



Aligning Pedagogical Beliefs and Technology Integration in English Language Teaching: A Multiple-Case Study of Islamic Senior High School EFL Teachers

Linda Sari¹, Effendi Limbong², Yuni Utami Asity, Indonesia


Email: lindasarimtsn3@gmail.com; Limbong_efflin@yahoo.com; yuniutamiasih@fkip.unmul.ac.id

Abstract

Understanding how teachers' pedagogical beliefs regarding language teaching and learning have been transferred into technology integration practices in English teaching would assist teachers in optimizing learning outcomes and facilitating teaching-learning. The purpose of this study is to explore how language teachers' pedagogical beliefs, which beliefs about language instruction and learning that have been translated into technology integration in English instructional practice. This study used a case study as the research design, this research also used other instruments, there were interview guidelines, documents checklist, and observation form/field notes. The data analysis of this study consisted of two phases: within-case analysis (phase 1) and cross-case analysis (phase 2). The results of this study showed rule-based practices with technology implemented by teachers. In this study typically entailed using technology to support grammar and practice in the classroom. Also, it showed the purposeful study and assessment or application of grammatical rules within appropriate contexts. Moreover, the integration of Islamic education with science and technology learning is expected to be meaningful and easily understandable. Therefore, the goal of Islamic education in leading students to recognize, understand, contemplate, believe, and have a noble character in implementing the teachings of Islam from the primary source, the holy book of Al-Quran and Al-Hadith, can be accomplished through teaching guidance, practicing, and the use of experience.

Keywords: pedagogical beliefs, technology integration practice, English Instruction

DOI : doi.org/10.24903/bej.v5i2.1356

Received	:	July 2023
Accepted	:	July 2023
Published	:	August 2023
Copyright and License	:	Authors retain copyright and grant the journal right of first publication with the work simultaneously licensed under a Creative Commons Attribution 4.0 International License that allows others to share the work with an acknowledgement of the work's authorship and initial publication in this journal. 



1. INTRODUCTION

The use of technology is not just scientific knowledge applied to the practical aims of human life, but it is a need. Educational technology is concerned with high-speed digital technology, teaching machines, and the growing capacity for cultural communication. As a result, technology is frequently utilized in education. Because education and learning are being transformed digitally, it imposes skill and competency requirements on teachers to enhance their professionalism and focus on developing their digital competencies (Engeness, 2020). Consequently, teachers' competence in using technology must be an essential area for teaching and learning.

In Tuma, (2021) research, some technological applications have been used to significantly raise learner engagement and participation in courses and other group learning classes. Since technology has evolved from a simple tool for learning to an integrated approach and uses in various aspects of English education, the integration and use of technology should be directed by educational needs to optimize learning outcomes and facilitate teaching and learning. Some studies report that technology has been successfully applied to many types of teaching and learning both to optimize learning outcomes and to facilitate teaching-learning (Koh et al., 2016). Teachers use technology regularly and have a high level of proficiency with a wide range of programs and apps.

However, other researchers claim no difference or the reverse. Teachers need to integrate technology to adequately support teaching strategies and curriculum; instead, their use of technology is frequently shallow and limited (Tour, 2015). The teachers have not been able to use technology properly as a learning medium, mainly because they need to gain knowledge on how it can be best used to benefit students. A small number of teachers still lack confidence, are afraid to use technology, and avoid using it (Winter et al., 2021)

One possible explanation for teachers' limited technology use is their beliefs. Teachers' beliefs about technology are the most serious barrier to its practical application and use. Whether teachers hold contradictory beliefs about technology and practice (Lovett & Lee, 2017) or lack confidence and preparation in their capacity to use technology (Nugroho & Mutiaraningrum, 2020) has also been reported in a prior study by (Ertmer et al., 2012), who found that the teachers' beliefs were the most critical factors in how they used technology and became the main barrier to students using technology in the classroom.

Moreover, (Yuan et al., 2022) shed light on the complexity and diversity of English as a medium instruction teachers' beliefs, directly influencing how they engage in English as a medium instruction teaching in their respective fields. If teachers have enough strong beliefs and knowledge, they will successfully integrate technology into teaching and learning (Garcia et al., 2022).

