Multiliteracies Project Approach: Dated or a Worthy Learning Tool?

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ABSTRACT

In the midst of the popularity of massive open online learning approach and the fourth industrial revolution, it seems that multiliteracies approach is losing its significance in the educational setting of Malaysia. This paper discusses the relevance of multiliteracies project approach in the current Malaysian academic arena since its introduction in the early 21st century. This paper will begin by outlining the significance of the multiliteracies approach at the local and global educational settings. The current study is part of a larger action research project that involved four action research cycles investigating multiliteracies approach in ESL (English for the Second Language) contexts. The data for the current study were collected from the second action research cycle, involving 28 participants who were learners of ESL at Bakti Polytechnic (pseudonym). Data were collected through classroom observation, semi-structured interviews and classroom documents. The data show that multiliteracies approach still provides students with evocative learning experience and promotes the acquisition of necessary skills for students to participate in the 21st century particularly technological, critical thinking and teamwork skills. Findings suggest that multiliteracies approach has the potential to be expanded to further include the properties of the current sensation of the fourth industrial revolution.

Keywords: multiliteracies; 21st century skills; fourth industrial revolution; meaningful learning; project approach

INTRODUCTION

The current trend in the Malaysian educational scene is the challenges and efforts in facing the global fourth industrial revolutions, in which digital applications are dominating every aspect of lives especially the work domain. According to Datuk Dr Salleh Said Keruak, the former minister at the Ministry of Communication and Multimedia, the fourth industrial revolves around the concept of Internet of Things (IoT), and the process of automation which will use high-tech digital applications (Bernama, 2017). Thus, the field of education, according to Francesco Marmahelo, an expert of Higher Education from the World Bank, has to reflect these changes to better prepare high- skilled, critical and creative workers of the future (C. Sheila Rani, 2017). In relation to this the Malaysian Ministry of Higher Education has recently released a book entitled "Framing Malaysian Higher Education 4.0: Future-Proof Talents" which outlines detailed approaches and initiatives to be taken by Malaysian higher education institutions in ensuring Malaysian university graduates to remain relevant in and for the current and future workforce (MOHE, 2018).

These latest updates of the educational arena in Malaysia give rise to the issue of utilising a suitable pedagogy to achieve the goals of producing future-ready workforce. In developing a future-ready curriculum, it is inherent that appropriate teaching approaches be

used to achieve the goal (MOHE, 2018). Consequently, this study sets out to explore the suitability of using a teaching and learning approach known as the multiliteracies approach that was introduced in the early 21st century by the New London Group (1999), in the age of the fourth industrial revolution. Since the multiliteracies approach was established more than 20 years ago, one might question the relevance of such teaching approach in promoting necessary skills needed in current era of digitalisation. This study attempts to answer this question by examining the data collected in a research project that explored the use of a multiliteracies approach in ESL (English as a Second Language) contexts. Specifically, this study will answer the following question:

1. How did the multiliteracies approach enhance 21st century learning skills among ESL learners in a Malaysian higher education institution?

This study begins by looking at the literature on the establishment of multiliteracies, its expansion over the years as well as literatures on the fourth industrial revolution that became the underlying concepts for the study. Next, this study describes the methodology of the study which includes the research procedures, location and participants of the study as well as the data collection and analysis tools. Then, it discusses the findings of the study which describe the ways the multiliteracies approach enhanced 21st century skills among the ESL learners. Specifically, the findings show that using multiliteracies enhanced multimodal resource use, developed critical thinking skills and boosted collaborative work among the participants.   The paper concludes with significant insights on the relevance of the multiliteracies approach in the Malaysian educational setting.

LITERATURE REVIEW

THE MULTILITERACIES APPROACH

This section explains the theory of multiliteracies that underpins this study. First, it explains the original notion of multiliteracies as conceptualised by The New London Group (1996, 2000) and later explicates how the notion was extended in theories and research.

THE CONCEPT OF MULTILITERACIES

The world has changed in many areas, such as language, public and private lives, since the beginning of the 21st century, due to global economy and advancement of technology. These transformations has also impacted the global educational approach. At the later stages of the 20th century, a group of ten educators became known as The New London Group (1996) addressed the impact of these transformations and introduced the notion of multiliteracies. They contended that globalisation has transformed many aspects of our lives such as economy, work and social interactions; as a result, there were new requirements for future workers and therefore present students. Consequently, many have suggested that the approaches towards learning in the 21st century should be transformed in alignment with these transformations (Cope & Kalantzis, 2006, 2009a, 2009b; Kaur & Sidhu, 2007; Pandian & Balraj, 2010; The New London Group, 1996, 2000).

The concept of multiliteracies is sometimes discussed under other terms, such as multiple literacies and new literacies. Multiple literacies (Cervetti, Damico, & Pearson, 2007; Sheridan-Thomas, 2007) are often described as having the ability to read and write multiple forms of texts such as print-based texts, digital texts and visual texts. Some researchers used the term New Literacies (Lankshear & Knobel, 2003; Leu, Kinzer, Coiro, & Cammack, 2004; Lo & Clarke, 2010) which are often focused on the use of technological-based texts such as

digital texts, webpages, computer software, online games, in promoting literacies in the 21st century. The New London Group (1996, 2000) described multiliteracies as having the knowledge and skills to participate actively in the globalized economics, information and social networks. The concept of multiliteracies is applied beyond reading and writing multiple forms of texts; it is also about having the knowledge of using and managing the current technological tools. Borsheim et al. (2008) suggested that teaching using the multiliteracies approach is not only about using technology as tools in teaching but using technologies to help students to "understand how to move between and across various modes and media as well as when and why they might draw on specific technologies to achieve specific purpose" (p. 88).

Based on the descriptions, it can be formulated that the notion of multiliteracies is about having the knowledge and skills that are necessary for learners to understand, discuss, reflect and use multiple representations of texts, such as in current technological resources to participate effectively in a variety of formal situations such as economy and work, and social situations such as leisure and cultural activities. This definition is used in the current study.

It has been more than 20 years since the notion of multiliteracies was established, and the topic of multiliteracies is still being discussed by scholars, researchers and practitioners worldwide. Bill Cope and Mary Kalantzis (2006, 2009a, 2009b), who were original members of the New London Group, extended the component of multiliteracies pedagogy into the practical concept of knowledge processes. They introduced Learning-by-Design pedagogy that emphasizes learning process as "knowledge producers" and teachers as designers of learning. (Kalantzis & Cope, 2012a). Multiliteracies research also concentrated on the implementation of the multiliteracies in various learning contexts such as the teaching of writing, ESL, science and music (Ganapathy & Kaur, 2009; Harrop-Allin, 2017; Kasper, 2000; Kaur & Sidhu, 2007; Pandian & Balraj, 2010; Ryu, 2011; Tan & McWilliam, 2009; Tan & Guo, 2010).

