externalizing ideas – encouraged discussion among the students. Murphy, Wilkinson, Soter, Hennessey, and Alexander (2009) stated that discussion makes students talk, hence increase their comprehension on the issues. The process of discussion and brainstorming continues the practice of knowledge sharing. This process eventually promotes open access to knowledge exchange and helps students learn through peers (Pirkkalainen, Pawlowski, & Pappa, 2017). As proposed in one of the tenet of Sociocultural Theory by (Vygotsky, 1978), each student comes to school with his or her own cultural and historical circumstances, thus participating in teamwork enables combining a variety of ideas, knowledge and skills that foster communication between diverse communities..

The roots of collaborative learning are strongly influenced by the principles of sociocultural theory – cognitive development is not just a mental process, but is also largely dependent on social engagement with community members throughout the process (Cole & Gajdamaschko, 2007; Moll, 2014). This interaction potentially develops soft skills among students-a humanistic feature that is relevant to the IR 4.0 wave. The result of this tenet is children who are cognitively developed and will also function socially in the real world as suggested in Vygotsky 's extended works (Nabuzoka & Empson, 2010). It is not surprising, therefore, to recognize that the collaborative part of this module promotes the development of soft skills among the student respondents. The social dynamics offered by a collaborative approach teaches children to make their own decision in addition to communicative strategies and conflict management. These findings were consistent with the notion of Nunan (1992) while Abdul Razaq Ahmad, Chew, Hutkemri Zulnaidi, Kiagus Muhammad Sobri, and Alfitri (2019)) extended the notion by stating that school is a prominent feature in the

education ecosystem for the development of students' soft skills. In addition, being stable and easy with others are predictors of coping with stressful working life (Räty et al., 2019). The findings also stated that they have better self-perception, which includes better confidence in their skills and competencies because of the trust that the teacher gave them during the learning process. Giving students autonomy in their learning process has, in a way, enhanced their self-pride and increased their commitment to learning (León, Núñez, & Liew, 2014; Marshik, Ashton, & Algina, 2017; Zhou, 2016).

7.3.9 Systematic Writing Process

The findings of the study have shown that the systematic writing process greatly assists them in writing activities. Previously, due to the tacit knowledge of writing, students are left vague about how writing should be done in a systematic way. Previously, they were taught to write an essay mostly based on examination requirements instead of focusing on developing writing skills (Che Zanariah Che Hassan & Fadzilah Abdul Rahman, 2011; Roselan Baki, 2003). In addition, the previous writing instruction focused on the end-products of writing instead of the process (Lai Lee Chung, 2017).

However, with systematic writing process from research-based writing instruction, the students learn the consistency on writing instruction that easily adapted, utilized and transferable (Leggette, Rutherford, & Dunsford, 2015). This radically changes the way they write in addition to encouraging writing motivation and shifting their negative perceptions of the process. The heavy burden of writing is lifted once children understand what they are doing during the process through good instruction.

Students are also identified as constructing meaning, in a way that communicates their opinions and views through language with systematic thinking. This tenet is based on the language and thought of Vygotsky's discipline-and the application to this study involves systemic changes in the awareness of the writing process (Vygotsky,1978). They are connected with the rationale and the functioning of the writing process thus clear objectives have resulted clear thinking and better expression of their minds. The rate of fluidity increases from lexical-meaning to meaning in the context of language usage within the social context, thus affecting the development of children's language (Kozulin, 2015; Vygotsky, 1978) The students consciousness on the process of writing and the reason behind their writing – that includes rhetorical, audiences and exigencies as implied on the writing model by Flower and Hayes (1981), subsequently develops their writing skills and competency.

7.4 Theoretical Implication and Recommendation

The theoretical implications and suggestions are reported in this section. It focuses on the theoretical that might be relevant to theoretical implementation-includes theory, models, methods and related suggestions for future researchers.