Teachers' pedagogy is also essential when integrating technology in the classroom. The effective use of technology in the classroom generally requires the comprehensive integration of technology and pedagogical strategies during lesson preparation (Janssen et al., 2019). Moreover, there was rarely previous research that examined English Foreign Language (EFL) teachers' pedagogical beliefs and technology integration practices in teaching English in Indonesia; even if there was research that examined EFL teachers' pedagogical beliefs or technology integration practices, only a few were conducted in Islamic schools. Therefore, the researcher has chosen to conduct the research in Islamic senior high schools. Students in Islamic senior high schools receive both general education and Islamic education.

Considering the present situation and previous research, the researcher intended to fill the research gap with the present research. This source of research data was what distinguished this study from previous ones. The researcher observed the classroom activity in order to collect information on how teachers' pedagogical beliefs and technology integration practices were carried out. In addition, the researcher also considered using observation as one of the research instruments. Therefore, the researcher is interested in exploring how language teachers' pedagogical beliefs about language instruction and learning have been translated into technological integration practices in teaching English.

2. METHODOLOGY

In this research, the researcher used a qualitative research approach to explore EFL teachers' pedagogical beliefs, teachers' technology integration practices, and the relation between teachers' beliefs and practices in lesson delivery (Miles et al., 2014). Since this research was an empirical investigation of phenomena and the surroundings were unclear, a qualitative approach with the case study (Fraenkel et al., 2012) method has been used as a research design.

The researcher applied this design to collect information on language teachers' pedagogical beliefs, which included beliefs about language teaching and learning that have been interpreted into technological integration practices.

In collecting the data, in this study used purposive sampling to recruit Islamic Senior High School EFL teachers as the research subjects (Sarstedt et al., 2018). Moreover, The research also used other instruments, there were interview guidelines, documents checklist, and observation form/field note (Fraenkel et al., 2012)

The researcher conducted the interview by asking open-ended questions (Ding et al., 2019). Data analysis of this study consisted of two phases: within-case analysis (phase 1) and cross-case analysis (phase 2) (Onwuegbuzie & Weinbaum, 2016). The within-case analysis (phase 1) was focused on developing an in-depth and comprehensive understanding of the beliefs and technology integration practices of individual cases, whereas the cross-case analysis (phase 2) was focused on identifying the similarities and dissimilarities between the participants. In addition, the trustworthiness of the information, the researcher used one method of promoting credibility through the triangulation technique (Honorene, 2017).

3. FINDINGS

The research findings and discussion consist of two parts. The first is teachers' pedagogical beliefs in within-case analysis. The second is the teacher's pedagogical beliefs in cross-case analysis.

3.1 Teacher's Pedagogical Beliefs of Technology Integration

All participants naming as Ida, Rini, and Yaman believed that technology plays a significant role in teaching and learning. The statements of all participants can be seen below:

“Technology is critical; it's like having a bullet on the battlefield...Technology has become a necessary component, particularly in the twenty-first century; technology is everywhere, students are familiar with it, and we must always be up to date on its use”.(14: Ida)

“Technology is extremely significant to me as a way of obtaining materials”. (13: Rini)

“We are now teaching it in the technological era, which means that our learning in the past and today is noticeably different because the students we teach are already familiar with the technology”. (17: Yamani)

Ida used technology as her weapon in teaching and learning, moreover, her students have been familiar with technology as their daily device. Rini used technology as a means of working with materials. Yamani used technology in his instruction due to the students' technological familiarity.

The participants used technology to support teaching and learning process. They have been aware of its significance. Both teachers and students could increase their knowledge and focused on multiple sources instead of just one.

The teachers' pedagogical beliefs orientations and the summary of belief descriptions from the interview are presented in table 1. In this study, the researcher found that one teacher held mixed belief orientations and the other two one are only one. It consisted of one teacher is skill-rule based, one teacher is rule based, and the last teacher is skill based.

Table 1 Participants' Pedagogical Belief Orientations

No.	Participant	Belief Orientation	Description
1.	Ida	Skill/Rule	Checking pronunciation is one of the main goals in class; With good and clear pronunciation, they can remember new vocabulary and can remember and use it when they do the assignments given.
2.	Rini	Rule	Student understanding is the goal of teaching in the classroom. Grammar teaching is the most effective way to learn English in her teaching context.
3.	Yaman	Skill	It is useful to memorize and practice

some frequently used sentences;
Always remember and repeat new
vocabulary obtained in class.

a. Skill Belief Orientation

In this research, skill is the instructional units where the emphasis is primarily on spoken or written repetition, drill and exercise, phrases and utterances, memorization and also pronunciation of native language utterances. Yaman had skill based belief in teaching activity, skill-based belief orientations emphasized the importance of the repetition of native language patterns and utilize drill practices to generate language production.