The implementation of a multiliteracies approach was not always without any glitch. Some studies show that the implementation of multiliteracies was sometimes challenging as it may contrast with certain socio-cultural attributes of certain learning contexts. Tan and Guo (2010) investigated the experiences of a Singaporean teacher in implementing a multiliteracies approach in a Singaporean learning context where learning was still based on print literacies. Although the students were showing evidences of new literacies learning, the teacher expressed that it was quite challenging to implement the multiliteracies approach in Singaporean learning contexts as the emphasis on multimodality contradicted the focus of the national assessment that was still based on print literacies. In addition, a study by Fariza Puteh Behak, Ramiaida Darmi, Yuslina Mohamed (2015) highlighted the struggles of Malaysian students in negotiating the Western-based multiliteracies approach in their classroom. Pandian and Balraj (2010) also discussed a similar point when implementing a Learning-by Design framework in an examination-based context in Malaysia. In their article they reported that one of the challenges they faced in encouraging teachers to become involved in the teaching of science using the multiliteracies approach, was that the teachers still valued the examination- based culture. The teachers were more interested to finish up the syllabus because they claimed that the examination-based system that was prevalent in the Malaysian education setting was impeding innovative and creative activities in the classroom. As a result, some of the teachers preferred to prepare the students for the examination rather than embarking on creative activities such as offered by the multiliteracies approach in the classroom.

MULTILITERACIES PEDAGOGY

The New London Group (1996, 2000) suggested the use of multimodal and technological resources as semiotic tools for learning mediation. They argued that these are the cultural tools surrounding the socio-cultural dimension of the lives of people today, thus, it would be effective in mediating learning. Before the 21st century, many educators mediated learning through the use of print-based resources such as books, graphs, maps, newspapers and charts (Baguley, Pullen & Short, 2010; Charles, 2008; Iyer & Luke, 2010). But, in conjunction with the transformations in the 21st century, multiliteracies pedagogy suggested the use of multimodal resources which included printed texts, graphics, videos, images and movement that are usually represented in online articles, websites, emails and social networking websites (Charles, 2008; Cope & Kalantzis, 2009a; Iyer & Luke, 2010). These multimodal resources incorporate print, audio, visual, gestural, spatial representations (The New London Group, 1996, 2000).

According to the multiliteracies pedagogy, the focus of learning is not limited to using multimodal and technological resources as semiotic tools in mediating learning. Cope and Kalantzis (2009b) stated that learning activities that use technological resources in the classroom such as transferring printed words from books to Microsoft Powerpoint slides while still focusing on traditional teaching approaches are not an actual indication of the learning of the 21st century. Learning in the 21st century includes having the knowledge and skills in handling, managing and transforming information and knowledge represented by the technological resources. In addition, learners should be taught to have the skills to relate to knowledge and skills in a variety of social contexts (Anstey & Bull, 2006; Cope & Kalantzis, 2009b; Kalantzis & Cope, 2012a, 2012b).

Multiliteracies pedagogy highlights the knowledge and skills of the 21st century, through their concept of 'Design' where teachers, students and policy makers are seen as designers of learning (Borsheim et al., 2008; New London Group, 1996, 2000). Consequently, the New London Group proposes that "activities of using language to produce or consume texts should involve three elements which are Available Designs, Designing and The Redesigned" (New London Group, 1996, p. 12). Available Designs refers to multimodal resources, while, Designing is the "process of shaping emergent meaning" which involves "representation and recontextualization" (New London Group, 1996, p. 14). The process is not a mere replication of Available Designs but every moment of meaning making involves the transformation of several available resources of meaning. The outcome of the process of Designing is The Redesigned, a new meaning that is reproduced and transformed through the process of Designing Available Designs (New London Group, 1996, 2000). Here, through the process of Designing and Redesigning, learners practice the knowledge and skills in understanding and analysing the information obtained from multimodal resources and later transform that information and knowledge to other social settings.

The New London Group (1996, 2000) suggests four components in the multiliteracies pedagogy; overt instruction, situated practice, critical framing and transformed practice. In Situated Practice, teachers and students explore the students' existing knowledge and skills through the use of multimodal resources. In Overt Instruction, the teacher facilitates learning through a scaffolding process using deductive approach or direct teaching. In this component, the teacher bridges the students' existing knowledge and skills to new information and knowledge through interactions with multimodal and technological resources. In Critical Framing, students are involved in learning activities that encourage critical thinking and analysis among learners. Finally, in Transformed Practice, students are facilitated to transform their existing knowledge and skills to new social contexts, thus, creating new

knowledge and skills. The components do not come in a linear hierarchy but can be found in any order and could take place simultaneously (The New London Group, 2000).

21ST CENTURY SKILLS AND FOURTH INDUSTRIAL REVOLUTION

The discussion of the 21st century skills centred on skills needed to function well in the age of information and technology at the beginning of the 21st century. Learners of the 21st century were required to be multiliterate and possess multiple knowledge and the skills to understand and use technological gadgets in daily and working lives (Anstey & Bull, 2006; Borsheim et al., 2008; Grabill & Hicks, 2008; Kist, 2003; The New London Group, 2000). At the same time, 21st century learners need to be able to be flexible and fluid to keep up with the fast-changing nature of the technologies. Leu et al. (2004) suggested that a multiliterate learner not only needs to be able to use technologies but also needs to have the ability to use technologies to identify information, and be involved in critical thinking such as analysing and synthesizing. In addition, 21st century skills also revolve around the ability to work in teams and in a network of people (Fariza Puteh-Behak et al., 2016; Gee, 2000, 2002; Iyer & Luke, 2010; Kist, 2003; McComas, 2014, Saavedra & Opfer, 2012; Rotherham & Williamham, 2010)

Savedra and Opfer (2012) argued that 21st century skills could be defined as many things but all definitions are relevant to contemporary life in the complex world of the 21st century. A few frameworks have been developed to list necessary skills for the 21st century such as enGauge 21st Century Skills by North Central Regional Education Regional Educational Laboratory (NCREL) and Metiri Group based in the United States (2003) and P21 Framework for the 21st century by Partnership for the 21st Century (2007). enGauge 21st Century Skills listed digital age literacy, inventive thinking and effective communication as necessary skills needed for the new century (Lee & Kamisah Osman, 2013; NCREL, 2003). Meanwhile, P21 Framework for the 21st century highlights life and career skills, learning and innovation skills that include critical thinking, communication, collaboration and creativity, and information, media and technology skills. Furthermore, UNESCO used a different diction which is transversal competencies. Transversal skills encompass critical and innovative thinking, interpersonal skills, intrapersonal skills, global citizenship, media and information literacy and other skills according to specific countries and economies (UNESCO, 2016). In short, many terms and skills are listed under the domain of 21st century with overlapping knowledge and skills such as critical and creative thinking, communication, collaborative and technological skills.