As the sociocultural theory by Vygotsky (1978) served as a basis theory of this study, the findings should be expected to implicate the researcher specifically in technology-based learning, in terms of further exploration on social and culture impacts on the language learning especially Malay language. Since most of the study in the local context, focus solely on the cognitive theory, this study however use sociocultural to ensure interconnected between learning environment with the cognitive processing. The researcher believes on the premise that learning should not be confined to cognitive enhancement only. It is systemic change involves the society,

cultural, history, and individual psyche of the children themselves. Vygotsky (1978), exclusively stated;

The child is a part of the social situation, and the relation of the child to the environment and the environment to the children occurs through the experience and activity of the child himself, the forces of the environment acquire a controlling significance because the child experiences them (p.294).

Implication of sociocultural theory in education reinforces the importance of close analysis of specific classroom practices- including speech, reading, writing, and any activities that support the literacy practices. This theory is capable of identifying processes or factors that might improve or impede the writing processes.

Based on the findings of the research, language learning has expanded beyond the grammatical and language rules- which in this case involved the real situation through structured collaborative activities. The development of language skills through the co-construction of skills and knowledge extends language learning to more effective objectives. These theoretical principles should be extended to integrated language learning with the integration of different language skills and the curriculum. The shifting trends in language learning with a greater tendency towards functional language learning as set out in the sociocultural theory should be exploited in the context of Malay language learning, including in the context of first language learning and in the context of foreign language learning. The challenge of remaining relevant in the context of globalisation, requires the adaptability of the Malay language within the framework of the international community. Future research should therefore focus on the development of a model or module for other school settings, especially in foreign language settings.

Needs analysis plays a vital role in design and development research as client-based approach trends increase by years (Roblyer & Doering, 2010). The needs analysis phase of this study is based on the adaptation of the needs analysis model, which focuses on key aspects of blended learning – teachers, students, content and infrastructure. The model suggested by (Fink, 2003) is a comprehensive needs analysis model that addresses needs-in particular content and infrastructure needs, which is central to the design of a blended learning approach but is still very much neglected. This model provides a more local approach and situational context and enables an understanding of the diverse background that is unique to every condition. It provides research on the accessibility of technology among respondents. However, a more in-depth future investigation, particularly on technology ownership and accessibility, is recommended for future researchers, as household ownership does not translate into good access to technology, specifically the internet in this study.

Flipped learning variation, in this study, flipped instruction, classified under the big umbrella of blended learning (Siti Hajar Halili, Rafiza Abdul Razak, & Zamzami Zainuddin, 2015b). Most of the blended learning approaches or models emphasized on the ‘physical’ approach of the model instead of the pedagogical approach of it. The physical approach is described as an outer attributes- the components of the model (Graham, Henrie, & Gibbons, 2013) . Pedagogical approach, on the other hand, focuses on how the learning is strategized and conducted. Thus, this study extends the flipped learning instructional design model by Lee, Lim, & Kim (2017) and identifying the sub-components are conducted through systematic literature review. The pedagogy approach and writing instruction model used are the underlying mechanism supporting the design and development on the pedagogical aspects.

One of the potential risks to the implementation of flipped learning is – digital inequality that leads to a homework gap between disadvantaged students. This study shows that this issue of accessibility is lessened by the integration of a collaborative approach to the intended instruction. Working collaboratively promotes shared activities and responsibilities among students, so the burden of educational needs is socially spread across a group.

During pre-research phase, the researcher conducted rigorous systematic literature review methods to identify sub-components of the flipped approach model adapted on this study. It is beneficial for research involving product/tool/program development to conduct this method for its high reliability values. At the end of the process, the sub-components or elements identified are scrutinized with the empirical-based protocols which lends high reliability on the variables chosen. The Systematic Literature Review method provides a solid scientific-based input for the next process of the work- design phase, and indirectly uptake the reliability of Design and Development Research framework for social science field.

The next process is a shared-decision making among experts through modified Delphi – Fuzzy Delphi Method. This method added higher validity on the research especially when it involves the selection of the sub-components (elements). The thorough process is indeed important when it comes to design and development of any model or products especially in education field since it will save cost, time and also it largely impact the future of children. Both previous and current methods provide opportunity for social science specifically education field researcher, to design an empirical-based with high reliability and validity prototype model and products/tools/programs.