“It is useful to memorize and practice some frequently used sentences; Always memorize and repeat new vocabulary obtained in class.” (15: Yamani).

Ida had skill-based belief in teaching activity, skill-based belief orientations Proper pronunciation and oral communication were emphasized as goals for language learners. Ida with skill-based belief orientation pointed up to drill and exercise, phrases and utterances to boost students' English skill. She believed everything started from the good pronunciation and grammar. It was found from her statement below.

“Checking pronunciation is one of the main goals in class, With good and clear pronunciation, they can memorize new vocabulary and can remember and use it when they accomplish their assignments.”(12: Ida)

Both Yaman and Ida conducted reading activities that included extensive oral practice and emphasized pronunciation over content, as well as writing activities in which words or phrases were first drilled orally and then written as patterned practice, are all used to teach vocabulary.

In the interview, the participants described a strong orientation toward Skill beliefs. Those were clearly the same what participants believed and how they taught in front of the class.

b. Rule Belief Orientation

In this research, rule means the instructional unit which operationally defined as those in which the primary focus on students' intellectual understanding of grammatical rules.

Ida mentioned that she made the pairing activity which was expected they could share what they have in mind and also got information from their friends so they had enough knowledge before the teacher explained in the classroom.

“I tend to like the activity in pairs, getting them in groups and sharing what they think. When I teach about explanation Text, they will share vocabulary, patterns and more with their friends. I can say that 80% of the learning objectives are fulfilled” (34: Ida).

Rini with rule based belief orientation, she focused on the topic in the classroom. It is because from her experience, there was a moment when she asked the students to make a group and presented about the topic taught in the class. The next day, that group miss-presented about the topic should be so from that time being, she made sure herself that all student well understood about the material presented by her.

“Student understanding is the goal of teaching in the classroom. Grammar teaching is the most effective way to learn English in her teaching context.” (11: Rini).

c) The Best Way to Learn English

Based on the interview, Rini claimed that grammatical knowledge helped students deal with the language they would experience outside of class.

“Student understanding is the goal of teaching in class, if children understand grammar it will make it easier for students to use it.”(11: Rini)

She taught the grammar separately and in a step-by-step manner. She strengthened students' understanding of the material through the practice of grammatical structures or rules within meaningful contexts.

3.2 Teachers' Technology Integration Practice

There are some applications used in the classroom by the teachers. It supported them to have the best goal in their teaching activity. All teachers made trials and errors to bring the topic with the certain application. It was expected that the application really fit for the students' need. Here are some applications used by the teachers:

Table 2 Teachers' Use of Technology in Their Language Instruction

No.	Participant	Name of application
1.	Ida	Video, Power Point, Google Apps, Kahoot, Educaplay.
2.	Rini	Video, Power Point.
3.	Yaman	Video, padlet, mentimeters, Quizizz, Power Point, Liveworksheet, Worldwall.

Some advantages could be taken by teaching using the application. It could meet the students' need. Ida stated that by having the technology, it could make her students compete one another and eased her to get the mark. There were lots of materials available on the internet such as Kahoot, Quizzezz, Liveworksheet and more. By having them students were able to compete one another.

Technology also gave some beneficial things for the teachers; (1) to have a good mapping to know the student's interests and applicable in the same way, (2) to decide what application(s) that suit the students, (3) to offer the student to be independent learners as well as to support the government Motto, Merdeka Belajar (4) to decide the teacher about the activity in the class, such as warming up, main activity, and closing.

“It plays an important role in teaching activities. I usually give warm up in Bahasa Indonesia to map out the next activity in English. In other words, the use of Indonesian is still important for me as their teacher to discuss topics in class” (30: Ida).

Then, the results found that EFL teachers' technology integration practices explained as follows;

a. Skill Based Practices using Technology

Skill-based practices with technology implemented by teachers in this study typically entailed the use of technology to support the memorizing, the repeating drill of native language patterns and the emphasis of proper pronunciation. Based on the observation it can be seen in figure one, Ida focused on the vocabulary in the Explanation Text. She used Educaplay to support her teaching activity. Educaplay was available on the internet, the teacher did not make the application by herself yet just utilize well what already existed on in the internet. Back to the use of Educaplay, the students needed to find new vocabulary regarding the natural phenomenon. Then, the teacher asked the students to read all those vocabularies.

b. Rule Based Practices in Technology

Rule-based practices with technology implemented by teachers in this study typically entailed using technology to support grammar and practice in the classroom. Also, it focused on the purposeful study and assessment or application of grammatical rules within appropriate contexts.