Meanwhile, the fourth industrial revolution has been the main discussion during the first quarter of this century at the global and national levels. Fourth industrial revolution talks about cyber-physical system-enabled manufacturing and service innovation, digital economy, artificial intelligence, the Internet of Things, and cross border e-commerce (Delaila Abdullah, Mohd Yusof Abdullah & Mohd Azul Mohamad Salleh, 2017; Dombrowski & Wagner, 2014; Jay Lee, Hung-an Kao & Shanhu Yang, 2014; Irwan Shah Zainal Abidin, 2018). The knowledge and skills of future workers are now once again shifting, from knowledge and skills in utilizing technological devices to more complex skills to successfully executing tasks in the world of cyber-physical, system-enabled manufacturing and service innovation. According to a White Paper by Roland Berger and BRICS Business Council (2016), tasks in the fourth industrial revolution will shift from easy, repetitive and standardized tasks to the monitoring of machines, error detection, decision making and preventive maintenance. They categorized necessary skills needed by Industry 4.0 in Figure 1. It shows important skills needed in the fourth industrial revolution such as knowledge about ICT, ability to work with data, technical know-how and personal skills.
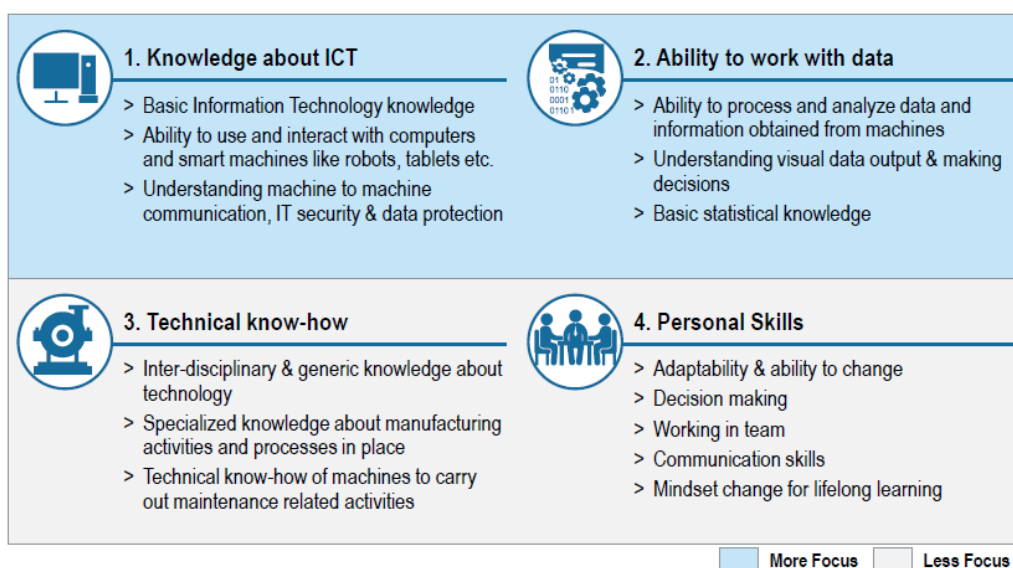
FIGURE 1. Skills for Industry 4.0

METHODOLOGY

The findings discussed in the current paper were part of a larger action research study that investigated the use of the multiliteracies approach in several ESL settings in Malaysia. The action research study consisted of three action research cycles that were conducted within 2011 to 2016 involving more than 150 participants at different higher education institutions. The data discussed in the current study were obtained from the second cycle. For the purpose of discussion of the current study, the methodology highlighted only involved the second cycle of the action research project (labelled as ARC2).

LOCATION AND PARTICIPANTS

The study was conducted at Bakti Polytechnic (pseudonym), a higher education institution situated in the southern part of Malaysia. The polytechnic was chosen as it fulfilled a few criteria such context, voluntariness and accessibility. The main focus of the current study was investigating the use of the multiliteracies approach in an ESL classroom in a Malaysian higher education institution. It was also important to select an institution that was willing to join the research project, hence, letters were sent to a few Malaysian higher education institutions to obtain approval to conduct the study. Bakti Polytechnic responded and agreed to participate in the study; thus it was selected as the location of the research project. In addition to context, Bakti Polytechnic was also chosen based on accessibility as two of the research team members were teaching in the polytechnic. Due to this, the researchers had a better understanding of the context and the participants which aided the data collection process. In order to obtain rich and dense data, it was decided to focus on one ESL classroom. One ESL classroom consisted of 28 students were invited to participate in the study. They were in their first year of a Diploma of Civil Engineering programme and were taking ESL as one of their first semesters' subject. In many instances of Malaysian education institutions, ESL is often offered in the first year. Their age range is between 19-21 years old, and had completed their secondary study. From the 28 participants, 12 students were invited to participate in the focus group discussion.

