A Project-Based Multiliteracies Instruction to Improve Students' Multimodal Literacy

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Abstract. In 1996, a group of literacy educators, linguists, and educational researchers are known as the New London Group developed multiliteracies pedagogy in an attempt to extend the traditional definition of literacy – the ability to read and write – to encompass dynamic, culturally, and historically situated practices using and interpreting diverse written and spoken texts to fulfill particular purposes. This study presents an overview of the implementation of multiliteracies instruction incorporating project-based task in an ESP setting to see how pedagogy can be implemented in an ESP course and how this pedagogy facilitates learners in multimodal literacy learning. A project-based assignment in the form of digital multimodal informative text (i.e., digital poster) creation was utilized. To get a comprehensive overview of the implemented teaching program, a qualitative approach with a case study design was applied. The participants of this study were 30 semesters two students of Informatics Engineering taking English as their compulsory subject. To establish the trustworthiness of the research results, this study utilized classroom observations, interviews, and students' artifacts for the data collection. The results of the study indicated that the students, in general, could create a wide range of multimodal texts using their multimodal knowledge. The students could likely recognize the multimodal aspects of the works they did and were likely able to produce multimodal texts cohesively. This study hopefully could provide a window for ESP teachers to better understand the implementation of multiliteracies pedagogy in the ESP classroom context.

Keywords: ESP · Multiliteracies pedagogy · Multimodal Literacy · Project-Based Assignment

1 Introduction

Students nowadays are extensively glued to digital devices such as mobile phones and tablets due to the impact of fast-developed technology and increased popularity of social media and chat applications. As a result, there is an alteration on how students read and write texts from print-based to multimodal screen-based ones. The shift can also be seen from the way students communicate with one another in which interactions are carried out not only with speaking and writing but also with symbols, emojis, gifs, images and other digital media platforms. Patterns of communications become intensely multimodal. As a result of these new forms of texts and communications, the emergence of new literacy

U. Widiati et al. (Eds.): ASIATEFL 2022, ASSEHR 749, pp. 632–647, 2023.
https://doi.org/10.2991/978-2-38476-054-1_54

practice is undeniable. This new literacy is called as multimodal literacy. As pointed by [1] that there is a broad move of present-day literacy from the dominance of the print to the dominance of the screen producing a revolution in literacy and in the means of representing and communicating in every domain and at every level.

The fact that reading and writing instructions at school are still dominated by traditional language-based texts taken from textbooks and other print text resources and often ignored the use of technologies [2], literacy scholars are striving to raise awareness among educators to the changing nature of students' literacy practices and how these shifts require a new form of literacy pedagogy that account for the complexities of digitalized society in which values and social relationships are shaped within collaborative digital mediated technologies [3] [4] [5]. Contemporary literacy instruction, as these scholars suggest, have to fuse together traditional (print-based literacy) and modern (multimodal) aspects of literacy [6] [7] in which students should be trained how to read and write monomodal texts and how to communicate effectively using the diverse range of multimodal resources.

It was in 1994 that the first attempt had been made by a number of literacy experts, called themselves as the New London Group (henceforward NLG), to devote more attention to this changing culture of literacy. It was then in 1996, the NLG coined the term 'multiliteracies', and published a seminal paper entitled *the Harvard Educational Review*:" A *Pedagogy of Multiliteracies: Designing Social Futures."* In 2000, this group published their first book, *Multiliteracies: Literacy Learning and the Design of Social Future,* edited by Cope & Kalantzis (2000) published by Routledge in Australia.

The notion of multiliteracies, according to NLG, refers to two key ideas encompassing a diverse representational mode of communication channels and an expansion of traditional print-based approach to literacy into multimodal literacy. The jointly-authored paper that the NLG published was the introduction of multiliteracies pedagogy consisting of a novel concept of "what" and "how" of literacy pedagogy [8]; [3].

In English language teaching context, developing multimodal literacy has also been stressed out. [9], for example, proffers that EFL teaching should strive to develop not only communicative competence but also multimodal communicative competence as complementary competence. In a similar vein, [10] contends that multimodality should be included in EFL classroom because students nowadays live in an era that requires new literacies, and they often bring multimodal practices to school. Other literacy experts, such as [11–14] shared similar ideas regarding multimodal literacy instruction in EFL classrooms. They point out that EFL teaching should be expanded beyond all-inclusive single literacy to include multimodal literacy.

