Students' Perspectives toward the Integration of Technology to Improve Multiliteracies in EFL Classroom

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Abstract

The rapid development of information and communication technology in the 21st century undoubtedly has profound impacts on human lives and dramatically transforms education. Accordingly, many of schools attempt to reconceive their pedagogical practices to include technology in their curriculums and lesson plans. In the field of English language teaching, technology integration has long been advocated and has become an integral part of classroom teacher practices. The terms like CALL (*Computer Assisted Language Learning*), TELL (*Technology Enhanced Language Learning*), MALL (*Multimedia Assisted Language Learning*), CMCL (*Computer Mediated Collaborative Learning*) are frequently present and encountered in English language teaching literatures. Studies on the effectiveness and the impacts of technology integration in English Foreign Language (EFL) teaching had also been widely conducted. However, study on students' perspectives toward the integration of technology to enhance multiliteracies in EFL classroom is rarely found. This research aimed at finding out students' perceptions on the integration of technology to improve multiliteracies in EFL teaching. This study employed explanatory sequential mixed method in which the data were obtained through questionnaire, interviews, and classroom observations. The subjects for this study were 96 semester two students of Informatics Engineering Department taking English subject in a state polytechnic in Banjarmasin. The questionnaire data were processed in SPSS 22 and analysed thoroughly. The data from interviews and observations were coded and analysed thematically. The results indicated that the students had a strong belief in the integration of technology in the classroom despite the barriers encountered during the implementation. The results of this study hopefully could provide insights for EFL teachers particularly in designing teaching framework in which technology is integrated in the entire instructional process.

Keywords: English; integrated; multiliteracies; perspectives; technology

Introduction

Technology in the classroom takes on increased importance in the success of 21st century students' literacy as the notion of literacy has taken an expanded definition from merely being able to read and write using a traditional textual format to being able to handle, manage and transform information and knowledge represented by the technological resources. In other words, literacy in the 21st century has become multifaceted and has been integrated with new technologies and multimodality. Integrating technology into the literacy instruction is not about teaching how to operate the computer, but about creating learning experiences in 21st century literacy rich environment. Literacy in this sense includes among others digital literacy, information literacy, critical literacy, visual literacy, social literacy, multimedia/multimodal literacy—the interplay of which is multiliteracies. In the context of classroom instruction, multiliteracies covers the whole range of print and virtual dimensions involving students to engage in the practices of problem-solving, analysis and using print and visual, electronic, face-to-face media in combinations that are occurring in new, civic, media and workplace contexts" (Cope and Kalantzis, 2006) In order to prepare students with literacy skills necessary for the success in the 21st century, technology integration that enhances multiliteracies in the classroom should be an integral part of what and how the students learn and the teachers teach.

In the context of English Foreign Language (EFL) literacy teaching, technology integration has become an integral part of classroom teachers' instructional practices (Chapelle, 2010; Hutchison & Reinking, 2011). The terms like CALL (*Computer Assisted Language Learning*), TELL (*Technology Enhanced Language Learning*), MALL (*Multimedia Assisted Language Learning*), CMCL (*Computer Mediated Collaborative Learning*) are frequently encountered in English language teaching literatures. Studies in English as foreign language (EFL) instruction informed that

technology integration in the EFL classroom practice could likely provide huge opportunities to the construction of an authentic language-rich environment, promote interactive language teaching and learning activities (Golonka, Bowles, Frank, Richardson, & Freynik, 2014; Strickland & O'Brien, 2013), bridge the gap derived from the identities of teachers and non-native speakers (Wang & Coleman, 2009), and promote interactive language teaching and learning activities (Golonka, Bowles, Frank, Richardson, & Freynik, 2014). Furthermore, it could increase students' listening and speaking proficiency (Zou, 2013), help teachers increase students' learner autonomy (Wang & Coleman, 2009), and strengthen student learning engagement, problem-solving, and higher order thinking skills (Tsai, 2013). Despite the positive impacts, some studies have reported that technology integration has not been fully conducted in EFL instruction due to teachers incapability in taking pedagogical advantage of the technology in that they use technology in a shallow and limited way (Hutchison &Reinking, 2011; Tour, 2015). Notwithstanding the increasing research endeavours to acknowledge the potential benefits and constraints of technology integration in the EFL settings, there has been little research that shed light on the perceptions of EFL learners toward technology integration in an attempt to enhance their multiliteracies skills in the EFL teaching.