RESEARCH PROCEDURES

The project was conducted by a research team which were the first author of the current paper and two of the Bakti Polytechnic lecturers; Siti and Arfah (pseudonyms). The second cycle (ARC2) was conducted from December 2010 to March 2012. Figure 2 shows the research procedure of the action research cycle. It started with the Planning stage where the researchers revised a multiliteracies module based on findings of the first cycle of the action research project. Next, at the Action stage, the module was implemented in the classroom for four weeks from 1st to 28th February, 2011. At the Observation stage, data were collected through classroom observations, classroom artefacts and semi-structured interviews. Finally, at the Reflection stage, data were analysed using a reflective data analysis (Fariza Puteh Behak, 2013), where the data were coded and categorized into significant themes.
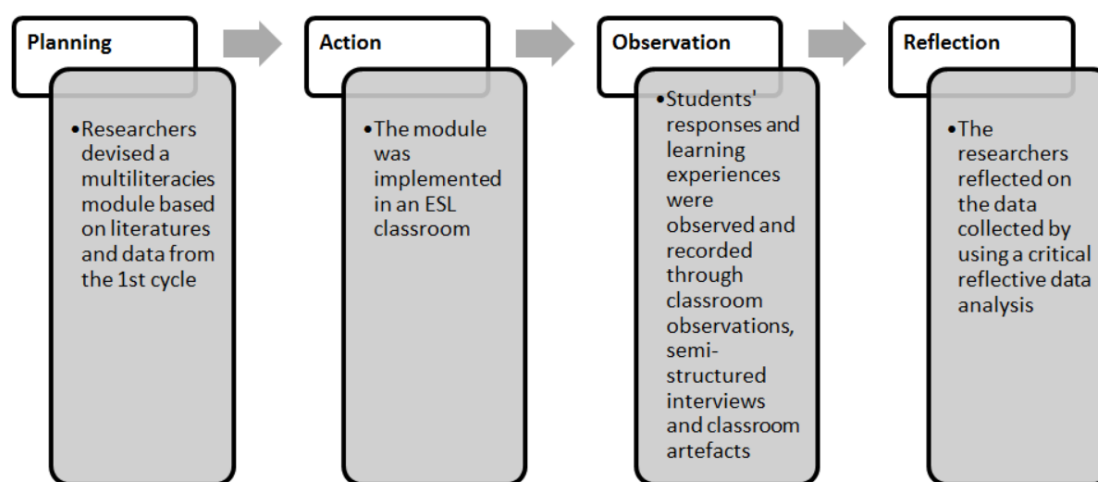

FIGURE 2: The Research Procedures

THE MULTILITERACIES MODULE

The lessons in the multiliteracies module were designed to facilitate students to complete a multiliteracies project. The students were required to conduct a mini research project and present the findings of the research in the form of a documentary such as *Majalah 3*, aired by Media Prima. Majalah 3 was chosen as a sample because the show was an inquiry-based documentary, in which all issues presented were well-researched on and explained based on concrete evidences. In groups of four, the students were required to conduct an inquiry on an issue within their community or campus. In order to do that, the students were encouraged to read online articles to further understand and provide the background of the issue. Then, they were to distribute survey questions and interview community members in their quest to understand the issue further. In addition, students were required to use their mobile phones, digital cameras or video cameras to produce a 15-minutes documentary. They were also encouraged to create a creative style of presentation for their documentary.

To facilitate the students' process of producing the video documentary, all lessons in the classroom were geared up to develop necessary skills required in the production of the documentaries. The lessons were technically not connected in terms of themes, but more on the skills needed by the students in producing the video documentary. The connections of the lessons of the multiliteracies module are summarized in Figure 3. In order to develop critical thinking, we invited the students to analyse a multicultural issue through working on two multimodal texts, the first one was an excerpt from a movie and the second an excerpt from a short story. The movie excerpt was from the film 'My Big Fat Greek Wedding' (Zwick,

2001) and the print text was 'Fish Cheeks' from A. Tan (1987). The short story 'Fish Cheeks' is based on Amy Tan's personal experiences and her own dilemmas of being a Chinese girl living in the United States of America, and how she is caught up between two cultures. The lesson focussed on answering a few comprehension questions and was followed by a discussion of identifying the issues discussed in both texts.

Then, the next lesson focussed on the skills of conducting research. The main objective of these lessons was to train the students in basic research skills such as generating information, creating a survey, devising interview questions, and carrying out data analysis. In order to do this, we engaged the students in a hands-on activity where they conducted a mini research activity in the classroom. In groups, students were asked to research the issue of mobile phones use among teenagers in their class. Each group was given a specific topic to work on such as popular brand choice for mobile phones, the functions of the mobile phones most used, and future physical and functional expectations of mobile phones. They were also guided to create five survey questions and one interview question to be distributed among their classmates. Later, the students presented the findings to the class.

Finally, a few lessons were allocated for the exploration of Movie Maker software. Here, we introduced to the students the Movie Maker software and showed them the specific functions of the software such as adding videos from mobile phones to the computer, arranging the videos as well as inserting captions.
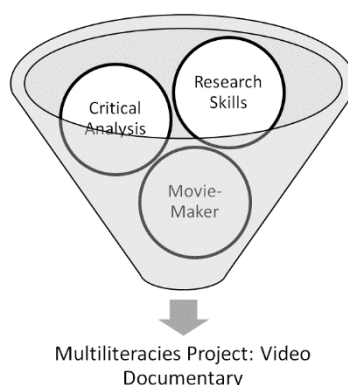

FIGURE 3: The connections between the lessons and the multiliteracies project

DATA COLLECTION AND ANALYSIS TOOLS

Data were collected from three qualitative means: classroom observation, semi-structured interviews and classroom artefacts. Firstly, data were collected through classroom observations. Here, the researchers acted as a participant observer in observing the students' reaction and responses in learning using the multiliteracies approach. The classroom observations were conducted for two hours weekly, totalling to eight hours for the whole study. The observation schedule was designed to locate the components of multiliteracies pedagogy as well as critical incidents in the learning process (refer to Appendix A).

Secondly, semi-structured interviews were conducted with the focus group students at the end of action research cycle to understand the students' learning experiences better. The focus group was divided into three groups (four students per group) and they were interviewed in three separate occasions. Each interview took around 40 minutes. In order to ensure that language would not be a barrier for the students to express their thoughts and opinions, the students were given the freedom to express their views and opinions in their national language, Bahasa Malaysia, or the English language. The interview questions were

designed based on the notion to investigate the students' responses and feedbacks towards using the multiliteracies module in their ESL classroom (refer Appendix B)

Thirdly, classroom artefacts that documented the students' classroom tasks, activities and assignments were collected. Among the artefacts collected were the students' reaction papers, where students were required to write their reflections on the activities done in the classroom. The students' video documentaries were also collected as data.

Meanwhile, data were analysed using critical reflective analysis (Fariza Puteh-Behak, 2013). First, data from the interview were transcribed verbatim using the play-script convention where the focus was on what was said by the participants rather than how it was said. Secondly, the verbatim data was analysed and categorized into several critical points such as the students' responses towards the use of the multiliteracies module, particularly on the efficacy of the module in assisting their leaning process as well as the challenges and significant events they faced throughout the research project. Next, the data was coded and organized into significant themes. Finally, based on the themes, several solutions were recommended to further enhance the implementation of the multiliteracies approach for the following cycle.