Studies on developing multimodal literacy through multiliteracies instruction have been widely undertaken in EFL contexts (see [15–19], however, the study of this kind taking focus on project-based task is rarely conducted. Thus, this present study attempts to investigate the implementation of multiliteracies instruction which incorporates project-based assignment to facilitate students' multimodal literacy skill.

2 Theoretical Framework

2.1 Multiliteracies Pedagogy

Due to the shift of literacy practices worldwide as the result of technology evolution, there is an urgency to step out from traditional literacy pedagogy which focuses solely on monocultural and rule-governed forms of language to modern (multimodal) literacy. To get through this challenge, [8] proposed a new literacy instruction called as multiliteracies pedagogy. Based on this proposed pedagogy, literacy embraces more than just reading and writing, but includes an understanding on how various modes of communication are orchestrated together to make meaning in a wide range of situations for diverse people in diverse situation [8, 20].

Multiliteracies pedagogy is recognized as a highly social and culturally responsive curriculum since its concept is grounded in a sociocultural perspective. This pedagogy was derived from Freire and Macedo's (1987) political and critical literacy concept of "reading the word and reading the world," and Australian genre-based approaches to teaching writing [21–24]. The instructional goal of multiliteracies is to focus more attention to the diverse range of multimodal texts that students encounter, as well as the vast range of literacy practices that they engage in. Looking at the purpose of multiliteracies from social and political aspects, this pedagogy positions teachers and students as an active agent in social transformation and also as active designers of social futures.

An instructional framework of multiliteracies consists of four strands: Situated Practice; Overt Instruction; Critical Framing; and Transformed Practice. These pedagogical stages provide teachers as guidance in their instructional practice and as a supplement to encourage teachers to broaden their pedagogical repertoire [6]. The distinctive feature of this framework is the use of various modes consisting of linguistic, gestural, visual, and spatial dimensions of modalities to facilitates students to create hybrid texts for a diverse purpose.

The first dimension of multiliteracies pedagogy is situated practice. It is in this stage that learners are engaged in meaningful activities to enable them to perform diverse and varied roles among a community of learners in accordance with their backgrounds and experiences [8]. This activity necessitates experts functioned as facilitators, mentors, and learning designers.

The second dimension of multiliteracies pedagogy is overt instruction. This concept suggests teachers and other education experts to step out from traditional forms of direct drills and rote memorization activities, and to focus on scaffolding students' learning in order to guide them to recognize on the crucial aspects of their experiences and activities within the community and enable them to obtain explicit information from their learning. Teachers in this case should organize and guide learners during their practice of learning by among others constructing on and recruiting learners background knowledge. The most important part of overt instruction is the use of metalanguages to express various processes and elements that contribute to meaning and collaborative efforts between instructor and students to establish conscious knowledge and control over what is being taught.

The third dimension of multiliteracies pedagogy is critical framing. This stage requires teachers assist learners to build on, frame, and explore their learning and literacy practices in accordance with specific systems of knowledge and social activity related to historical, social, cultural, political, ideological aspects developed in society [8]. Learners are guided to break down the layers inside a text and to analyze the text elements such as the form, the modes, the linguistics features, the structures of language and its functions. The end purpose of critical framing is for students to develop learners' metacognitive capacities, which will allow them to scrutinize their own assumptions as well as those embedded within the text [25].

The last dimension of multiliteracies pedagogy is transformed practice. As the goal of multiliteracies theory is for students to apply skills, knowledge, information, and behaviors they have gained through the three dimensions of multiliteracies instruction to their real-world situations beyond classroom walls, [26, 8], s then students can build links to their learning and embedded their cultural and social experiences through transformed practice. The results of this activities would be the development of some skills of creativity and innovation [26].

2.2 Multimodal Literacy

Multimodal literacy was the term introduced by [27]. According to these scholars, multimodal literacy refers to the ability to recognize and comprehend a wide variety of knowledge representations and meaning-making consisting of multiple modes of communications. Other literacy expert [28] defines multimodal literacy as meaning-making act through utilizing digital texts and multimedia to view and represent information. It refers to the ability to read, view, understand, respond to, produce, interact with digital texts and create meanings from those texts. [29] offers another definition, claiming that multimodal literacy is a process of meaning-making construction employing multimodal texts (texts that combine written language, visual pictures, and design aspects) in accordance with social and cultural settings. This scholar proposed that the teaching and learning process aimed at developing students' multimodal literacy should pay attention not only to students' cognitive and perceptual abilities, but also to how visual images and other semiotic modes in multimodal texts function in broader social contexts, as well as how practices shape how society lives and their shared identity.

