



Pre-service Teacher's Sense of Efficacy in Asynchronous Teaching through CALL during the COVID-19

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Abstract

CALL is an area that grows massively during COVID-19, and teaching in university moves into an online classroom due to the social and physical distancing which is proposed by the government. Before the COVID-19, adapting CALL at the university level was lower, not all lecturers used and enacted CALL in their classroom. They used CALL only as supplementary material before or after the learning process. Currently, teachers have brought all class activities into online learning. Therefore, the objective of this study is to investigate the self-efficacy of pre-service teachers in asynchronous online classrooms through CALL in their teacher development program. Three themes of teachers' sense of efficacy – instructional strategies, classroom management, and student engagement – were used to investigate pre-service teachers' self-efficacy while using CALL in the online classroom. Teaching during the COVID-19 may seem to change their sense of efficacy about teaching more open and flexible rather than a face-to-face classroom because the student needs to be considered in the first place during the pandemic such as limited access to an online class. Even though many obstacles should be evaluated, teachers never gave up on teaching students during the COVID-19. The implication of this study will be discussed further to be implemented in further studies and pedagogical practices.

Keywords: asynchronous; CALL; Pre-service Teacher; Self-efficacy.

Introduction

During the pandemic COVID-19, Computer Assisted Language Learning (CALL) is growing massively in Indonesia as an approach in the online classroom of English Language Teaching (ELT). Furthermore, research on pre-service teachers' sense of self-efficacy in implementing CALL into the classroom are very popular that CALL and pre-service teacher's sense of efficacy has been observed in many studies (Gundel et al. (2019), Saine & West (2017), Li et al. (2019), Rahimi & Fathi (2021), Kast et al. (2021) and Konig et al. (2020). Due to the social and physical distancing issue, Indonesian schools and universities try to adapt online teaching-learning as distance learning. However, the teacher and students still have a problem while implementing computers into the online classroom.

This study was conducted during the corona-virus outbreak which investigate pre-service teachers' sense of self-efficacy while adapting CALL on online classroom management.

Considering some Indonesian teachers and lecturers that some of them have been categorized as digital immigrants, the pre-service teacher as a future teacher or lecturer should be prepared on teaching with technological knowledge. Therefore, this study investigates the development of pre-service teachers' self-efficacy while managing the online classroom when following the internship program during the COVID-19. Moreover, in the Asian settings, Mesurado, Salanga, and Mateo (2016) found that the students have not had the strongest autonomous learning related to the need for distance learning. Therefore, the pre-service teachers should make a lot of independent decisions to prepare themselves in the online classroom management. Modeling the lecturers when managing the online classroom will improve their efficacy in teaching. They also need to have the experience to consider students' learning styles through various media. Morze and Glazunova (2014) suggested e-learning should provide some platforms such as images, video, PowerPoint slides, webinars recorded, lecturer speech, and podcasts for auditory learning.

The suitable use of CALL as communicative in teaching-learning is whether synchronous or asynchronous. Wong, Tee, and Lim (2015) explained that synchronous learning model has significant benefit to motivate students in the face-to-face online classroom rather than through asynchronous activities. So (2016) defines synchronous as real-time communication that benefits spontaneous, interactivity, and motivation, while in asynchronous, it benefits the students as self-repetition, clarification requests, and comprehension checks. Moreover, Indonesian teacher uses an asynchronous online class to support classroom activities before the pandemic COVID-19. However, the teacher during the pandemic must use online classes completely. These conditions support teachers to completely move into CALL. Yang and Kuo (2020) found that the teacher moves from the teacher's center to the students' center as a focus of CALL that provides students to collaborate to solve their problems in peers. However, they found students still faced computer anxiety because they rarely used CALL. Their anxiety in the use of computers is somehow influenced by their perceived self-efficacy.

Self-efficacy is defined as people's capabilities to accomplish a specific performance (Bandura, 1997). Bandura (1997) suggested that four sources of self-efficacy include enactive mastery, vicarious experience, verbal persuasion, and physiological and emotional states. The self-efficacy belief has an influence between teacher and student outcomes in successful teaching and learning. As a point in teacher's self-efficacy, a teacher with a higher sense of self-efficacy can engage students in the learning activity, on the contrary, a teacher with a lower sense of self-efficacy will suffer from helplessness when facing obstacles and unmotivated students (Kostić-Bobanović, 2020). For effective teaching, the teacher should know how to develop their sense of self-efficacy when managing the online classroom environment.