The plethora of digital devices, as one of the features of 21st century, has led to the need of multiliteracies (Anstey and Bull, 2018). Multiliteracies is a term coined by a group of literacy scholars and language educators called as the New London Group (1996) to expand the traditional language-based approach to literacy, which failed to capture the complexity, multi-layered and multifaceted nature of 21st century digital texts. Mills (2009) addresses the notion of multiliteracies in that (1) "multiliteracies aim to move literacy education forward from an antiquated pedagogy of exclusively formal standard, monomodal" (p. 105) literacy to one that is "inclusive of informal, open-ended, multimodal forms of

communication, which cross national boundaries and support productive diversity" (p.105); (2) "advocates of multiliteracies see reading as a critical, social practice, rather than purely a means of cultural transmission" (p. 105); and (3) "historically valued texts are not representative of the kaleidoscope of texts and literacies that children encounter in the society [21st century]" (p. 106). Mills (2009) proposed a multimodal design that "expresses the complexity and interrelationship of more than one mode of meaning—combining linguistic, visual, auditory, gestural, and spatial modes" (p. 106). Multiliteracies challenge traditional print literacies, shifting authority and authorship over reading and writing norms from a central institution or individual, to broader and more diversified audiences and purposes; this shift encourages collaboration, communication, and collective production in a new medium (Bean & Harper, 2011, p. 64).

Developing multiliteracies skills is considered crucial in this dominated technology world to enable students to cope with change and effectively participate and contribute to all aspects of society: workplace, leisure, social, cultural, and civic environment (Anstey and Bull, 2018). According to Anstey and Bull (2018), in order to develop multiliteracies skills, an individual needs to:

- Be flexible and capable of actively responding to changing literacies and adopt, and sustain mastery over, new strategies.
- Have a repertoire of practices (knowledge, skills, and strategies) that can be designed, redesigned and used appropriately for different purposes and audiences and in a range of different contexts
- Understand and employ traditional and new communication technologies and understand that multimodal texts are delivered via combination of paper, live (face-to-face) and digital technologies.
- Recognize how social and cultural diversity affect literate practices by the application of different knowledge, approached, orientations, attitudes, and values.

- Be critically literate by understanding that every literate practice requires reflective and analytical problem solvers who are strategic and creative thinkers and who are able to evaluate a variety of multimodal texts.

Acknowledging the fact that becoming a multiliterate individual is critical in today's world, it is crucial to conduct preliminary study to investigate the perspectives of students toward the integration of technology to improve their multiliteracies skills. This study will become the basis for further investigation on the implementation of the instructional multiliteracies practices to prepare students to engage and fully participate in their social, public, and working lives.

Research Methodology

This study utilized explanatory sequential mixed methods proposed by Cresswell and Plano Clark (2011). This is a two-phase research design that begins with quantitative data collection and analysis followed by qualitative data collection and analysis that leads to an overall interpretation of the data (Creswell & Plano Clark, 2011). The purpose of this research study's design was to explain the quantitative results in more depth. The first phase was the quantitative data collection in the form survey involving 96 students of Informatics Engineering Study Program in a state polytechnic in Banjarmasin. The survey consisted of twenty-six Likert-type scale items that addressed students' belief regarding the integration of technology in the classroom, perceived technology skill level, and perceived barriers to integrating technology in the classroom. The Likert-type scale labels for beliefs in the integration of technology included (1) strongly disagree, (2) disagree, (3) neither agree or disagree, (4) agree, and (5) strongly agree. The Likert-type scale labels for the level of technology skills included (1) I cannot do this, (2) I can do this with some assistance, (3) I can do this independently, and (4) I can teach others how to do this. The

Likert-type scale labels for barriers to integrating technology in the classroom included (1) is not a barrier, (2) is a minor barrier, and (3) is a major barrier. The questionnaires were constructed in google form (https://www.google.com/form), distributed online and accessible at http://bit.ly/Pre_SurveyStudy. To ensure the participants' complete comprehension of the instrument, Bahasa Indonesia, the participant national language was used. The participants' responses were processed with SPSS version 22 to perform descriptive statistics in which percentages was computed and analysed.