In pedagogical context, the teaching of multimodal literacy should take into account two primary factors which shaped the concept of this theory [30]. The first component deals with the ubiquitous dissemination of multimodal texts in the form of multimedia texts via digital media. The second component is that multimodal and multisemiotic practices surround the classroom teaching and learning requiring an understanding of how teachers employ a range of multimodal and semiotic resources into their teaching to generate meaningful instructional experiences. Knowing the benefits and drawbacks of semiotic tools and modalities, as well as how they're used together in the classroom, can help you teach and learn more effectively.

Several methodologies for examining multimodal discourse have been developed throughout the years in the subject of multimodal research. As reported by [31], systemic functional linguistics, social semiotics, and conversational analysis are the three key approaches to multimodality. [32], who viewed language as social semiotic and established systemic functional theory as a method of studying language, influenced the discourse approaches to multimodality.

For the purpose of this study, systemic functional linguistic approach as suggested by [30] was utilized to assess and analyze students' multimodal artefacts. In the systemic functional linguistics approach, the genre-based orientation is adopted to explore multimodality and the metafunctional meanings, which include experiential meanings, interpersonal meanings, and textual meanings. This approach explains the 'form focus' or the 'grammar' of multimodal texts by analyzing how each semiotic resources provide meaning through 'system networks' and also the interactions and orchestration of these resources as a multimodal whole.

Regarding what should be taught in multimodal literacy teaching, [33] propose three elements of multimodal metalanguage that should be covered: 1) Form, 2) Engagement, and 3) Message. The element of form consists of textual features and specific function of multimodal texts. it is in this stage that teachers transform the metalanguage of multimodal texts consisting among others main visual display, focus of attention, logo, slogan, call and visit information, brand and product names, and call to action. The engagement element covers the activities which assist students become more aware of multimodal practices and their specific effects. Teachers could present strategies used by media to achieve specific goals and the implicit reasons why those strategies are used. The students are taught, for example, that the subjects' gaze—looking directly at or away from the viewer—shows the extent to which viewers engage with the subjects. In terms of power, the students are taught to recognize media strategies, such as the use of vertical angles [34]. The message element attempts to help students understand literal and inferential representation of texts as well as how the text presents its ideas. Teachers could provide guidance for students to recognize the different types of persuasion that are used to persuade the audience, as well as to discuss the literal and inferential meanings in multimodal texts. The students are taught that visual texts serve the producer's/economic, organization's educational, and entertainment interests. Students are also taught that some texts can serve several purposes; for example, using entertainment/humor in an educational visual text boosted positive affect, making it more captivating and remembered. The students are also informed three types of persuasive appeals.

3 Research Method

This study utilized qualitative case study design. The utilization of this design was based on several considerations. Firstly, the case study design enables the researcher to focus more on a specific group of participants and to use multiple data collection methods to study the emerging events from the implemented teaching program [35, 36]. Secondly, the case study design provides a comprehensive picture of the research process and participants ([37]. Lastly, the case design allows for deep and detailed data analysis that

can be used to further construct themes and ideas that lead to a better understanding of an event [38].

The study took place at a state polytechnic Banjarmasin in an Informatics Engineering Study Program. In order to gain comprehensive data for the study, purposive sampling method was employed [39]. The participants were selected to match with the specific purpose of the study. The participants were 30 students in their second semester taking English for Specific Purpose (ESP) course as their compulsory subject. The participants' age was between 17–19 years and the students were mostly from Banjarmasin.

In terms of data collection methods, this study utilized classroom observations, semi-structured interview, and students' artefacts. The observations were conducted for fourteen sessions to obtain in depth information regarding the teaching program. The researcher's role was the teacher and participant observer as well. Within the teaching activities, the researcher took notes on all events in the classroom and after each teaching session ended, the events were organized into field notes. The second data collection method was interviews. The purpose of conducting interviews was to find out students' understanding on the overall teaching program and to explore participants' thoughts, views, and perceptions deeply and insightfully [35]. The interviews were in the form of semi-structured interviews in which the interview questions were prepared in advance in order to guide the researcher during the interview process. The interview questions were open-ended ones to provide opportunities for student participants to express their thoughts and opinions freely. The language of the interviews was in Bahasa Indonesia and were audio recorded with the permission of the student participants. The interviews were conducted right after the teaching program. The last data collection was students' artefacts. The terms artefacts refer to students' multimodal texts produced during the teaching program. The artefact collections were useful to capture evidence and to describe the impacts of the intervention. The collected data were analyzed qualitatively in which data were organized based on patterns and themes.

