

Teachers' Experiences in Flipped Classroom in South-East Asian Countries: A Meta-Synthesis

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Abstract: Teachers' Experiences in Flipped Classroom in South-East Asian Countries: A Meta-Synthesis. Objective: This study aimed to meta-synthesize the teachers' experiences utilizing flipped classrooms across South-East Asian countries. **Methods:** Fifteen (15) out of 1,118 studies were included from various accessible academic databases in Publish or Perish software which was scrutinized using a set of inclusion and exclusion criteria. The included studies were organized using the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) 2020 flow diagram, and were analyzed using Braun & Clarke's six-step thematic analysis, which generated five themes and one meta-theme. **Findings:** This meta-synthesis revealed that teachers utilizing flipped classrooms experienced varied experiences from shifting roles, making them more efficient, and improved teacher-student interaction. Teachers also experienced anxieties and faced challenges, yet no studies from the fifteen studies have shown how to address the said challenges. **Conclusion:** Teacher Education Institutions were recommended to provide comprehensive training on appropriate technology and emotional and psychological support for the teachers utilizing flipped classrooms.

Keywords: flipped classroom, teachers' experiences, meta-synthesis, systematic review

Abstrak: Pengalaman-Pengalaman Guru dalam Flipped Classroom di Negara-Negara Asia Tenggara: Suatu Meta-Sintesis. Tujuan: Studi ini bertujuan untuk mensintesis pengalaman guru dalam memanfaatkan flipped classroom di negara-negara Asia Tenggara. **Metode:** Lima belas (15) dari 1.118 penelitian dimasukkan dari berbagai database akademik yang dapat diakses dalam perangkat lunak Publish or Perish yang diteliti menggunakan seperangkat kriteria inklusi dan eksklusi. Studi yang disertakan disusun menggunakan diagram alir Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) 2020, dan dianalisis menggunakan analisis tematik enam langkah Braun & Clarke, yang menghasilkan lima tema dan satu meta-tema. **Temuan:** Meta-sintesis ini mengungkapkan bahwa guru yang menggunakan flipped classroom mengalami berbagai pengalaman mulai dari perubahan peran, menjadikannya lebih efisien, dan interaksi guru-siswa yang lebih baik. Guru juga mengalami kecemasan dan menghadapi tantangan, namun tidak ada dari lima belas studi tersebut yang menunjukkan bagaimana mengatasi tantangan tersebut. **Kesimpulan:** Lembaga Pendidikan Guru direkomendasikan untuk memberikan pelatihan komprehensif tentang teknologi tepat guna dan dukungan emosional dan psikologis bagi para guru yang memanfaatkan flipped classroom.

Kata kunci: flipped classroom, pengalaman guru, meta-sintesis, revidi sistematis.

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■ INTRODUCTION

The flipped classroom is a trending instructional model in which traditional classroom activities become home activities (Akçayır & Akçayır, 2018). Published papers reported that educators have positive experiences with the flipped classroom (Mehring, 2016) and have produced good practices in preparing materials (Cagande & Jugar, 2018). However, several published papers also noted that flipped classroom has limitations (Milman, 2012), such as teachers finding flipped classroom challenging (Caicco, 2016), and teachers are challenged to re-design face-to-face class time in ways that are beneficial to students (Mehring, 2015). Several published researches tackled flipped classrooms only focusing on students' experiences and not on the teacher, and none has conducted a meta-synthesis on the teachers' experiences in the flipped classroom in South-East Asia. Hence, this study aims to meta-synthesize published researches on teachers' experiences in flipped classrooms in South-East Asia.

With the advancement of technology, learning activities now include a variety of techniques. We may discuss the flipped classroom idea and virtual learning utilizing learning management systems as two strategies (Louhab et al., 2020). The flipped classroom technique has been shown in several studies to be superior to traditional instruction (Baris, 2017; Moreta, 2018). A quantitative systematic review or meta-analysis of 118 research revealed that students' subjective impressions of the flipped classroom were favorable (Chen et al., 2017). Students in the flipped classroom performed much better, according to this research. Higher education has seen an increase in the use of the flipped classroom model, and it is expected that more conventional courses will use it to augment outside-of-class work with video lectures (Shi-Chun et al., 2014).