The second phase was interviews and classroom observations. The interviews involved students who voluntarily participated. The interview data were taken from 5-10 minute face-to-face semi-structured interview from the selected of participants. The interviews were recorded using an audio recorded application from the smartphone device, then transcribed into texts. The purpose of conducting interview was to explore, explain, and clarify the response obtained from the survey data. The interview data then were coded and analysed thematically. The classroom observations were conducted following the data collection of survey and interview. The classroom observations were conducted in fourteen meetings. Again the purpose of the classroom observation was to clarify and explain in detail the responses gained from the survey instrument.

Findings and Interpretation

This study investigated the students' perspectives toward integration of technology to enhance multiliteracies in the classroom. Given the fact that technology continuously emerges among learners, teachers need to reconceive teaching and learning to accelerate the 21st century demands requiring learners possess a wide range of abilities and competences i.e. many literacies which are multiple, dynamic, and malleable. As Walsh (2006) posits that teachers are required to "develop classroom learning experiences that are appropriate for both conventional and new forms of

literacy" through the use new technologies that allow students to multitask across a wide variety of platforms to design and produce hybrid texts.

To achieve the objective of this study, the quantitative and qualitative data collection including questionnaire survey, the interviews, and the classroom observations were conducted alternately. The questionnaire survey was distributed to find out three important areas regarding students' beliefs toward the integration of technology in the classroom, students' perspectives of technology skill levels associated with multiliteracies, and students' perspectives of barriers to integrating technology that enhances multiliteracies in the classroom. The data from the interviews and the classroom observations were used to clarify, explore and explain the response from the questionnaire survey. The upcoming section of this paper will elaborate the data findings from the three data collection.

Findings from questionnaire survey

The student participants responded to their respective survey items using google form online survey provided by the researcher and could be accessed through http://bit.ly/Pre_SurveyStudy. The survey data were collected from the responses and analysed using percentages for each of the statements.

Participants' beliefs toward the integration of technology

Table 1: Participants' Beliefs toward the Integration of Technology (N=96)

Survey Item	% Strongly Disagree	% Disagree	% Agree Nor Disagree	% Agree	% Strongly Agree

I support the use of technology in the classroom.	2.1	1.0	3.1	37.5	53.1
A variety of technologies are important for my learning.	3.1	0	3.1	54.2	36.5
Incorporating technology into instruction helps me learn.	3.1	0	4.2	51.0	38.5
Content knowledge should take priority over learning technology skills in the classroom.	2.1	3.1	17.7	50.0	25.0
My motivation to learn increases when technology is integrated into the curriculum.	2.1	3.1	5.2	62.5	24.0
A teacher's knowledge about technology will improve a teacher's teaching.	3.1	1.0	6.3	56.3	30.2
Technology limits the social/face-to-face interactions between me and my teacher.	8.3	50.0	11.5	24.0	5.2
Technology allows for different teaching strategies to help maximize my learning.	2.1	1.0	7.3	66.7	19.8
Technology helps me to solve simple and complex problems, and to predict changes in real-life situations.	3.1	1.0	7.3	60.4	25.0
Technology helps me to improve my skills and creativity during learning process	3.1	0.0	9.4	57.3	27.1

As can be seen from Table 1, the students perceived positively to the integration of technology in the classroom. Of the student participants, vast majority of them stated their agreement to the use of technology in the teaching and learning practices (90,6%). The data also informed that technology played crucial part in the students' learning (90,7%) and

helped them in learning (89,5%). Technology integration in the instructional process was also perceived to be able to boost their motivation in learning (86,5%). In terms of teacher's knowledge about technology, the students believed that the teachers should possess a vast knowledge on technology to improve their quality and capability of teaching. Further, the students did not agree to the statement that the use of technology limited the social interaction between them and the teacher. Instead, they believed that technology in the classroom helped them maximize their learning (86,5%), solve simple and complex problems, predict changes in real-life situation, and improve their skills and creativity during the learning process.

The survey data on the students' beliefs toward the integration of technology indicated a strong support of technology in the classroom. The students acknowledged the importance of technology to enhance the quality of learning in this digital era.