4 Findings and Discussion

This section highlights the implementation of project-based multiliteracies instruction conducted in an ESP classroom. In its implementation, a project-based approach was applied to find out how the assigned project gave direct impacts on students' multimodal literacy. In the project completion, the students were required to use digital technology of their own choice and shared their multimodal projects to larger audiences via online application sharing. This section also provides detailed description on how the four pedagogical multiliteracies elements of situated practice, overt instruction, critical framing, and transformed practice were realized throughout the teaching process.

4.1 Research Findings

4.1.1 Implementation of Project-Based multiliteracies Instruction in an ESP Classroom

The multimodal production project in this study was in the form of digital poster. The students' frequent encounter with this type of the text became the main reason for selecting this project. The step-by-step of the project creation were subsequently presented based on the four dimensions and knowledge processes of the multiliteracies pedagogy.

Stage 1: Situated Practice

The situated practice activities in this teaching stage was realized by analyzing specific features and typical functions of poster. The students were exposed to two multimodal posters displayed through LCD projector. The first poster was about an event poster informing a workshop on sexting, texting, and cyberbullying. The poster was retrieved from https://hamptonroads.myactivechild.com/blog/workshop-sexting-texting-cyberbullying/. The second poster was a propaganda poster warning women particularly teenage girls to stop smoking. This poster was retrieved from https://kayleechurch.weebly.com/english-1010/visual-analysis. It was produced by the TUPP (Tobacco Use Prevention Program) company. Several questions then were posed to the students to elicit their knowledge regarding the multimodal aspects of the posters and to scaffold them to view multimodal texts critically.

In responding the poster questions, most students basically could provide good and reasonable responses. The students were also successful in responding the questions related to multimodal text design elements (questions number 3, 5, 6, and 7). This indicated that the students to some extent had already developed the capacity to critically view the multimodal aspects of the posters.

Stage 2: Overt Instruction

Overt instruction was realized through providing direct instruction or explicit teaching on multimodal metalanguages of posters. During the teaching process, the students were introduced to new terms such as form, engagement, and message. The metalanguages were adopted from the work of [30] in which he developed the metalanguage based on systemic functional approach. It appeared that overt instruction or deductive teaching on multimodal texts were well received by the students. The students were quite comfortable with the activity in that they showed happy faces and actively participated in the learning process.

Stage 3: Critical Framing

In this study, this dimension was translated into the activity of identifying the features of digital posters and doing critical analysis about those posters. The students were required to search available posters from the online resources collaboratively in a group of three, identify and do critical analysis of the elements of those posters. They were required to identify the form, the engagement, and the message of the poster. The form of the poster consisted of the visual (main visual display, focus of attention, icon, logo). The engagement of the poster covered prominence (size, foreground, sharpness, color contrast), address (direct gaze, indirect gaze, no-gaze), power (high angle, low angle,

even angle), and distance (long shot, medium shot, close shot). The message of the poster was concerned with purpose (educational, entertainment, economic), appeal (crown, head, heart), and representational (literal, inferential).

After completing the task, the students were required to submit their works through *Schoology* learning management platform and present their works verbally to the class. Each group sent one of the representatives to do the presentation explaining the specific features of the digital poster. During the presentation, the students were allowed to ask questions and have discussion. Most students attentively listened to their classmates' presentation, yet only few students participated in the discussion.

In terms of the students works on digital poster analysis, most of the students could likely do the task well. They were able to identify and locate the parts of digital poster and able to identify the form, the engagement, and the message in the poster.

Stage 4: Transformed Practice

In this study, this dimension was realized through the creation of digital poster and oral presentation related to the posters. The digital posters were created through the use of the suggested technology tools including *Canva, Corel Draw* and *Photoshop.* The students were allowed to choose any digital poster platform that they were going to use and familiar with. In terms of verbal presentation, the students were required to share their works in front of the class informing not only the content of the posters but also their multimodal aspects. In the first stage of the digital poster creation, the students were guided to select the topic of the posters. They were informed that the topic of their posters should be related to their major study program, that is, Informatics Engineering. Several topics were then selected by the students and they chose one topic to be used for their poster. The selected topics were among others cyberbullying, smartphone, software piracy, and social media.