Students may be more actively involved and motivated to learn by using an alternate technique and teaching style, such as the flipped classroom (Bhagat, Chang, & Chang, 2016). This method moved the focus from the instructor to the students (Kong, 2014). These dramatic shifts in their pedagogical practices have sparked original thinking and inspired new perspectives. Teachers' improved sense of work satisfaction is a direct result of the chances afforded by flipped classes; these educators are the ones who have put forth the most effort to transform the way mathematics is taught in today's schools (Cevikbas & Kraiser, 2020). Because teachers leading flipped classrooms can keep a close eye on their student's learning activities, they can more easily see any gaps in their students' knowledge, leading to more opportunities for discussion and collaboration.

The internet and computers needed for the flipped classroom may only be accessible to select pupils in underserved areas. Without their networks or computers, students would have to use those in public locations like libraries or internet cafés (Shi-Chun et al., 2014). Additionally, while the flipped classroom trend has sparked much excitement in the teaching community, not all educators have embraced this novel approach (Wang et al., 2015). According to Chen et al. (2014), many students found adjusting to the flipped classroom challenging due to the new methodology and the fact that they had less time to view the video lesson outside of class. Additionally, flipping the classroom presented challenges for teachers since it required additional time to create engaging materials that would encourage students to view the lecture before class (Zainuddin & Halili, 2016). Enfield (2013) also emphasized that students would find viewing a video lecture outside class boring if the content and design were boring. The flipped paradigm requires instructors to spend more time

planning lessons (Caligaris, Rodriguez, & Laugero, 2016). Teachers who intend to use the flipped classroom approach must understand how to utilize technology in the classroom. The labor required to complete these flipped classroom sessions may be significantly increased by the need to supply supplemental materials (McCarthy, 2016). Teachers not knowledgeable about technological advancements risk failing to provide their students with constructive criticism.

Technologies in education provide countless international potential, thus making teachers look for methods to integrate technology into their classrooms so that their pupils have greater learning chances (Koehler et al., 2004). Despite the difficulties the teacher has experienced, they have also encountered some possibilities (Al-Samarraie et al., 2020). Teachers provided a range of visual inputs, which promotes deeper learning in a condensed amount of time, allowing students to watch the movie more than once, and fostering independence and autonomy in the learners. The flipped classroom presents instructors with the challenge of introducing fresh ways to engage pupils using cutting-edge technology (Strayer, 2012). Students in flipped classes across all courses downloaded and used more learning scaffolds developed by academics at various times, places, and speeds to suit their needs, optimizing their time for independent study. Students were motivated and inspired by the different teaching strategies to look for more advanced learning opportunities via technology that also matched their learning preferences (Dayagbil et al., 2018).

There have been several studies on the efficacy of the flipped classroom technique that have been published in publications. However, only a small number of studies concentrate on the experiences of instructors who use flipped classrooms and only a limited number of studies have examined the teaching experience in flipped

classrooms (Fredriksen, 2020, as cited in Cevikbas & Kaiser, 2020). Additionally, no qualitative systematic reviews nor meta-synthesis have been conducted on teachers' experiences using flipped classrooms in South East Asian nations. Hence, this study aims to meta-synthesize published researches on teachers' experiences in flipped classrooms in South-East Asia. Specifically, this study seeks to answer the following questions: (1) What are the teachers' roles in a flipped classroom? (2) What are the changes in teacher-student interaction? (3) What are the depressing and challenging ideas and experiences experienced by the teachers? (4) What are the teachers' development in flipped classes? (5) What recommendations can be proposed?

■ METHODS

Participants

Meta-synthesis research design is conducted through data mining which gathers published or unpublished researches to make a systematic review (Jifa, 2013). This study synthesizes the experiences of teachers who are the participants in the published studies utilizing flipped classroom in South East Asian Nations.

Research Design

This study used a meta-synthesis research approach to interpretatively synthesize findings from many related studies on teachers' experiences in flipped classrooms (Walsh & Downe, 2005). It involves systematically reviewing and integrating the results of qualitative research (Lachal et al., 2017).