Based on this study, practicality of conducting usability evaluation through interview is based on its ability to produce in-depth data. Besides, interview is a better technique to collect qualitative data among children in early adolescence age- since it helps the researcher to collate independent feedbacks from them. During this age 11 to 13 years old, peer-pressure is at its peak thus, interview method might help minimize this effect (Gibson, 2012). Compared to other qualitative technique- such as focus group, the peer-pressure might influence the response from the children thus affecting the trustworthiness issues. This gives direction on the appropriate methodological part of conducting evaluation specifically usability testing among children.

In addition, usability test is capable of diagnosing the flaws of the module. Beside, it helps on collecting suggestions from users to improve the usability of the module. Product development research emphasized on usability testing to ensure the module is easily adopted by the users. The rate of adoption among users is heavily influenced by factors dictated under usability testing framework-however, it is not limited to the testing model employed in this study (Chigona, Belle, Moore, Paddock, & Pitout, 2005).

7.5 Practical Implication and Recommendation

This sub-chapter reports the implications and recommendations that have an impact on practitioners and those who are specifically interested in education, including the Ministry of Education, schools, teachers, parents and students.

With the impact of technology immersion in life and subsequently in the field of education, changes are inevitable in the way students process their knowledge and information. Students are aware of the lack of systematic writing and demand consistency in writing instruction. Teachers are also aware of the negative impact of

tacit writing knowledge on the development of writing for their students. Writing instructions should therefore be adopted or adapted from a research-based writing model with a clear writing strategy for future practices. This is important in order to ensure a high degree of fluidity in order to enable transferable language skills that play a key role in the development of individual languages (Mahn, 2012). The relevant institution, such as the teachers college and the faculty of education, should prepare their writing curriculum on the basis of research-based writing instruction. It is important to equip pre-service teachers with evidence-based writing instruction and to ensure that they are well versed in teaching writing. Apart from that, the positive impact of the research-based writing model gives hope for better instruction in Malaysia. Both teachers and students are supported by consistent instruction and easily adapted to their needs. It is recommended for future studies to explore a local writing model that emphasizes the process of procedural writing.

Technology immersion among students could not be denied in this new era. In a few years time, the future generation will see it as a book and pencil remembrance. Most of the discussion on education technology is based on a binary conclusion, either with or against it. But the involvement of technology is far beyond the simplified notions. Most of the practitioners overlook the role of technology and have adopted it as a learning objective whereas it should be utilized as a learning tool in an educational setting. Users' needs should be taken into account in order to ensure that the adoption is meaningful and beneficial to the students. Owing to that, students are found to be more involved in social media technology, whether in life or in educational settings. However, with regards to the local context in Malaysia, parents still hold traditional views on learning and technology. Most parents still restricted the use of the internet in their children's learning process. Although permission was granted, challenges came

from parents who were reluctant to fully cooperate on digital implementation. It is a good reprimand for future practitioners to be fully aware of this issue, as it is interrelated with technology access – that is the prime door of flipped learning approach.

Although their inclination towards social media technology is high, accessibility issues have had an adverse effect. It is worth noting that this study was conducted in the central vicinity of Kuala Lumpur, Malaysia's capital city. According to user statistics, almost 90% of city dwellers are connected to the internet (Malaysian Communication and Multimedia Commission, 2018). The percentages, however, are unable to fully translate into accessibility rates on technology-based learning. Therefore, to investigate the technology needs, practitioners should include the perception of parents and their willingness to use the internet in their children's learning. It is a key factor in ensuring the successful adoption and implementation of new Internet-based learning in Malaysia. In addition, it is also suggested that future practitioners address the issue of homework gap and inaccessibility. The current Covid-19 pandemic has raised a number of important issues related to a digital inequity and should not be limited to technological inequity, but must address the family environment on adopting online learning. In addition, the Ministry of Education is recommended to venture into a mutual agreement with the Internet Service Provider (ISP) to provide students with affordable internet subscription. During the Movement Control Order (MCO) in Malaysia this action was taken with free internet subscription provided every day from 8am-6pm to cater for educational needs and general purposes. Specifically, YES 4G is free upon activation during MCO for students from the B40 families. Thus affordable connectivity can be provided through private sector ventures

with the government. This move is a key factor in ensuring web-based learning in Malaysia is implemented better and improving the gaps on digital inequality.