4.1.2 Students' Multimodal Literacy Development in the Production of Digital Poster

This section reports the results of the study concerning with the students' multimodal literacy development achieved through the construction of digital multimodal poster project during the teaching program. The evidences of multimodal learning were taken among others from the observations data, students' presentations, and students' digital posters. For the purpose of analysis in this study, six students from different category of language proficiency was representatively selected. Two representatives were selected for each category. The selected students from high-achieving learners were Kiah and Ega, whereas the students from mid-achieving students included Zairul and Nafi, and the students from low-achieving students were Yadi and Eggy.

4.1.2.1. Students' Ability in Recognizing the Form (Visual and Verbal) Elements of the Poster

This section begins with the discussions of the students' ability in locating the form elements of visual image during the first phase of the lesson. The form elements of poster in this study is concerned with students' understanding of the genre of the text realized through textual characteristics and specific functions that the texts serve. The

students' knowledge acquisition related to the form elements of poster was measured through the data obtained from the classroom interactions and the students' posters. The data indicated that the students were likely able to recognize the salient parts of the posters. During the phase of teaching, the students were assigned to perform live presentations upon completing the poster project. The purpose of the presentation activity was to further observe and confirm the students' understanding on the design elements of the posters they created. The essential point that can be drawn from the data obtained was that the students could confidently pointed out and mentioned the visual and verbal elements of their posters. For example, Kiah, categorized as a high-achieving learner, was able to identify the parts of her posters precisely and articulated the typical functions of each parts. Similar to Kiah, Zairul, a mid-achiving learner, was able to recognize each element of his poster and provided reasons on the element choices that he made. Meanwhile, Eggy, a low-achieving learner, was likely able to demonstrate her ability in locating form elements in her poster despite her broken English. The conclusion that can be taken from these data is that the students immersed in the lesson well in which they had the ability to demonstrate and identify the form elements of the posters. The students' emerging skills of viewing and representing themselves through multimodal texts are regarded as evidences of multimodal literacy learning (Jewitt & Kress, 2003; Walsh, 2010; Lim, 2018).

The summary regarding the form element of the students' poster comprising visual and verbal elements are presented in Table 1.

Table 1 provides information regarding the visual and verbal elements of the students' posters. The data indicated that the students could create poster with the specific features of posters that they had learned. Most students utilized visual aspects in their poster creation comprising of main visual display, focus of attention, icon, and logo. The students also included aspects of language represented through headline, main text, call to action, brand name, and product name. It can be concluded that the students had the ability to identify the form of the poster along with the understanding of its specific features and typical functions.

4.1.2.2. Students' Ability in Determining the Engagement Elements of the Poster

Engagement, adapted from the systems in the interpersonal metafiction by [41], is about common strategies used in visual texts to attract attention. Engagement elements are realized through prominence (size and foreground, sharpness and lighting, color contrast), address (direct gaze, indirect gaze, no gaze), power (high angle, low angle, even angle), and intimacy (long shot, medium shot. Close shot).

In terms of engagement, the students had good understanding on how to attract viewers realized through engagement element. Kiah, for example, recognized that the image size and position (foreground/background) could influence the interest of people to see posters. She also demonstrated her understanding of color meaning representation. She mentioned red color to highlight the specific typical function of this color which was used make the poster more appealing Another high-achieving student, Ega, also showed her ability in identifying the function of color. Ega stated cyan color applied in her poster. Other student, Zairul, highlighted the size of the image in his poster. He applied different sizes in his poster to distinguish the function of the images. He made the main text bigger than the other parts for the purpose of attracting viewers' attention.

Likewise, Eggy used different colors in her poster, and she also applied dark background to attract viewers' attention. Further evidences of students' learning can be seen in Table 2. The data were taken from the students' posters.

In relation to the engagement elements in the students' posters in this study, as can be seen from table above, the use of prominence in the form of size and foreground, sharpness and lighting, color contrast was dominant. These data seem to indicate that the students had the understanding on how to attract viewers' attention to see their posters. In terms of the address, which showed the interpersonal relationship between the viewer and the subject, the indirect gaze was mostly used in the students' poster. The inexistence of direct gaze in students' poster had been predicted since the posters that the students made was mostly informative posters. In relation to power, mostly the posters used even angle indicating that the students positioned themselves fairly equal to the viewers. The students and the viewers were related to each other. Concerning with the degree of emotional involvement with the audience, the students created greater sense of intimacy by applying medium shots in the posters. The students allowed viewers to focus on the subjects' faces and emotions, directing viewers' attention to the subjects in relation to their surroundings/environment.