Study Search Procedure

The academic databases Google Scholar, Crossref, Scopus, and Semantic Scholar, were utilized to choose publications that dealt with instructors' experiences with the Flipped

Classroom. These datasets were selected in light of their accessibility via Publish or Perish Software (Harzing, 2007). The period from January 2020 to September 2022 was chosen on purpose. In the Publish or Perish program, the following keywords or descriptors were entered: (a) Flipped Classroom; (b) Teachers' Experiences; (c) Success in Flipped Classroom; and (d) Challenges in Flipped Classroom. The keywords mentioned earlier were used to locate relevant articles. The screened data was organized using a flow diagram utilizing PRISMA.

Inclusion and Exclusion Criteria

Inclusion and exclusion criteria provide the researcher with a foundation to make sound judgments (Meline, 2006). The studies that were chosen for inclusion met the following criteria: (a) papers published between January 2020 and September 2022; (b) they had to be from a South-East Asian country; (c) they had to be written in English, and (d) they had to contain studies about teachers' experiences in the flipped classroom. The predetermined inclusion criteria were used to filter the chosen articles.

Instrument

The researchers are the main instrument in conducting qualitative research (Pecson & Pogoy, 2021). In this meta-synthesis, the experiences of the teachers in utilizing flipped classroom were synthesized which were published in selected research articles. Harzing's Publish or Perish Software was used to select and gather publish articles. Open access academic databases such as Google Scholar, Open Alex, Scopus, Semantic Scholar, and CrossRef were used to search for data. A Critical Appraisal Skills Programme (CASP, 2022) checklist was used as an instrument to appraise the strengths and limitations of the selected published studies to be included for its trustworthiness and relevance.

Data Analysis

Since meta-synthesis is a pure qualitative research design, no statistical technique or analysis was used in this study. However, thematic analysis was used to determine the emerging themes as described by Clarke and Braune (2013). It is a qualitative data analysis technique that entails reviewing a data collection and looking for themes across the data. The six steps of thematic analysis are as follows: (1) familiarizing oneself with the data; (2) creation of initial codes; (3) topic search; (4) theme evaluation; (5) theme representation; and (6) outcome interpretation.

■ RESULTS AND DISCUSSION

The data collected on the teachers' experiences from Harzing's Publish or Perish was organized using the PRISMA flow 2020 diagram, as shown in figure 1. The descriptive data of the included articles are indicated in table 1.

One thousand one hundred eighteen (1,118) initially collected studies from Harzing's Publish or Perish Software were scrutinized to remove studies that did not meet the inclusion criteria. The initial studies collected were from Google Scholar (95), Open Alex (8), Scopus (5), Semanti Scholar (10), and CrossRef (1,000).

From the 1,118 initially collected published research articles, the following studies were deleted due to: 60 studies due to duplication, 513 studies due to ineligibility, 222 studies did not meet the inclusion criteria, 246 studies were published before 2020, 24 studies have no abstract, 2 studies are not English, 28 studies are not accessible, and 8 studies did not qualify the CASP checklist. With these reasons, a total of 1,103 studies were massively reduced from the initially collected articles that yielded to final fifteen (15) studies for the meta-synthesis. The fifteen (15) studies were described as indicated in table 1.