4. DISCUSSION

In the most effective teaching and learning, pedagogical beliefs substantially influence the effectiveness of teaching and learning. First, related to the teachers' pedagogical beliefs indicated that teachers could have more than one belief. It is in line with Mak's (2011) claimed that a teacher can possess multiple sets of beliefs. Furthermore, in this study, it identifies the primary and secondary pedagogical belief and practice orientations of teachers. The pedagogical beliefs found on this research were rule/skill-based for participant one, rule-based for participant two, and skill-based for participant three.

A similar result was found by (Yuan et al., 2022), that participants developed various types of beliefs about the responsibilities of English and English as a medium of instruction (EMI). Meanwhile, skill-based includes reading activities that included extensive oral practice and emphasized pronunciation over content.

Therefore the name of pedagogical beliefs of her was written as rule-skill-based. As a result, pedagogical beliefs can affect someone's degree of adopting an approach, particular instrument, or resource in classroom instruction (Tlili et al., 2021).

It can be concluded that teachers' pedagogical beliefs revolve entirely around teaching and learning, which may be a result of their individual experiences, beliefs, knowledge, skills, and motivation, which influence their teaching contexts. Those beliefs frequently helped to shape the growth of teachers' instructional strategies as well as their own personal identity.

Regarding the teachers' technology integration practices, all the participants applied media in teaching and learning. None of the participants taught without the media. They used language laboratory, LCD, laptop, handphone as hardware. They also used some application as software. For example, Video, Power Point, Google Apps, Kahoot, Educaplay, padlet, mentimeters, Quizizz, Liveworksheet, Worldwall. It can be said that technology integration practices in teaching and learning as the use of computing devices including such software computers, hardware or the internet for educational purposes in schools.

Evidence indicates that educators who possess constructivist beliefs are active with regard to technology (Lim et al., 2011). All participants also stated that the students after COVID-19 were different, they felt bored if the teachers did not integrate the teaching and learning process with the technology.

The implications of this research are performed theoretically and practically. Theoretically, the results of the study were expected to give a significant contribution to reader and enhance the existing theories or concepts of teachers' pedagogical beliefs and practice using technology.

Practically, for the teachers, the result of this research could take benefits from this research and also could see deeply what they believe before teaching and when they present a specific topic in class. For the further researcher, this can be a reference to conduct research with a more extensive scope.

5. CONCLUSION

Since technology has evolved from a simple tool for learning to an integrated approach and use in various aspects of English education, the integration and use of technology should be directed by educational needs both to optimize learning outcomes and to facilitate teaching and learning. First, it could be concluded that the pedagogical beliefs found on this research were rule/skill-based for participant one, rule-based for participant two, and skill-based for participant three. Furthermore, in participant one (Ida) had more than one belief because she focused on the component in language and how students can share what they have on mind with a correct pronunciation. Meanwhile, skill-based includes reading activities that included extensive oral practice and emphasized pronunciation over content.

Therefore, the name of the pedagogical beliefs of her is written as rule-skill-based. The pedagogical belief of Rini was classified as rule-based because she focused on the language feature in the classroom. Then, participant three, Yamani was good in skill-based because he was good at extensive oral practice and emphasized pronunciation over content. Second, the teachers' pedagogical technology integration practices were skill-based, rule-based and function-based. In skill-based, the participant one focused on the vocabulary in the Explanation Text. Third, EFL teachers' pedagogical belief and technology integration practice align found an overall alignment between pedagogical beliefs and technology. The last, the integration of Islamic education with science and technology learning is expected to be meaningful and easily understandable so that the goal of Islamic education in leading students to recognize, understand, contemplate, believe, and have a noble character in implementing the teachings of Islam from the primary source, the holy book of Al-Quran and Al-Hadith, can be accomplished through teaching guidance, practicing, and the use of experience