This study explores Indonesian pre-service teachers as future teachers who do not yet use technology in teaching and need to adapt CALL into the online classroom due to the Pandemic issue. The development of teachers' sense of efficacy influences their teaching-learning in the online classroom. The importance of good classroom management is seen by controlling students' behavioral (Wubbels, 2011). To control the classroom, the teachers should do classroom observations as a practical way to start working more effectively as a pedagogical leader (Arlestig, 2014). Furthermore, The teachers encourage the students without enforcing a rigid framework so that students could feel relaxed (Andujar and Salaberri-Ramiro, 2019). Therefore, this study tries to portray the teacher classroom management before, in, and predict after the COVID-19. Moreover, this study is conducted under the Indonesian context where the demography of adopting technology is still low in rural areas. Therefore, to explore the pre-service teachers' sense of self-efficacy while managing online classrooms through CALL during the pandemic COVID-19, researchers conduct two research questions: (1) What are factors that influence pre-service teachers' sense of self-efficacy of asynchronous online classroom management? (2) How is the pre-service teacher's sense of self-efficacy while implementing CALL in the online classrooms?

Research Methodology

The participants of this study were the pre-service teachers from the Indonesian Private University in Central Java who conducted an online microteaching and internship program during the pandemic COVID-19. The researcher took 11 participants with seven female and four male. In the pandemic issue, they conducted both microteaching and internship programs in junior and senior high school in an online way. Moreover, this was the first time for them to teach English as a foreign language (EFL) students completely in the online classroom.

The researcher used the Teacher's Sense of Efficacy Scale (TSES) questionnaires which were developed by Tschannen-Moran and Hoy (2001). There was an original scale comprised of 24 items using 9 points Likert scale ranging from 1 = nothing to 9 = a great deal. Furthermore, the researcher interviewed the participants for further information, and the data had been taken from an online semi-structured interview with open-ended questions (Kothari, 2004). The questions used Indonesian and English, and the pre-service teachers have the freedom to answer in Indonesian or English. Moreover, the interview took in the online interview by using Whatsapp Video Call. After the data were recorded then noted into a transcript, the researcher translated the data into English.

To attempt and answer the research questions, this study used a case study design. Yin (2018) explained that a case study examines the current phenomenon in-depth and in its reality. The researcher analyzed the data through data condensation, data display, and drawing and verifying conclusions (Miles, Hubberman, & Shaldana, 2014). Data condensation referred to focusing, abstracting, and transforming the data from the form of questionnaires and interviews. This study

occurred the steps of data condensation, as follows: writing summaries, coding, developing themes, generating categories, and writing analytic memos. Data display refers to further action based on the data condensation. Finally, drawing and verifying was occurred after the coding of data (data condensation) and filling the new categories into the tables (data display).

Findings and Discussion,

Findings

In online classroom management, most of the participants used an asynchronous learning model. They also choose to do the teaching-learning online through mobile rather than a computer. However, some of the participants used the asynchronous learning model to help them monitor the students' appearance when following the lesson. However, the participant argues that doing both synchronous and asynchronous learning models are also important. The asynchronous model is used to follow up the material when the students do not yet understand.

(Interviewee number 10) "...Why I choose asynchronous because I often use WAG in my daily class at this moment, I use Schoology only if they have a test or big quiz. By VN on WAG is really nice to use. For the signal is O.K too..."

However, there are a lot of challenges in managing the online classroom, such as having a bad connection, teachers' and students' lack of technological knowledge, and the difficulty of giving motivation to unmotivated students. Moreover, some of the participants consider the student condition and give the synchronous model only for the second option because it would make the students feel difficult when attending the class. Therefore, the participants choose asynchronous classrooms. Sometimes, while using synchronous learning models, the students keep silent and the teacher would dominate the online classroom. Therefore, asynchronous learning models are the best way to solve the problems in the Indonesian context. However, in 21st-century learning, teachers and lecturers should consider pedagogical content knowledge when they teach with technology in the online classroom.

(Interviewee number 08) "...it is really important to know CALL and MALL. Because in this millennial era, teachers must engage more students in technology. It is an alternative way to overcome the distance and some urgent situation, such as this Outbreak."