4.1.2.3. Students' Ability in Recognizing the Message of the Poster

The last feature of poster analysis was related to the message. The message is used to identify the purpose of multimodal texts, the types of persuasion used to appeal to the viewer and to understand literal and inferential meanings in multimodal texts. The digital posters that the students made in this study were mostly created for educational purpose and the type of persuasive appeals was conveyed through reason which was represented through literal meaning. The reasons which were used in the students' posters were mostly in the form of logic and facts functioned to appeal the reader's logical side allowing them to make informed decision about the posters' themes [30]. Table 3 presents the data related to the message elements of the posters designed.

It can be inferred from the table above that the students had learned that visual texts served the interests of the producer: economic, education, and entertainment. The students also learned that texts were created for certain purposes, for instance, education poster was produced to educate the public about social issues, commonly used by the governments and NGOs to raise awareness of current problem in society. The students had also learned about the types of persuasive appeals [Head] logos, [Crown] ethos, and [Heart) pathos. They seem to be aware of how to apply those persuasion types in their poster. Most students used literal meaning, that is, meaning exactly as stated, without any additional interpretation.

4.1.3 Students' Perceptions on the Implementation of Project-Based Multiliteracies Instruction

This section presents the students' perceptions on the implementation of multiliteracies instruction in ESP learning. The data were obtained from interview conducted at the end of the teaching program. This data collection involved all students participants. In

Table 1. The Form Elements in Students' Posters.

Name	Visual			Language				
	Main visual display	Focus of Attention	Logo	Headline /Slogan	Main Text	Brand Name	Product Name	Call to Action
Kiah	√	√	√	√	√	-	-	-
Ega	-	√	√	√	√	-	-	√
Nafi	√	√	√	√	√	√	-	√
Zairul	√	√	-	√	√	-	-	√
Yadi	√	√	√	√	√	√	-	√
Eggy	√	√	√	√	√	-	√	√
Total	8	9	9	9	9	2	1	5

Table 2. The Engagement Elements in Students' Posters.

Name	Prominence			Address			Power			Intimacy		
	Size & foreground	Sharpness & lighting	Color contrast	Direct gaze	Indirect gaze	No Gaze	High angle	Low Angle	Even angle	Long shot	Medium shot	Close shot
Zak	√	√	√	-	√	-	-	-	√	√		-
Meg	√	√	√	-	-	-	-	-		-	-	-
Naf	√	√	√	-	√	-	-	-	√	-	√	-
Zai	√	√	√	-	√	-	-	-	√	-	√	-
Riy	√	√	√	-	√	-	-	-	√	-	√	-
Peg	√	√	√	√		-	-	-	√	-	√	-

Table 3. The Message Elements in the Students' Posters.

Name	Purpose			Appeal			Representation	
	Educational	Entertainment	Economic	Crown (Authority)	Head (reason)	Heart (emotion)	Literal	Inferential
Kiah	√	-	-	-	√	-	√	-
Ega	√	-	-	-	√	-	√	-
Nafi	√	-	-	√	-	-	√	-
Zairul	√	-	-	-	√	-	√	-
Yadi		-	√	√	√	-	√	-
Eggy	√	-	-	√	-	-	√	-

general, the students perceived positively on the implementation of project-based multiliteracies instruction in their ESP learning. The students' perceptions and suggestions are presented in Table 4.

4.2 Discussion

By analyzing the orchestration from the multimodal elements in the project assigned, this study has shown how multiliteracies pedagogy facilitates students' multimodal literacy learning in an ESP course. The results of the study have indicated that the teaching program provides meaningful experiences for students whilst achieving learning outcomes focused on multimodal literacy. The students performed well in their learning by actively engaged in the class activities and in their assigned project accomplishments. The findings of this study share similar results with some previous studies denoting the positive outcomes of the implementation of multiliteracies pedagogy in developing multimodal literacy and English language learning [15, 30].