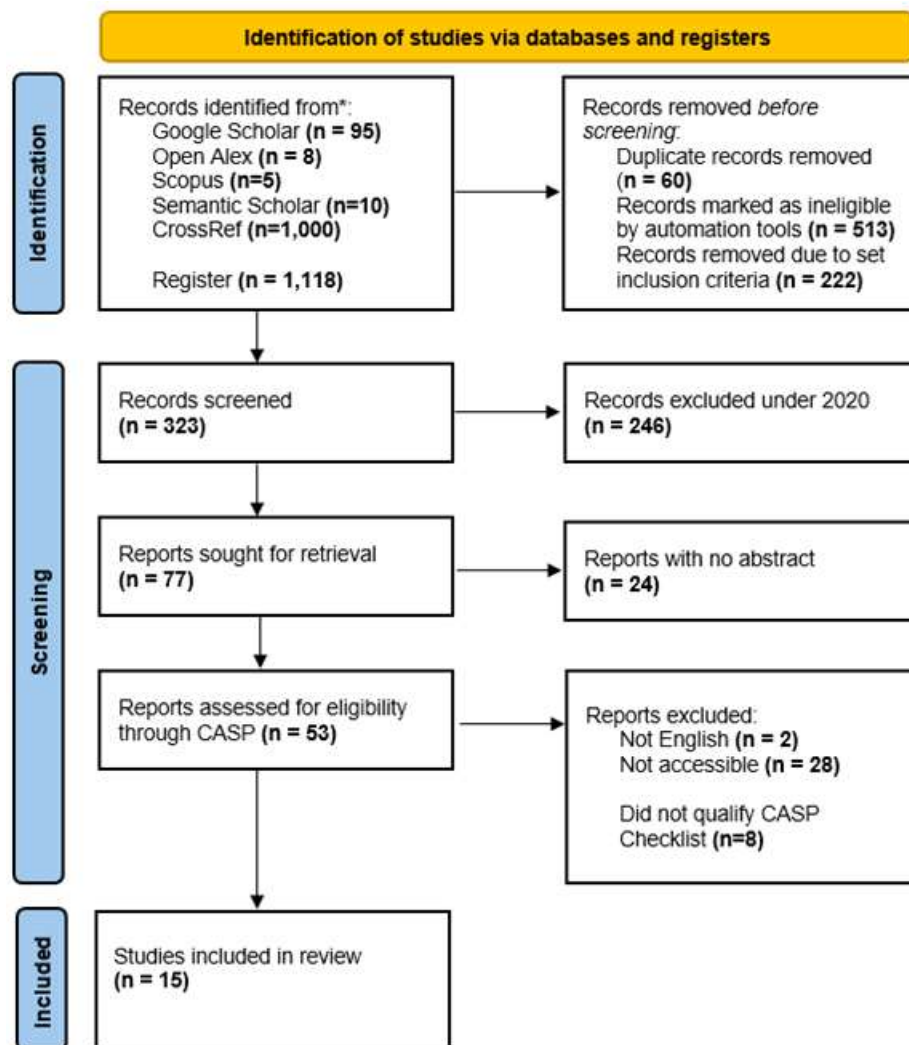


Figure 1. Prisma flow diagram on data selection

Table 1. Descriptive data of the 15 included studies on teachers' experiences on flipped classroom

| No. | Author | Year | Setting | Subject | Teachers' Experiences |
|-----|----------------|------|-------------|-----------|--|
| 1. | EF Asda et al. | 2022 | Indonesia | Chemistry | <ul style="list-style-type: none"> Need to master online learning system |
| 2. | Zhao et al | 2021 | Indonesia | Science | <ul style="list-style-type: none"> Acted as facilitator |
| 3. | EC et al | 2020 | Philippines | English | <ul style="list-style-type: none"> Increase of engagement with students |
| 4. | Tan et al | 2020 | Philippines | Science | <ul style="list-style-type: none"> Skeptic of teachers' capability Additional burden Need to master technology |
| 5. | | | | | <ul style="list-style-type: none"> Poor internet connection Lack of technological devices Spend more time answering |

| | | | | | |
|-----|---------------------------------------|------|-------------|----------------|---|
| | RLB Antonio | 2022 | Philippines | Social Studies | <ul style="list-style-type: none"> queries Monitor student progress and provide more feedback to students Improved engagement between student and teachers |
| 6. | Fulgueras & Bautista | 2020 | Philippines | English | <ul style="list-style-type: none"> Maximizes teachers time Need to carefully plan the materials |
| 7. | Triatmojo & Priyadi | 2021 | Indonesia | Physics | <ul style="list-style-type: none"> Need to pay some materials |
| 8. | Ketsaraporn Suanse, Chokchai Yuenyong | 2021 | Thailand | Math | <ul style="list-style-type: none"> Increased work efficiency Have more time to communicate with students |
| 9. | Kevin Fuchs | 2021 | Thailand | Science | <ul style="list-style-type: none"> Teacher's involvement faded as the sessions progressed |
| 10. | Ngo Hui Kiang, Melor Md Yunus | 2021 | Malaysia | English | <ul style="list-style-type: none"> Increased interaction to students Worried since some students have access to gadgets |
| 11. | S. Ramadhanty, Nina Puspitaloka | 2020 | Indonesia | English | <ul style="list-style-type: none"> Expected to have strong internet connection |
| 12. | Ahmad Ahmad | 2021 | Indonesia | Math | <ul style="list-style-type: none"> Assisted student more |
| 13. | Nabayra | 2020 | Philippines | Math | <ul style="list-style-type: none"> Acted as a facilitator |
| 14. | Rafon & Mistades | 2020 | Philippines | Physics | <ul style="list-style-type: none"> Improvement on the students' interaction |
| 15. | Hung | 2022 | Vietnam | English | <ul style="list-style-type: none"> Teachers facilitate student to become self-directed learners Organized interactive and productive activities |