The learning media used in the online classroom are social media, WAG, YouTube, Google Docs, Grammarly, Zoom, and Skype. Teaching skills to integrate the use of learning media between receptive and productive language skills are important for students. The technology used in the classroom should consider the purpose of the language learning skills. Sometimes, the teacher gives material such as PowerPoint or online resources that the students can read first as pre-activities. Therefore, when the students came to the class, they had background knowledge about the material.

The participants described there are three stages – pre-teaching, in-teaching, and post-teaching – to conduct the teaching-learning process through CALL. In the pre-teaching, the participant has

planned the class by joining seminars and training during the COVID-19 about teaching with technology. However, they still felt that seminars and training were not enough to be practiced because they coincided with online teaching.

(Interviewee number 3) “Recently, there are a lot of seminars and training about using technology in teaching or online learning. Therefore, some teachers have the ability after joining the seminar or training. However, it cannot deny that some teachers are not able to master that ability because of age or lack of facilities.”

Moreover, during the COVID-19, some participants agreed that lack of facilities especially unstable signals in some areas in Indonesia become another challenge. Therefore, the participant decided the platform considered the student condition before using the media such as WhatsApp group, Google Classroom, or other asynchronous classes rather than synchronous. In the post-teaching, the participants had some reflection of their class after online teaching and give both positive and negative washback to the students. Teaching in online classes also provided some problems with students seen as disruptive behavior. Moreover, most of the participants understood that there were students' needs that could not be fulfilled during the online classroom in comparison with face-to-face teaching. Therefore, the institution supports are mentioned by the participant that the school should provide a platform to make the online teaching-learning easier both for students and teachers because not all schools have an online curriculum for the learning management system. Due to disruptive behavior, motivating, explaining learning contracts, explaining materials, explaining submission guidelines, monitoring, giving feedback, providing modules, reminding the deadline, and choosing suitable platforms are mentioned by the teacher based on student needs.

Discussion

The purpose of this study was to explore the pre-service teachers' sense of self-efficacy in teaching through CALL. During the pandemic, working from the home has changed the way of teaching and learning processes. With insufficient preparation, Indonesian educators have to adapt CALL to teach students. However, several challenges have faced the pre-service teachers on adapting CALL into their online classroom. Some students lived in rural areas, and they were difficult to get wide access to technology and to maximize the potential technology. During work from home, the economy also declined and affected students to survive in online learning. Moreover, some of the pre-service teachers and students face difficulty in attending the online classroom smoothly due to signal problems. Furthermore, the pre-service teachers' sense of self-efficacy in online learning through CALL can be seen in different portrays of five themes.

Naturally, the teaching and learning process in synchronous and asynchronous are based on teachers' capabilities in managing the online classroom. However, pre-service teachers' experience with the use of such technology in the online classroom becomes a challenge and also affects pre-

service teachers' sense of self-efficacy. Bandura (1997) mentioned that mastery experience on a particular task is the most influential source of efficacy. Moreover, pre-service teachers with a high sense of self-efficacy on adapting CALL successfully can provide the benefit of CALL in an online classroom management. These findings are in line with Chan (2008) that pre-service teachers who have experience in teaching would develop their teaching efficacy received from their emotional arousal and verbal persuasion, including performance feedback from supervisors, classroom teachers, and peers.

Teachers should consider some technological skills before conducting online classes such as operating and conducting asynchronous communication via multimedia forums, face-to-face interaction in the synchronous classroom, and small group discussions through face-to-face interaction in the synchronous classroom. Pre-service teachers who have not adapted CALL in teaching and learning have low self-efficacy. Moreover, pre-service teachers also need to consider usability from those activities as pedagogical knowledge for instance how teachers isolate students with target language through technology. Therefore, this result is similar to the work of Tschannen-Moran and Woolfolk Hoy (2001) that pre-service teachers with a high sense of self-efficacy experienced in instructional strategies and classroom management.

Collaborative learning can be done by the teacher and students through google meet or zoom. Besides, the pre-service teacher got positive feedback as to their verbal experience from supervisors, classroom teachers, and peers that help them to develop their high sense of self-efficacy viewed as a result of the work of Chan (2008). Moreover, chatrooms and web browsers also help to provide rich input – text, audio, and video – in the target language for students. Furthermore, the previous and current studies also found that the semiotic symbol in the chatroom can be used for representing actions. After the class, students still could access the teaching and learning process from classroom video recorded as synchronous into asynchronous activity.