6. REFERENCES

- Ding, A. C. E., Ottenbreit-Leftwich, A., Lu, Y. H., & Glazewski, K. (2019). EFL Teachers' Pedagogical Beliefs and Practices With Regard to Using Technology. *Journal of Digital Learning in Teacher Education*, 35(1), 20–39. <https://doi.org/10.1080/21532974.2018.1537816>
- Engeness, I. (2020). Developing teachers' digital identity: towards the pedagogic design principles of digital environments to enhance students' learning in the 21st century. *Https://Doi.Org/10.1080/02619768.2020.1849129*, 44(1), 96–114. <https://doi.org/10.1080/02619768.2020.1849129>
- Ertmer, P. A., Ottenbreit-Leftwich, A. T., Sadik, O., Sendurur, E., & Sendurur, P. (2012). Teacher beliefs and technology integration practices: A critical relationship. *Computers & Education*, 59(2), 423–435. <https://doi.org/10.1016/J.COMPEDU.2012.02.001>
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). Casual-Comparative Research. *How to Design and Evaluate Research in Education*, 365–391. www.mhhe.com/fraenkel8e
- Garcia, A., Kelly, M. R., & Stamatis, K. (2022). When technology goes unnoticed: teacher beliefs and assumptions about technology use in three 9th grade English classrooms. *Pedagogies*, 17(1), 54–75. <https://doi.org/10.1080/1554480X.2020.1781638>
- Honorene, J. (2017). Understanding The Role of Triangulation in Research. *Scholarly Research Journal for Interdisciplinary Studies*, 4(6), 31. <https://doi.org/2278-8808>
- Janssen, N., Knoef, M., & Lazonder, A. W. (2019). Technological and pedagogical support for pre-service teachers' lesson planning. *Technology, Pedagogy and Education*, 28(1), 115–128. <https://doi.org/10.1080/1475939X.2019.1569554>
- Koh, J. H. L., Chai, C. S., & Lim, W. Y. (2016). Teacher Professional Development for TPACK-21CL. *Http://Dx.DoI.Org/10.1177/0735633116656848*, 55(2), 172–196. <https://doi.org/10.1177/0735633116656848>
- Lim, C. P., Chai, C. S., & Churchill, D. (2011). A framework for developing pre-service teachers' competencies in using technologies to enhance teaching and learning. *Educational Media International*, 48(2), 69–83. <https://doi.org/10.1080/09523987.2011.576512>
- Lovett, J. N., & Lee, H. S. (2017). Incorporating Multiple Technologies into Teacher Education: A Case of Developing Preservice Teachers' Understandings in Teaching Statistics with Technology. *Contemporary Issues in Technology and Teacher Education (CITE Journal)*, 17(4).
- Miles, M. B., Huberman, A. M., & Saldana, J. (2014). Cross-case data analysis. In *Qualitative data analysis: An expanded sourcebook* (pp. 100–104).

- Nugroho, A., & Mutiaraningrum, I. (2020). EFL teachers beliefs and practices about digital learning of English. *EduLite: Journal of English Education, Literature and Culture*, 5(2), 304. <https://doi.org/10.30659/E.5.2.304-321>
- Onwuegbuzie, A. J., & Weinbaum, R. K. (2016). Mapping Miles and Huberman's Within-Case and Cross-Case Analysis Methods onto the Literature Review Process. *Journal of Educational Issues*, 2(1). <https://doi.org/10.5296/jei.v2i1.9217>
- Sarstedt, M., Bengart, P., Shaltoni, A. M., & Lehmann, S. (2018). The use of sampling methods in advertising research: a gap between theory and practice. *International Journal of Advertising*, 37(4), 650–663. <https://doi.org/10.1080/02650487.2017.1348329>
- Tlili, A., Oforu, S., & Zhang, J. (2021). Pedagogical beliefs, teaching practices and use of open educational resources in the Republic of Ghana. *Interactive Learning Environments*, 1–13. <https://doi.org/10.1080/10494820.2021.1894453>
- Tour, E. (2015). Digital Mindsets: Teachers' Technology Use in Personal Life and Teaching. *Language Learning & Technology*, 19(3), 124–139.
- Tuma, F. (2021). The use of educational technology for interactive teaching in lectures. *Annals of Medicine and Surgery*, 62, 231–235. <https://doi.org/10.1016/J.AMSU.2021.01.051>
- Winter, E., Costello, A., O'Brien, M., & Hickey, G. (2021). Teachers' use of technology and the impact of Covid-19. *https://Doi.Org/10.1080/03323315.2021.1916559*, 40(2), 235–246. <https://doi.org/10.1080/03323315.2021.1916559>
- Yuan, R., Chen, Y., & Peng, J. (2022). Understanding university teachers' beliefs and practice in using English as a medium of instruction. *Teaching in Higher Education*, 27(2), 233–248. <https://doi.org/10.1080/13562517.2020.1715936>