FINDINGS

Data show that the multiliteracies approach still provides students with evocative learning experience and promotes the acquisition of necessary skills for the students to participate effectively in the 21st century. This paper focuses on three significant themes: moving towards multimodality, shifting to critical minds, and overcoming problematic collaborative efforts.

THEME 1: MOVING TOWARDS MULTIMODALITY

Data from semi-structured interview with the students show that the students were no longer interested to learn using traditional print-based resources. The students claimed that they preferred to learn using multimodal and technological resources. This was shown in Extract 1.1:

Extract 1.1		
Fariza:	*Why do you like to use technology in your learning?*	1
S1:	*It is fun.*	2
S6:	*It makes learning interesting.*	3
S1:	*Yes, it makes it [learning] different from the rest.*	4
S6:	*It was fun because we don't have to read books all the time.*	5
S1:	*Something other than books. Books are boring*	6
S6:	*It was like we had something important to do.*	7
S1:	*Other than reading books.*	8
Fariza:	*You keep on repeating that you need something else other than books. Why?*	9
S6:	*Not that we don't like books, we would love to read books too, but,*	10
S1:	*Umm*	11
Fariza:	*Reading books bore you or reading books is too customary?*	12
S1:	*We are so used to reading books, Technology is different.*	13
Fariza:	*How is it different?*	14
S6:	*Books are just words on paper, but using technology we get to have sounds and pictures. It is interesting.*	15
S1:	*Yes*	16
S2:	*Books are just words; we have to visualize it in our minds.*	17
Fariza:	*So you are interested with pictures, sounds, videos?*	18
S2	*Pictures, yes*	19

The participants explained the reasons why they needed the shift from using traditional print-based resources to multimodal resources. In Extract 1.1, S1 mentioned that

the use of technology in learning was different as compared to using books (line 3-4). This statement was supported by S6, who viewed the use of technological resources in learning as lending significance to the whole learning experience rather than reading words from books and perhaps answering examination questions.S6 stated that the use of technology was interesting because of its multimodal representations such as audio and visual representations (line 15). Even though S2 was a bit quiet throughout the conversation, towards the end, she expressed her agreement with the point that the use of technological resources in learning offered a whole new genre in learning resources other than printed words on paper (line 17). Through the multiliteracies approach, the students experienced learning through multimodal resources that included printed words, pictures, sounds, and videos.

Extract 1.2 shows the conversation between Siti, Arfah and a group of male students about the use of technological resources in learning. The students suggested that the use of technological resources in learning was more fun and interesting as compared to the use of traditional print-based resources. S7 stated that the use of technological resources was different from the traditional resources that are usually used in Malaysian learning contexts, therefore, making learning more interesting (line 7). S8 and S9 stressed the point that using technological resources in learning was easy without elaborating more about the point (line 8,9). However, when asked whether they would prefer the use of traditional print-based resources or technological resources in learning, the students firmly opted for technology-based learning. It seemed that they preferred using technological resources because the resources were contemporary and perhaps more related to their lives outside the classroom. S7 pointed out that the use of technological resources in learning was more contemporary (line 21). S8 insisted that learning activities that used technological resources were fun as no other subjects at the polytechnic had utilised technology resembling our multiliteracies classroom; and he was confident that the use of latest technological gadgets cultivated interest among students to learn (line 26).

Extract 1.2

Siti:	*Okay, next one, what do you think about* **using technology such as computer**	1
S9:	*Of course yes!*	2
S7:	*Yes*	3
Siti:	*Yes? Okay, a big yes. Why?*	4
S7:	**Not traditional**	5
Arfah:	*Why?*	6
S7:	*More* **interesting.**	7
S8:	*Easy to use*	8
S9:	*Yeah, it is* **easy to make , easy to use**	9
Siti:	*Why easy?*	10
S9:	*Easy, so easy*	11
Siti:	*What do you mean by easy?*	12
S9:	*easy, just like,*	13
Siti:	*Was it easy because you already knew how to use the gadgets such as camera?*	14
S9:	*Yeah*	15
Siti:	*If you were given a chance to choose between traditional learning and technology-based learning, which one would you choose?*	16
S7:	**Technology**	17
Siti:	*Why? Was it because it was easy?*	18
S7:	*Yes*	19
Siti:	*Apart from that?*	20
S7:	*[It is]* **more modern**	21
Siti:	*Okay. What do you think about using computers and the Internet in learning English? Do you think it is fun or boring?*	22
S9:	*[It is]* **fun.**	23
Arfah:	*Why? Was it because of Facebook?*	24
S9:	*Facebook? Not really.*	25
S8:	*Because,* **one because it is fun. In other subjects, we do not use computers, right.** *So, this [learning using technology] will* **cultivate interests among the students to learn the English language using the latest technology.**	26

Learning using technological resources was associated with a pleasant learning experience as mentioned by a group of female students talking to Siti and Arfah in a semi-structured interview (see Extract 1.3). The students confirmed that they enjoyed learning using technological resources. Even though the students did not elaborate on their answers, they were certain that the use of technological resources provided a pleasurable learning experience as compared to their previous learning experiences in examination-based learning contexts, where print-based resources were always utilized. S5 stated that throughout her learning experience, the only technology that she used was the computer and the Internet (line 8). S3 agreed to the statement stating that the experience of using technological resources through the multiliteracies approach was different from her previous learning experiences, where computers and the Internet were used solely to search for information. In the multiliteracies project, they used a variety of technological resources such as computers, the internet, and smart phones to do a variety of process to complete the projects assigned (line 10).

Extract 1.3

Siti:	*Next, do you **like using the latest technology** such as computers, internet and mobile phones **in learning English?***	1
S4	*Yes, yes.*	2
S5:	*Of course.*	3
Siti:	*Why?*	4
S4:	***More fun!** [as compared to the traditional learning print based resources].*	5
S3:	*Yeah.*	6
Arfah:	*Do you have any other subjects that use technology in learning?*	7
S5:	***Just the internet.***	8
Siti:	*To search for information?*	9
S3:	*Yes. **Not like this one** [multiliteracies approach that uses technology to complete projects].*	10

The conversation excerpt in Extract 1.4 shows that the students once again mentioned that they preferred the use of multimodal resources such as videos and online articles as the learning resources as compared to using traditional print-based materials such as text books and handouts. S2 stated that she preferred the use of videos rather than books because it was easier to understand videos due to their multimodal properties such as pictures and sounds (line 3,7). It seemed that the students understood information relayed through multimodal resources better, as described by S6 (line 11). Moreover, the students stated that the combination of the traditional print-based resources and multimodal resources provided them with better learning contexts. According to them, the use of a single media, such as videos, is not suitable in learning, thus, they recommended the combination of all media to make learning more interesting (line 19-21).