The pre-service teachers' sense of self-efficacy was developed through efficacy on online classroom management, instructional strategies, and engagement with the students. Their experience in teaching with CALL in the online internship program would rise their sense of self-efficacy. However, their success in facing the challenge makes them more confident to finish all the challenges and develop strong self-efficacy. However, their low self-efficacy makes them avoid the challenges rather than finish them. Therefore, the mastery experience of pre-service teachers on the use of technology would help them for successful teaching. In doing so, the pre-service teachers can become more efficient in planning and applying CALL in the online classroom. The peer teaching with other pre-service would develop their communication skills, it saw in Bandura's (1997) verbal persuasion and modeling experience. Their success in teaching also raises their confidence in planning and implementing CALL as their physiological and emotional states (Bandura, 1997) in the online classroom management. The result highlighted that adapting CALL in the online classroom when

conducting online internships had a positive impact on developing pre-service teachers' sense of self-efficacy in online teaching.

Conclusion and Suggestion

In conclusion, this study showed that the adaptation of CALL positively developed pre-service teachers' sense of self-efficacy, especially during the pandemic issue. The pre-service teachers' self-efficacy might increase because they participated in enactive mastery experience in the classroom management with the use of CALL, the instructional strategies while conducting CALL in the online classroom, and how they engage and motivate students in the online teaching. However, the findings of their challenges would develop their sense of self-efficacy when they got the solution to finish them. This study showed that pre-service teachers using WAG to be facilitated the reliability, accessibility, and flexibility due to students' technical problems and lack of technology skills. By using common mobile technology, the gap between students and online classes could be reduced with short preparation during the COVID-19.

First, this study would answer about what are the factors that influence teachers' efficacy of asynchronous online classroom management. Moreover, the results of this study supported some previous studies about teaching with synchronous and asynchronous models such as Wong, Tee, and Lim (2015) and So (2016). This research establishes some factors including efficacy for classroom management, efficacy for instructional strategies, and efficacy for student engagement. However, this study reported that the preservice teachers choose asynchronous rather than synchronous online classroom models during the COVID-19 because of the accessibility and flexibility for students. On the other hand, synchronous is still needed because teachers and students face a lot of problems rather than asynchronous online classroom models. Moreover, the problems were faced by teachers become a challenge to develop their sense of self-efficacy. The online class provided the pre-service teacher with technological experience that should be developed their sense of self-efficacy in the use of CALL.

Second, this study would answer how the teacher's sense of efficacy while implementing online classrooms in CALL. Pre-service teachers face a strong sense of self-efficacy by attending the CALL webinar during the COVID-19 or already joined seminars and training about teaching with technology in the classroom. However, some pre-service teachers reported having problems with online learning rather than traditional teaching during the COVID-19. It would create low sense of self-efficacy that the pre-service teachers felt lack of technological knowledge. Despite using asynchronous mobile activities, they still faced a lot of problems with an application, data connection, and autonomous learning issues. Wigglesworth (2019) also found the preparation during microteaching would benefit them in English classroom management.

The limitation of this study has seen on the private university in Indonesia that the data still represents the practice of online classrooms in Indonesia which could not be generalized for all contexts of culture and situation. Moreover, the issues with blended teaching-learning through CALL or MALL still could be observed further. The first implication in pre-teaching, teachers have to observe students' needs before conducting the online class, and teachers also need to be supported by the government, institution, parent, and students. The second implication on the in-teaching, asynchronous classroom gives beneficial with a low-speed internet connection, however, synchronous classroom also needs to be conducted to help asynchronous classroom. This study also indicates the culture swift probably appear after the COVID-19 because they have already emerged the notion of flexibility and accessibility replacing communication tools with learning management tools. The third implication post-COVID-19, educators believe the learning process could not be isolated in the face-to-face classroom, but also there are various models that they could try with CALL.