Eventhough flipped instruction is a blended learning approach, lack of technology will dampen adoption in school level, particularly in rural areas and among disadvantaged students. It should, therefore, also be attempted to establish itself in the non-digital learning environment as in Froehlich (2018). It is recommended that future researchers be aware that adaptation of flipped learning should also consider distance learning and remote learning exploration instead of an online learning alone. With regards to pandemic pedagogy, the digital gaps are widened thus the students should be provided with an alternative to online-based learning. For future practitioners it is recommended that the distributed learning be practiced on their teaching and learning process. This is valid for those from remote areas where internet can not be reached.

Development phase has revealed the implication on respecting intellectual property and copyright of the learning resources. Although most of the social media contents are user-generated, permission to use the resources should at least be obtained or credited to the owner of the works. Future developers, especially teachers, should be aware of this issue and it is utmost important to make their students aware of copyright issues. It is recommended that future developers build repositories of learning resources that contain materials in Malay language. Currently, there are limited resources in the Malay language for educational purposes. By developing repositories, teachers would have an easier access to materials and would be able to improve their teaching practices. In addition, the issue of copyright will be reduced, given that resources are set for open source files or free for educational purposes.

Beside, consideration should be given to the multi-preferences of students on the learning approach. Not all students thrived in collaborative settings. For future

research and practice, it is therefore recommended that 'writing alone' be a part of the collaborative activities as suggested by Haring-Smith (1994). Mixed reactions may be received from the public, but the facts that writing is a very personal activity should not be denied. This practice should best reflect the writing process experienced by students.

School ecosystems are important when it comes to a collaborative approach. The study found the impact of integrated subjects in the collaborative framework to benefit students and enhance teaching practices. Integrating other subjects such as science and history into pedagogy, therefore, explores the real world application of the Malay language among students and also among teachers. This strategy encourages Malay language learning to be more socially functional and conducive to the environment. Students are writing to express their opinions, knowledge, and ideas in a real context. Teachers are also gaining support through this co-teaching process. Session sharing – in terms of knowledge and expertise among teachers, indirectly nurtures the collaborative ecosystem of the school. The researcher therefore recommends exploring the broad integrated subjects of Malay language teaching and learning for future studies.

Based on the study, hybrid learning requires sound knowledge in terms of technology and subject matter. The design of educational products should be aimed at ensuring meaningful integration of technology into education. This encompasses both theoretical and practical comprehension, our educational system greatly requires skilled instructional designers who are fluent on both. Hence, if we are serious about adapting the modern digital era, it is recommended that the Ministry of Education have more skilled instructional designers or learning technologists employed. It is also

recommended, as every local learning environment is different the practice should be remote based.

7.6 Research Limitations

Design and Development Research (DDR) consists of a context-specific and generalized study (Richey & Klein, 2005). This study is described as a context-specific study, therefore, the data and findings may be applicable under specific situational conditions and may not be generalized to any other educational environment.

This study is also limited to Malay writing for Form One students in Wilayah Persekutuan Kuala Lumpur. In this study, the technology facility is limited to the tools and devices available to teachers and students. Currently, limited WIFI is available in schools and teachers must use the personal data plan for teaching purposes. Most students have access to computers and technology devices (tab, smartphone) but not all of them have access to broadband or WIFI connections. Inaccessibility to a fast internet connection will delay the streaming of instructional videos, additional videos and online activities. This factor of digital divide is an issue that limits the implementation of flipped education in a real situation (Observatory of Educational Innovation, 2014).

It is also limited to contents based on the Document of Standard Curriculum and Assessment or in Malay language *Dokumen Standard Kurikulum Pentaksiran* (DSKP). This study focused on the process of writing and learning experiences among the students. It does not include other language skills.