	Extract 1.4	
S2:	*I prefer lessons using movies.*	1
Fariza	*Why?*	2
S2;	*Because we could understand more*	3
Fariza:	*Why is it easier to understand lessons that used movies?*	4
S1:	*We could understand the storyline better, as compared to reading it in books*	5
S6:	*Yeah.*	6
S2:	*You don't have pictures and sounds in books.*	7
S6:	*If we watch movies, we could understand the storyline from the beginning*	8
Fariza:	*So you think that if you have visuals you would understand better?*	9
S1:	*Yes, we have sounds, movement*	10
S6:	*sounds, movement*	11
Fariza:	*How about reading print texts such as books?*	12
S1:	*A bit more difficult because we have to visualize on our own.*	13
S2:	*We have to make our imagination runs wild*	14
S6:	*Not to say that books doesn't help our learning process, but they are not as effective as movies.*	15
Fariza	*You feel it is easier to understand lessons using movies?*	16
S1:	*Easier to understand*	17
	All students: Yeah (students laugh)	18
Fariza:	*Okay, if we use the combination of print text and digital text, visual texts such as movies, and online articles, do you think it is more effective to help learning?*	19
S2:	*Yes, [it is] more effective.*	20
S1 & S2	*Yes.*	21
Fariza:	*If we use just movies?*	22
S6:	*A bit boring then (laughs). If we watch movies every day, it would be boring!*	23
S2:	*If we watch movies every day, we would pass out (due to boredom) (laughs)*	24

Data from the current study show that the students were really drawn to learning using technological resources due to their multimodal characteristics. The multimodality was described as being the focal point in assisting the students in the learning process. The students, on different occasions mentioned that they had enough of learning using traditional print-based resources such as books and handouts. They described the experience of using technological resources in learning as fun and enjoyable. They kept on repeating that the move from traditional print-based resources to multimodal technological resources was something different and made learning more significant. These findings display the reasons for an urgent need to replace the practice of using print-based resources with the combination of print-based and multimodal resources. Not only are the students connected to multimodal resources due to its connection to their lives outside the classroom, but the use of these resources also seemed to draw the students to participate in learning activities more actively.

THEME 2: SHIFTING TO CRITICAL MINDS

Throughout the second cycle of the research project, the students demonstrated instances of shifting from the *copy-paste* culture (plagiarism) to authenticity. *Copy-paste* is a colloquial term used in the Malaysian contexts as an act of taking or copying other people's work usually available online without proper referencing. In one instance, the students showed the researchers a paragraph, a script for the host of their documentary show. It was messy and the articles and prepositions were all wrong, including the word order, making the paragraph impossible to comprehend. The students immediately confessed that they used a free online translating service provided by *Google Translate* in order to get that script done (Classroom observation). After learning using the multiliteracies module, the students successfully edited the script into something intelligible for their documentary (Extract 5). The script was as follows, (Classroom artefact).

Extract 1.5

Hi. I am Asmah. I am at ███████. ███ *beach is a beach near the polytechnic in* ███████. *The location is at Beach Road, Teluk Bakti Beach. It was famous among the polytechnics students. So, this beach is equipped with basic facilities, example like the car park and the stalls that sells all kinds of food.*

Now, I would like to talk about the positive and negative about the beach. The positive about this beach is, number one, the beach has attractive landscape. You can see that beautiful landscape. Okay, number two, you can spend time with family and make the relationship becomes closer. The next thing, have a fresh air.

The scripts contained several grammatical mistakes; however, the message that they tried to convey was still clear, and the sentences were more comprehensible than the ones they had showed the researchers earlier in the classroom. The vast difference between their draft and the final product shows a shift from the *copy-paste* culture (plagiarism) to authenticity.

The shift from *copy-paste* culture to authenticity was also evident in the other students' documentaries. The authenticity of their work was mainly shown through their explanation of their mini research activity. Many groups managed to use their own words in describing and explaining their research issues and findings. Their scripts looked natural and did not seem to be copied from any online sources. Another indicator was the spontaneity of the way they presented the information in contrast to reading from screen as they had presented within the first cycle. The sentences in their documentaries were intelligible with only a few grammatical errors. This situation indicated that the sentences were authentic and constructed by the students themselves.

Extract 1.6 was an excerpt from a documentary that dealt with the issue of the cafeteria of Bakti Polytechnic (Classroom artefact).

Extract 1.6

Normala: Hi, I am Normala!
Alvin: Good morning! I am Alvin. We are here today to discuss the issue of cafeteria in Polytechnic Bakti. From that, first, the counter is not systematic.
Normala: The counter has not enough money and when it was too crowded with students who wants to pay for their food, the process was slow. In my opinion, they should get more counter in the cafeteria.

Classroom artefact, ARC2

The group supported this claim with a few interviews with other students in the polytechnic who also complained about the effectiveness of the cafeteria's cashier services. The responses from the interviews were also original and seemed to be produced by the students themselves.

Extract 1.7 shows another example of the originality of the students' work through their documentary which discussed the issues raised due to the insufficient number of Automated Teller Machines (ATMs) in Bakti Polytechnic.

Extract 1.7

Using an ATM, customer can access their account to make cash withdraws, credit card cash advance and check their bank accounts. But in our documentary I would like to show the issue that is becoming a cancer in this polytechnic community, that is the insufficient of ATM machines.

Classroom artefact, ARC2

The research team were also convinced that the students' documentaries were the product of their own hard work and no elements of *copy-paste* or plagiarism were identified. In Extract 1.8, Siti expressed the thought that the students had improved so much that their presentations were easily comprehensible (line 2-3). Arfah agreed with the statement and expressed that she, too, thought that the students did not plagiarise (line 16-22).