References

- Andujar, A., & Salaberri-Ramiro, M. S. (2019). Exploring chat-based communication in the EFL class: computer and mobile environments. *Computer Assisted Language Learning*, 0(0), 1–28. <https://doi.org/10.1080/09588221.2019.1614632>
- Ärlestig, H., & Törnsten, M. (2014). Classroom observations and supervision – essential dimensions of pedagogical leadership. *International Journal of Educational Management*, 28(7), 856–868. doi: 10.1108/ijem-01-2014-0001
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: W.H. Freeman and Company.
- Chan, D. W. (2008). Emotional intelligence, self-efficacy, and coping among Chinese pro-spective and in-service teachers in Hong Kong. *Educational Psychology*, 28(4), 397–408. doi:10.1080/01443410701668372
- Gundel, E., Piro, J. S., Straub, C., & Smith, K. (2019). Self-Efficacy in Mixed Reality Simulations: Implications for Preservice Teacher Education. *Teacher Educator*, 54(3), 244–269. <https://doi.org/10.1080/08878730.2019.1591560>
- Kast, J., Lindner, K. T., Gutschik, A., & Schwab, S. (2021). Austrian teachers' attitudes and self-efficacy beliefs regarding at-risk students during home learning due to COVID-19. *European Journal of Special Needs Education*, 36(1), 114–126. <https://doi.org/10.1080/08856257.2021.1872849>
- König, J., Jäger-Biela, D. J., & Glutsch, N. (2020). Adapting to online teaching during COVID-19 school closure: teacher education and teacher competence effects among early career teachers in Germany. *European Journal of Teacher Education*, 43(4), 608–622. <https://doi.org/10.1080/02619768.2020.1809650>
- Kostić-Bobanović, M. (2020). Perceived emotional intelligence and self-efficacy among novice and experienced foreign language teachers. *Economic Research-Ekonomska Istraživanja*, 33(1), 1200–1213. <https://doi.org/10.1080/1331677X.2019.1710232>
- Kothari, C. R. (2004). *Research Methodology Methods & Techniques (Second Revised Edition)*. India: New Age International.
- Li, R., Meng, Z., Tian, M., Zhang, Z., Ni, C., & Xiao, W. (2019). Examining EFL learners' individual antecedents on the adoption of automated writing evaluation in China. *Computer Assisted Language Learning*, 32(7), 784–804. <https://doi.org/10.1080/09588221.2018.1540433>
- Mesurado, B., Salanga, M. G. C., & Mateo, N. J. (2016). Basic Psychological Needs and Flourishing in Filipino University Students. *The Psychology of Asian Learners*, 459-469, https://doi.org/10.1007/978-981-287-576-1_28

- Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). London: Sage Publications.
- Morze, N. V. & Glazunova, O. G. (2014). Design of Electronic Courses for IT Students Considering the Dominant Learning Style. *ICTERI*, 261-273.
- Rahimi, M., & Fathi, J. (2021). Exploring the impact of wiki-mediated collaborative writing on EFL students' writing performance, writing self-regulation, and writing self-efficacy: a mixed methods study. *Computer Assisted Language Learning*, 0(0), 1–48. <https://doi.org/10.1080/09588221.2021.1888753>
- Saine, P., West, J. A., Saine, P., & West, J. A. (2017). *Content Area Teacher Candidates' Self-Efficacy Beliefs of Teaching Writing Online*. 2974(March). <https://doi.org/10.1080/21532974.2017.1280433>
- So, S. (2016). Mobile instant messaging support for teaching and learning in higher education. *The Internet and Higher Education*, 31,32–42. doi:10.1016/j.iheduc.2016.06.001
- Tschannen-Moran, M., & Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education*, 17(7), 783–805. [https://doi.org/10.1016/S0742-051X\(01\)00036-1](https://doi.org/10.1016/S0742-051X(01)00036-1)
- Wong, S. Y., Tee, W. J., & Lim, P. V. (2015). Design Model for Integrating Learning Activity Management System (LAMS), Massive Open Online Course (MOOC), and Flipped Classroom in Taylor's Integrated Moodle e-Learning System. *Taylor's 7th Teaching and Learning Conference 2014 Proceedings*, 379–387. <https://doi.org/10.1007/978-981-287-399-6>
- Wrigglesworth, J. (2019). Using smartphones to extend interaction beyond the EFL classroom. *Computer Assisted Language Learning*, 0(0), 1–22. <https://doi.org/10.1080/09588221.2019.1569067>
- Wubbels, T. (2011). An international perspective on classroom management: What should prospective teachers learn? *Teaching Education*, 22(2), 113–131. <https://doi.org/10.1080/10476210.2011.567838>
- Yang, Y. F., & Kuo, N. C. (2020). New teaching strategies from student teachers' pedagogical conceptual change in CALL. *System*, 90, 102218. <https://doi.org/10.1016/j.system.2020.102218>
- Yin, R. K. (2018). *Case study research and applications: Design and methods* (Sixth edition). SAGE.