7.7 Conclusion

We live in a timespace that is clearly different from our ancestors. Systemic changes in our lives include social, cultural and historical have impacts on children's language and cognitive development. The challenges arise when two conflicting attributes collide-the roots of language that largely build on the socio-cultural aspect and the modern quest for globalization. Thus, this study recognizes the needs for writing instruction that integrates these two premises.

Writing issues among students in a local context, undoubtedly a global pandemic. Much has been said about this, and specifically in this research context, the focus of the issue is tacit knowledge based on inherited writing knowledge. Social-oriented writing instruction instead of research-based writing instruction has disrupted the flow of knowledge – from teacher to student. This led to self-perceived writing instructions that were based on the individual's understanding instead of sound knowledge based on the evidence based writing model. Tacit writing knowledge has subsequently had an impact on the development of writing skills among students. This responds to the dissatisfied level of development of writing among students. It is getting worse when students feel that writing is hard and that they consider themselves unskilled writers. Adding salt to the wounded skin, the students' low reading habit truncated the process of vocabulary expansion and understanding the nature of writing. These findings are capable of identifying the root of the writing problem in the local context. As a result, all parties should start working to solve the problems.

Designing and developing writing instruction in the Malay language requires a personal approach, taking into account the local and sociocultural characteristics of Malaysia. Systematic literature review was conducted to identify sub-components. This study explores the role of experts in the designing writing instruction, and there

is a strong tendency to preserve the roots of the Malay language – stressing the origin of the Malay language, its social, cultural and value. The focus of writing is on the process and it should be done with a procedural mastery approach. As time progresses, experts are aware of the needs of Malay language to remain relevant in the digital age – thus the role of Malay language is also empowered through science-based themes, including health and green technology. In addition, the selection of technology components for flipped instruction indicates that the expert has recognized the young generation's preferences for social media technology. The development of writing instruction was then carried out using a Facebook platform with a number of learning materials, including workbooks, instructional videos, curated videos and digital notes.

The implementation and evaluation phase reveals the usability of the module to teachers and students. The students applaud the multimodal resources, ubiquitous and perceived ease of use during implementation while the teacher acknowledges the productive instructional time during in-class session of Collaborative Flipped Instruction for Form One Malay Language Writing. However, accessibility issue is the major threat that has affected the user experience on a large scale. Not only does the user experience have an impact, it is even worse that the learning process has been truncated. Collaborative approach, however, reduces the impact of digital inequality by promoting knowledge sharing and joint activities. The shared responsibility ultimately contributed to the development of soft skills among students. Communication skills, especially public speaking skills, are enhanced in addition to leadership skills and several other soft-skill attributes. Despite this, a collaborative approach is said to involve some issues of cost-effectiveness. Financial demands should be managed in such a way that they do not burden students and teachers. In the meantime, the respondents agree that the written instruction implemented delivers a

systematic writing process with a pre-writing process complemented by a multimodal resource offering through a flipped approach. This feature helps them to recall the schema activation that includes content knowledge, rhetoric, and exigency.

There are many arguments about the good and bad of social media technology in our lives, especially among children. People tend to conclude it in a black and white solution-either you are going for it or against it. In real life, gray spaces are even larger, and it is not as easy as choosing Obama over Trump. Considering that Generation Z consumes almost three hours a day on social media, the integration of social media into education is inevitable. The bigger question is, how can we deliver Malay language instruction among younger generations through the social media platform? How can we ensure the relevance of the Malay language in the context of globalisation? How can we increase the skills of Malay language writing through this technology platform and tools?

Taking advantage of the feasibility of social media as a platform for awareness and learning is therefore a good way to sustain it. Technology is going to continue evolving without any sign to stop, as it happens at the moment. However, human beings' needs to communicate and convey their minds through written language will remain unchanged. The only change is how we convey our thoughts while language as a tool is open to assimilation with external influences. Language is dynamic and should not stop changing. It should be practiced in real world settings to give students meaningful learning experiences.

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