Fifteen (15) included studies were from South-East Asia (SEA). SEA teachers' experiences from the 15 studies were described as indicated in table 1, including the discipline or subject taught. These experiences were clustered and were analyzed using the six-step thematic analysis, which resulted in five (5) themes, namely: (1) shifted role, (2) improved teacher-student interactions, (3) worries and anxieties, (4) challenge experienced, and (5) teachers' efficiency. Clustering all themes have emerged one meta-theme, teachers' experiences of flipped classrooms. The said themes and meta-theme are described below.

Theme 1. Shifted Role

The flipped classroom changed teachers' roles from lecturers to facilitators (Nabayra, 2020; Hung, 2022; Zhao et al., 2021). Instead of just providing lesson information to students, the instructor takes on the role of a facilitator by encouraging student participation (Yeboah et al., 2020). In a flipped classroom, the facilitator's position is drastically altered. The instructor takes on the role of a resource for the students, showing them how to utilize the tools, improve their information processing, and utilize the fundamental ideas in practical contexts. The flipped classroom allows instructors to step away from the traditional

staged method of instruction and become learning facilitators.

Teachers were facilitators to assist pupils in comprehending and retaining what they had learned (Yusiff, 2022). They do this by directing students through the learning process, facilitating student discussion, and promoting various activities. Teachers must comprehend various ways they might be productive in their classrooms. A teacher may be a facilitator of learning by allowing students to share their thoughts and experiences, demonstrating how to build on the ideas of others, using a range of teaching strategies, and demonstrating successful conduct (Bye, 2017). A teacher must get knowledgeable about the subject matter and be able to communicate it in a manner that pupils can comprehend (Lee & Lai, 2017). Additionally, they must foster an atmosphere where students feel comfortable asking questions and exploring new concepts.

Theme 2. Improved Teacher-Student Interactions

Teachers who employed the flipped classroom method were able to personally address a more considerable number of students throughout the class (Tan et al., 2020), offer them more support (Ahmad, 2021), and allow outstanding contact with those students (Fasli, 2021). Teachers can offer immediate feedback and assistance to students (Liu, 2021), monitor students' development, and provide further input. In addition, teachers could provide more input and students a greater variety of feedback. Both the students and the teacher could acquire new knowledge due to their degree of engagement, displayed equally by both parties (Karmila et al., 2022). As a result, there was an increase in the amount of engagement on the part of the students and the teachers (Antonio, 2022).

A flipped classroom increases students' knowledge of the idea by giving them ample time to talk about their issues (Asad et al., 2022). In order to foster productive classroom interactions with students, teacher educators employed the flipped classroom strategy (Aidoo, 2022). It was able to detect students' problems via teacher-student interactions for potential feedback (Ferrer & Martinez, 2021). Flipped classes engage students and promote more significant learning by maximizing teacher-student contact and scaffolding learning via ongoing instructor feedback and encouragement (Wei, 2021).

Theme 3. Worries and Anxieties

Teachers were worried about how all students will be able to have the required hands-on experience with the tool that would be used in the flipped classroom (Kiang & Yunus, 2021), and they were especially concerned about children who do not have access to computers at home. The teachers were concerned about the irregularity of the internet connection (Ramadhanty & Puspitaloka, 2020), the exorbitantly expensive cost of the necessary equipment (Magaña et al., 2022), and the significant time investment needed to painstakingly prepare the lectures (Fulgueras & Bautista, 2020). They were working under the assumption that they lacked the qualifications required to teach in flipped classrooms and that to meet this need (Jdaitawi, 2021), they needed to become experts in the technologies related to the subject matter they were teaching. Teachers also noted that they doubted their talents and capabilities in handling flipped classes (Tan et al., 2020). The teachers also reported that they experienced anxiety in the flipped classroom.