Participants' Perspectives of Technology Skill Levels Associated with Multiliteracies

Table 2: Participants' Perspectives of Technology Skill Levels Associated with Multiliteracies (N=96)

Survey Item How would you describe your proficiency in....	% I cannot do this	% I can do this with some assistance	% I can do this independently	% I can teach others how to do this
Using a word-processing, spreadsheet, or presentation program	1.0	32.3	50.0	13.5
Communicating with others using technology	1.0	15.6	59.4	20.8
Using instant communication tools	1.0	8.3	56.3	31.3
Using social media platform	2.1	12.5	61.5	19.8
Using web-authoring tools	24.0	52.1	15.6	6.3
Using a desktop publishing software to create a	24.0	57.3	12.5	4.2

newsletter, pamphlet, or awards certificates				
Using video authoring software (iMovie, ScreenCast, Vivavideo etc.)	10.4	47.9	30.2	9.4
Using a search engine such as Google, Bing, or Yahoo to search for information on the web	1.0	10.4	55.2	30.2
Evaluating the reliability and credibility of online sources of information	1.0	30.2	52.1	12.5
Understanding the ethical, legal issues surrounding the access to and use of digital information	5.2	29.2	51.0	9.4

The data in Table 2 informs about the participants' skill levels associated with technology to improve multiliteracies. There were ten statements that should be responded by the student participants. Interestingly, the data revealed that most students stated that they had good proficiency in using technology and were familiar with the software applications. The students had good skills in using word-processing, spreadsheet, or presentation program in which 50% of them could operate the application independently and 13.5% could teach others how to operate those applications. In the case of communicating using technology, the data showed that a great number of students could use instant communication tools independently (56.3%) and could use social media platform without any assistance (61.5%). In terms of the skill in using authoring tools, the data indicated that the students required assistance in using the tools in the areas of creating web (52.1%), using desktop publishing (57.3%), and creating video (57.3%). The data concerning with surfing the website using search engines showed that the students had confidence in conducting the activity independently (55.2%). In term of the ability to evaluate the reliability and credibility of online sources of information, the data showed that the students were quite critical in evaluating the online information (52.1%). Regarding the ethical, legal

issues of digital information, they admitted that they had good skill on it (51.0%).

It can be inferred from the survey findings that the students could be regarded as technologically literate. It was indicated by the students' high proficiency in word processing skills, spreadsheets, and presentation program and emerging proficiency in using web-based tools and other authoring software applications. The findings also revealed the level of students' social literacy skills. It can be assumed from the data findings that the students had high proficiency levels in communicating with technology. Skills associated with social literacy included the ability to communicate using technology; using social networking websites, and instant communication tools. In terms of digital literacy, the ability to locate, organize, understand, evaluate, and analyse information using digital technology, as well as, how to find, use, summarize, evaluate, create, and communicate information while using digital technologies, the results indicated that the students had the emerging proficiency in digital literacy skills.

Participants' Perspectives of Barriers to Integrating Technology that Enhances Multiliteracies in the Classroom

Table 3: Participants' Perspectives of Barriers to Integrating Technology that Enhances Multiliteracies in the Classroom (N=96)

Survey Item How would you describe your proficiency in....	% Is not a barrier	% Is a minor barrier	% Is a major barrier
The lack of or limited internet access in my campus	7.3	49.0	42.7
The quality of my technology devices	21.9	54.2	22.9
My level of knowledge about technology	34.4	51.0	12.5
My limited time to design through the computer device	13.5	45.8	39.6

Table 3 indicated the data concerning with the students' perspective on the barriers they encountered when technology was utilized in the classroom. The biggest constraint was the lack of or limited internet access in the their school environment (42.7%). The second biggest barrier was the limited time that the students had to produce digital projects (39.6%). Meanwhile, the quality of the students' technology devices did not affect much on the technology integration (54.2%). The data regarding the students' knowledge about technology was considered as minor barrier for them (34. 4%). It can be concluded that the biggest barrier of technology integration was related to access, subsequently followed by time, knowledge about technology, and digital devices.