Extract 1.8

Siti:	*I think this approach improved the students' learning in so many ways. There were* **obvious**. *First, from what I can see,* **their confidence level has increased. I saw this through their presentations the other day.** *They have points in their presentations and we could understand the points. Second, they have improved their [English] language. I actually understood what they presented the other day.* **Previously [within the first cycle], I did not understand at all, what they were saying in their presentations.** *That's why I think that this approach [multiliteracies approach] is good. They used simple English; I think it was okay because the audience could understand what they were saying.*	1 2 3 4 5 6 7 8 9 10
Fariza:	*It [multiliteracies approach] is also* **beneficial to their communicative skills**, *right? It is not about using complex words but it is about using words that people could understand the message.* **Not like the first one, they copy and paste [plagiarised]** *and we could not understand what they were saying.*	11 12 13 14 15
Arfah:	*True. I think they had the idea that in English class, they have to use all this bombastic words so that people can be impressed.* **When they were presenting their documentaries, I can see that they used simple language, common words that we use every day and that's why their documentaries a success.** *They delivered their message using the everyday English language. I felt that they were 'talking' to us at that time. So, I think this time* **they did not copy-paste from the internet.**	16 17 18 19 20 21 22

The research team also searched the Internet using keywords and sentences from the students' works and there were no results that pointed directly to the sentences used. The presence of grammatical errors also showed that the students' works were original because these errors are usually made by second language speakers of English language. In addition, the authenticity of the students' work could be seen from classroom activities such as when we discussed multicultural issues through the movie 'My Big Fat Greek Wedding' and Amy Tan's short story, 'Fish Cheeks.' From the verbal presentation of the students' critical analysis of the issues in both genres, the students managed to discuss the multicultural issues critically using their own words (Extract 1.9).

Extract 1.9

Fariza:	*So, they are more positive [in terms of participation] as compared to the first*	1
	*cycle. Even, when we began the lesson on My Big Fat Greek Wedding, **their***	2
	***responses were very positive and critical.** Their presentation and answers*	3
	were critical.	4
Siti:	*Yeah. They **were able to understand the movie clips, [and] the issues***	5
	***presented.** When I asked them about this [the issue presented], they told me*	6
	that it was about differences of culture. So, I thought it was quite impressive.	7
Fariza:	*Only one group gave a surface answer. The rest **gave critical answers.** So, they*	8
	are definitely different now.	9
Siti:	*I can understand what they were presenting (laughs)*	10
Fariza:	*I think **they used their own word in explaining their opinions**, that's why it*	11
	was easier for us to understand their [oral] presentations.	12
Siti:	*Yeah*	13

In Extract 1.10, the students also confirmed the point that they did not *copy-paste* (plagiarise) in the completion of the second multiliteracies project. According to them, they did *copy and paste* while completing their career blog at the first cycle (line 2-3,6); however, at the second cycle, they managed to do their own formulations. They explained that the task of creating their own documentary provided no room for them to plagiarize information from the internet (line 7-9).

Extract 1.10

S12:	*During the career blog presentation, **we did a lot of copy and paste***	1
	[plagiarism]**, so during the presentation, we just read what we had. **We didn't	2
	***do any formulations or summary**, we just read.*	3
S11:	*Assignment A and B have a lot of differences.*	4
Fariza:	*How?*	5
S11:	***In assignment A, we did a lot of copy and paste** (plagiarising) and we let them*	6
	*be just like that. **In assignment B, we gave all our attention because we had***	7
	to come out with our own documentary.	8
S10:	*[We] **didn't get any opportunity to copy and paste** (plagiarize)*	9

THEME 3: OVERCOMING PROBLEMATIC COLLABORATIVE EFFORT

Throughout the learning experience in completing the multiliteracies project, the students were faced with problems in working collaboratively with their group members. The students stated that they were faced with issues on various aspects of completing the second multiliteracies project. For example, a student complained that his group members blamed him for not contributing enough to the development of the mini research activity. Another student, S10, stated that one of his group members pushed everyone to work at a faster pace, causing high stress levels among the group members (Semi-structured interview). In Extract 1.11, S10 explained that his group members had quite a number of other disagreements in the process of conducting the mini research activity and producing the documentary. He added that the end product of the multiliteracies project, which was the documentary, was a result of the hard work of the team members (line 5-6). S10 and S11 explained that the process of producing the documentaries had engaged them in positive and negative experiences particularly in terms of teamwork. They asserted that despite that, in the end they produced a good documentary (line 14-15).

Extract 1.11

S11:	Sometimes *it was about the team members (causing stress)*	1
Fariza:	*Teamwork?*	2
S10:	*Yes. Not everyone has the same style of working, different people has different*	3
	styles	4
Fariza:	*But, in the end, every group produced their own documentary.*	5
S10:	*That **(the documentaries) was the result of our sweat and tears.***	6
Fariza:	*Even though you had a lot of issues?*	7
S10:	*That was the end product. **We had a lot or arguments, but we still had the end***	8
	product.	9
Fariza:	*So, do you consider the end product to be positive or negative?*	10
S10:	*Positive*	11
Fariza:	*Positive. The process?*	12
S10:	*The process was balanced.*	13
S11:	*We have a **few ups and downs moments. There were positives and negatives***	14
	experiences. But, in the end the end product was positive.	15

Data also show that the students exercised deliberation among group members and collaborative problem solving. This point was evidenced in Extract 1.12. S1 and S6 explained the ways they coped with all predicaments among group members whilst completing the project. They reiterated that they held discussions with group members to discuss or find a solution for any predicament they faced (line 4). They stated that the opinions of all members were taken into consideration before they decided on a solution (line 8). They worked as a group, and consensus was achieved after listening to all group members (line 9).

Extract 1.12

Fariza:	Okay, if you encountered any problem, how did you cope or solve the problem?	1
S6:	We always **discuss with the group members first.**	2
S1:	We would **sit together,**	3
S6:	and we would discuss with everybody. We would **ask what the issue was**, and	4
	then we **asked for everyone's opinions** regarding the issue.	5
Fariza:	So, you would get together and ask everyone's opinion?	6
S6:	Yes, we get everyone's opinion first.	7
S1:	Yes, then **we would try to reach a consensus on how to solve the problem.**	8
S6:	**If everyone agreed, then we would take actions.**	9

Other groups also employed similar approaches in solving teamwork issues. As evidenced by the data from the semi-structured interview in Extract 1.13, S10 asserted that whenever his group members were faced with any problems, the group discussed the problem and tried to come to a consensus (line 1-3). S12 claimed that his group members employed effective group collaboration. S12 said that his team divided work equally among group members to complete the tasks and afterward they combined the result of their tasks to produce the documentary (line 10-13). This instance showed that the students were managing their teamwork issue more effectively.