Due to the fast advancement of quality-oriented education, such as flipped classrooms, the primary function of instructors in educational

activities has changed considerably (Shi, 2017). Because all learning aspects must be carefully integrated, recording lectures necessitates a significant amount of work on the instructor's part (Fulgueras & Bautista, 2020). Teachers use their funds to purchase items such as laptop computers, mobile phones, printers, and similar gadgets, as well as internet access, which are required to enhance teaching and learning (NRCP, 2021). Their wages remain stagnant, and many seek a second job to help them make ends meet (Walker, 2018).

Theme 4. Challenges Experienced

Tan (2020) noted that teachers took on extra responsibility and addressed students' inquiries more (Antonio, 2022). They tend to struggle to set up flipped classrooms due to a lack of resources and time, which adds to teachers' work (Fasli, 2021). The teachers were unsatisfied with several concerns, including the lack of adequate understanding of computer technology and needing more time to experiment with new technologies (Yadav, 2021). Teachers also express their sentiments on their slow internet connection, including their students' internet connection which hampered the flipped classes. Teachers often struggle to locate proper technical tools to utilize in flipped classrooms, making learning more difficult for students and leading to teacher fatigue (Bernauer, 2020).

Appropriate access to technical help, infrastructure availability such as software, and time is given to adopting new technologies are critical problems for instructors (Hyndman, 2018). Furthermore, not all kids or instructors have a computer at home, enough data, or an internet connection. There is a digital gap in computer literacy among Indigenous, lower socioeconomic, or regional/rural pupils. This presents difficulties for instructors if they assign various activities to different pupils or avoid assigning homework with a digital component (Sullivan, 2013). There is a

need for training and development for teachers to manage the many challenges they face online.

Theme 5. Teachers' Efficiency

Because of students' increased participation, teachers could have a better overall experience teaching in flipped classrooms (Wang, 2020; Zhao, 2021). This improvement was possible because of the students' increased ownership of the learning process. Teachers improved their work efficiency and overall experience level as they took on the role of learning facilitators in their classrooms (Suanse & Yuenyong, 2021; Chen, 2021; Nabayra, 2020). The teachers could make the most productive use of their time by assisting the students in their academic endeavors, which allowed them to maximize the effectiveness of the time they had available (Fulgueras & Bautista, 2020). In addition, the instructors claimed that the amount of stress in their lives had decreased due to participating in the program (Hajebi, 2020).

Access to quality learning materials outside the classroom may be more straightforward for students employing digital learning platforms, increasing the possibility that individual study time will be fruitful (Cae, 2022). Even while teachers often have a variety of materials to go along with their lectures, flipped learning dramatically improves the efficiency, usefulness, and accessibility of that process. Teachers may use recorded short films to connect things and give out books, games, and movies. By creating key lecture content once and using it across multiple class segments for succeeding years, teachers can save time. They can also continuously improve certain lecture content by reviewing analytics, video comments, and in-class discussions. Teachers can also invest time in learning and distributing new, more detailed content for upcoming lessons or classroom discussions (Panopto, 2022).

Meta-Theme. Teachers' Experiences on Flipped Classroom

The concept of the "flipped classroom" is being adopted by an increasing number of schools throughout the globe (Lo & Hew, 2017). Overall, the flipped classroom method is well-received by students and is actively pursued by them. Increases in students' communication abilities, a rise in the number of self-directed students, and a shift in student's study habits are just a few of the indirect educational benefits that have been documented. The flipped classroom model also frees up class time for teacher- and student-centered activities like collaborative projects and one-on-one feedback. The significant effort of instructors in generating flipped learning materials and the lack of interest among students in an outside study session are the two primary downsides of utilizing the flipped classroom strategy (Acedo, 2022). Teachers' ability to inspire their pupils to use what they have learned at home is crucial to the success of flipped classrooms.

■ CONCLUSIONS

Teachers implementing flipped classrooms have multifaceted roles in their teaching experiences using the said instructional approach. The various benefits of a flipped-classroom approach extend not only to students but also to teachers. These allowed them to use their expertise and skills better by spending less time lecturing and more time helping to develop students' understanding. However, teachers also faced various challenges and felt anxious in delivering lessons in flipped classroom. Several teachers were developed to be more efficient that help them maximize their effectiveness in class. It is recommended that teacher education institutions provide teachers with comprehensive training on using appropriate technology for the flipped classroom and providing emotional and psychological support for the teachers.

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