Findings from interviews

The semi-structured face-to-face interviews were conducted with selected participants. The questions on the interviews were designed in such a way for the purpose of clarifying and exploring the responses gained from the survey. Three questions were exposed to students (1) what is the role of technology in the classroom? (2) what technological skills must be learned by students? and (3) what suggestions would you make about the integration of technology in the classroom?

Regarding the responses toward the role of technology in the classroom, the results indicated that vast majority of the participants stated that technology was utilized as a tool for accomplishing the tasks given by the teachers. Several others articulated that technology helped them gather information from online resources and provided them more understanding about the topic learned in the classroom. in relation the second question of the technological skills that the students should have, most of the students articulated two crucial points. Firstly, the students should have the skills to operate the technology devices, should be familiar with the software applications, and should be able to use it. Secondly, the students should be able to function the technology devices to

communicate and to socialize with others in order to be able keep up the latest information and to build networking. The students' responses toward this question at some point were in line with those obtained from the questionnaire survey. Concerning with the suggestions on the integration of technology in the classroom, the students posited that technology should be used to assist learning, to enhance their understanding toward the subject matter, to motivate them in learning, and to actively engage them in the teaching and learning process. In addition, the students suggested that the teacher should give them ample time to do the tasks involving the technology usage.

Findings from the classroom observations

The observations were conducted for fourteen meetings during one course of academic year in a class which implemented the integration of technology to enhance multiliteracies. During the learning process, students were engaged in using technology from the very first start. Students were required to join in an online virtual class in Schoology (https://www.schoology.com) and uploaded all the digital products assigned through this platform. Several software applications to produce digital texts were also introduced (e.g., *Sway, Canva, PowToon*). There were three major project assignments for the students to accomplish. The first project was producing digital Mini-Magz. This project was collaborative project in which the students were required to create and design a digital magazine-like of a particular topic of their particular interest. The students should include various modes in the text construction to make it more meaningful, understandable, and interesting. The second and the third projects were the creation of video presentation which was intended to engage them in producing procedure and expository digital texts. These projects were individual ones and assigned as their mid-term test and final test projects.

The results of the observation data showed that the technology integration in the classroom had significant impacts on the students' multiliteracies. In terms of information literacy, the students likely had the ability to find, evaluate, and use off-line and online information appropriately, and had the ability to locate, organize, understand, evaluate, analyse information and communicate information effectively. Evidence from information literacy was indicated in their successfulness in accomplishing the digital projects assigned by the teachers. The students included some references at the end of their projects that cites any sources that were not their personal work. For digital literacy, the data indicated that the students had improvement in their ability to locate, organize, understand, evaluate, and analyse information using digital technology, as well as, how to find, use, summarize, evaluate, create, and communicate information while using digital technology. Evidence of students' social literacy was indicated on the students' successfulness in interacting, interacting and building relationships with other people, and working collaboratively, and the ability to use technology to communicate and uploading their projects through social networking sites such as YouTube. In relation to multimodal literacy, the observation results indicated that the students were likely to have good proficiency regarding multimodality. Evidence of multimodal activity was indicated in the students' projects in which the students included audio, visual, and linguistics modes to communicate. The students integrated video, music, and English language on their project works.

Conclusion and Suggestions

The integration of technology in the classroom is more than using technology or incorporating technology into a lesson plan. Integration of technology include the assimilation of technology into daily culture and

climate of the classroom and school. The purpose of this study was to explore the students' perspectives of the technology integration that enhance multiliteracies in the classroom. The mixed methods design was used for this study to achieve the set research objective. The quantitative data were collected through questionnaire survey and deeply supported and clarified by the qualitative data collection through interviews and classroom observations. The results showed that the students had a strong belief in the integration of technology in the classroom. The students identified several barriers to the integration of technology that enhances multiliteracies in the classroom and many of these barriers were the very same barriers identified in the existing literatures.

The results of this study suggest that schools should consider to integrate technology in the classroom to enhance students' multiliteracies skills including information literacy skill, digital literacy skill, information literacy skill, multimodal literacy skill, to name but a few as these literacy skills are crucially necessary to cope with the 21st century demands. For teachers, this study suggests that they should do professional development to equip themselves with the knowledge, skills, and practice needed in integrating technology in the classroom. Continuous professional development in this area would lead them to attain a level degree of proficiency in that they could integrate technology successfully and effectively.

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