Table 4. Students' Perceptions on the Teaching Program

Central Themes	Students' Perceptions
Students' general perceptions on the teaching program	The students perceived the teaching program to be very engaging and motivating. The tasks and the activities were effectively set up to encourage the students to be independent, creative, innovative and confident learners. The students acknowledged that the teaching program had facilitated them to gain lots of new knowledge other than English (i.e. digital skills) which benefited them in their subject specific field of study (i.e. Informatics Engineering) and in their public life and future career. The students thought that the teaching program had helped them enhance their English proficiency level. The students' experiences of writing reflective journals during the teaching program were perceived to be the most challenging task.
Students' Suggestions about Improvement to the Teaching Program	1. The students suggested that ample time should be given to accomplish the tasks assigned. Limited time doing the projects made them feel uneasy. They thought that they did not make their best efforts in the project completion due to time limitation. 2. The students suggested that more discussions and sharing sessions should be conducted during the lesson. More team works than individual works should be applied to cultivate students' creativity and collaborative skills.

The encouraging results of teaching program implementation in this study have been confirmed by a number of reasons: (1) the inclusion explicit teaching or direct instruction; (2) the utilization of multimodal authentic materials; (3) the utilization of authentic tasks; and (4) the integration of technology. First, the enactment of explicit instruction in this study brings many potential benefits to the students' understandings of the concepts and features of texts which help them develop conscious awareness and control over what is being learned during the teaching program. The direct instruction also contributes to the students' skill development in using explicit metalanguage to describe various processes and elements that form meaning. In the case of conducting explicit teaching on the nature of multimodal texts, this study confirms the claim that the direct instruction on the nature of multimodal texts helps the students develop their understanding of semiotics resources [8, 42]. Possessing semiotic knowledge and skills leads to significant improvements on the students' multimodal literacy development

when they perform their ability in synthesizing, analyzing, and making meaning of texts. Accordingly, the students could view and represent their ideas through the production of multimodal texts.

Second, the use of multimodal authentic texts in this study helps students in two ways. First, the authentic texts help students to develop their abilities to orchestrate various semiotic modes to create multimodal texts and to engage critically with these types of texts. Second, authentic resources provide learners with the new language, new textual messages and new ideas represented in language unfamiliar to them. These findings are supported by several previous studies [15, 30, 43]. In English language teaching context, the use of authentic texts has become the heart of the instructional process and a central methodological tenet.

Third, the use of authentic tasks in this study is useful for familiarizing learners with multimodal texts to make meaning, providing them with the opportunity to use the language for authentic communicative purposes, promotes autonomous learning, and allows students to showcase their familiarity with, and the use of, a variety of modes to communicate complex emotions. The authentic tasks in this study is realized by engaging students to accomplish digital multimodal projects which incorporate various media and modes that the students encountered outside of schools to provide them with a more relevant and interesting schooling experiences for the students.

Fourth, the integration of technology in this study provides opportunity for students with authentic experiences to transform a wide variety of semiotic modes into a single multimodal text which involves activities such as produce, re-produce and disseminate this multimodal text. In addition, the use of technology in this study is beneficial to enhance students' learning experience, to engage students with meaningful activities, to empower students to be active and creative, and to boost motivation in their ESP learning.

5 Conclusion

As regards the implementation of project-based multiliteracies instruction in this study, the instructional process was designed to follow the four components suggested by [8] comprising situated practice, overt instruction, critical framing, and transformed practice. Current technology and multimodal resources were pervasively used in the project-based instructional process to develop students' multimodal literacy skill and to cultivate students' communication and creativity skills. In addition, the teaching and learning was structured to allows students to gain rich opportunity to actively investigate diverse texts and become fully engaged in a range of literacies by creating engaging and supportive environments.

The major findings highlight the affordances of implementing project-based multiliteracies instruction in providing students with multimodal literacy learning, particularly the students' skills to view, to construct, to represent, and to communicate effectively using diverse forms of multimodal resources. The practices of viewing were reflected through observing and comprehending a visual text, (e.g., digital poster and video clips) and the practices of representing were observed through using and composing multimodal texts in a digital format. Through the productions of the digital poster, the students

developed a highly visible multimodal literacy skills in that they were able to view and compose multimodal texts delivered via paper and digital technology devices in content-specific language, to learn how to construct multimodal texts, and to communicate effectively using multimodal resources.

In short, the results of the study demonstrate that pedagogic dimensions of multiliteracies empowers students to be multimodally competence in communication in which they are able to comprehend the interactions and combinations of various modes for meaning making and communication.

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