Extract 1.13

S10:	*We had issues, but we managed to settle it at the end.*	1
Fariza:	*How?*	2
S10:	*[We] discussed it nicely*	3
Fariza:	*So, when you had issues, you discussed the issue with everybody and tried to*	4
	resolve the matter?	5
S10:	*Yeah. We discussed **the best way to resolve the problem**.*	6
Fariza:	*After the career blog assignment, I noticed that most students highlighted that*	7
	the biggest challenge that they faced was working in teams. Do you still have	8
	problems in that area?	9
S12:	*Not really, because this time around everybody had to do work. I devised three*	10
	questions and gave each member one question. We didn't have much time, so	11
	when we completed our scripts, we write it on a big piece of paper and continue	12
	with our interview.	13
Fariza:	*So, you had better teamwork this time around?*	14
S10:	***Most [students] had already known how to participate [in a group work].***	15

Similarly, another group of students stated that they had a good collaborative effort among their group members. The students described that their collaborative efforts in the second cycle were a positive experience and their teamwork skills had improved since the last multiliteracies project within the first cycle (line 1). In Extract 1.14, S1 and S6 noted that their group members worked on the task together under the notion that the task would be incomplete unless they worked together (line 9-10). S6 mentioned that the project was multidimensional and that required everyone in the group to work on different aspects and then work collaboratively to produce one documentary.

Extract 1.14

S1:	*Now, it **[the cooperation between group members] is better than before**.*	1
S6:	*Ooo, yes.*	2
Fariza:	*Why?*	3
S6:	*Because before this, we had to write in the computer [blog], sometimes it was*	4
	hard to meet up and write. In this case [the second multiliteracies project], we	5
	*had to do a video and use Movie Maker, s**o we had to meet up and discuss***	6
	what to do.	7
S1:	*Yes, everyone had to do it.*	8
S6:	*If **one member did not participate, then the task would be incomplete***	9
S1:	*Yup, **everyone had to participate**, some had to be the host, and some had to*	10
	work with the technical aspects.	11
S6:	*Yeah. If we were to do a write up, one person could just do it. That is why this*	12
	assignment is different than the first one.	13
S1:	*Yes.*	14

Through this research project, it appeared that the students managed to develop the skills to work in teams, a concept that is often foreign in an examination-based learning culture. Reflecting on this point, the research team concluded that there was a possibility that the multidimensional nature of the second multiliteracies project had encouraged the students to work collaboratively in completing the task.

DISCUSSION

The findings show that the multiliteracies approach is considerably an effective tool to encourage students to learn from experiences. The findings of the study show three significant themes which included moving towards multimodality, shifting to critical minds and overcoming problematic collaborative work.

The multiliteracies approach opened up opportunities for students to work with a variety of texts, i.e multimodal resources in learning the English language. This finding relate closely to the new requirements of learnings in the 21st century as well as the fourth industrial revolution as both domains highlight the changing nature of texts in the contemporary world. Texts are no longer solely in printed copy but come in many digital forms (Serafini, 2012). It is interesting to note that even though we have journeyed into the 21st century, most participants in the study claimed that their learning environment was still centred on the use of print texts and multiliteracies approach offered them a new learning experience using the combination of technology and printed texts that were more relevant to them. This point is supported by a study conducted by UNESCO in exploring the school and teaching practices for 21st century challenges in the Asia-Pacific Region. According to the study, some teachers from Malaysia used student-centred and 21st century learning only if they had spare time because they prioritized the completion of the syllabus (UNESCO, 2016). So, through the multiliteracies approach, the participants were given the opportunity to practice their 21st century skills, particularly, within the purview of working with technological gadgets.

Next, the multiliteracies approach also facilitated students to be more critical in learning where they were able to discuss issues from critical perspectives. Critical thinking has been listed as a necessary skill by most 21st century framework (NCREL, 2003; P21 Framework for the 21st Century Skills, 2007; UNESCO 2016) as well as the fourth industrial revolution (Roland Berger, 2016). Findings show that the participants were able to manage internet resources to assist their critical analysis process in producing the documentary.

Finally, in completing the multiliteracies project, the students learned to work collaboratively with each other. As highlighted by P21 Framework for 21st Century Skills (2007), students of the 21st century should be able to demonstrate the ability to work "effectively and respectfully" in a network of people to accomplish a common goal. This point was demonstrated by the participants of the current study where they worked together to complete their documentary. Interestingly, data show that the students were able to solve conflicts in their groups. This shows that the multiliteracies approach provided a platform for the participants to develop collaborative skills. In terms of meeting the demands of the fourth industrial revolution, the multiliteracies approach provided a starting point to develop personal skills such as working with others as outlined by Roland Berger (2016).

CONCLUSION

In conclusion, even though the multiliteracies approach has been established almost 20 years ago, the data show the approach is still relevant in developing some skills needed in the 21st century and the fourth industrial revolution age. Through the multiliteracies approach, students had the opportunity to work with technological tools, trained to be critical thinkers and gained precious experience of working collaboratively with their group members. The findings of the study suggest that multiliteracies approach has the potential to be expanded to further include the properties of the current sensation of the 21st century and fourth industrial revolution. The implication of the study is that the findings can be a basis for any institution to utilize multiliteracies approach to further enhance their 21st century skills teaching and learning process. This study advocated that the multiliteracies approach enhances:

    i.   Critical thinking
    ii.   Technological competence
    iii.   Teamwork.

For future studies, it is recommended to look at the extent to which multiliteracies can be used in developing these skills amongst students. It would also be interesting to find out

the perception of policy makers, parents, teachers, and students towards the use of multiliteracies in the Malaysian learning context.

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APPENDIX A

OBSERVATIONAL SCHEDULE
Setting: Observer: Time/Date: Length of observation: Lesson:
Students' engagement to the new ways of learning – overt instruction, situated practice, critical framing , transformed practice
Students responses towards the use of semiotic resources, scaffolding, the concept of agency, and Involvement with their social surroundings.
Students' interaction with each other and with the teacher
Use of specific language
Critical incident

APPENDIX B

Sample of interview protocol
1. Can you share your learning experiences in learning English before this?
2. Can you describe a typical English classroom scenario that you are used to? What do you think about the effectiveness of the teaching approaches?
3. What came to your mind when you were first introduced to the multiliteracies approach?
4. What do you think about the use of technological gadgets in the classroom?
5. How about the use of a variety text types such as audio and visual texts?
6. Can you share the benefits you have gained in this multiliteracies classroom?
7. What can you tell about the research process that you have conducted? Can you share any significant events?
8. How about the process of gathering data or the researching skills?
9. Can you share your experiences working in teams? Any challenges? How did you overcome the problems?
10. What do you think about the overall multiliteracies project? Did you benefit from completing the project?

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