

The use of Information and Communication Technology (ICT) at Teacher Professional Education Program (TPEP) for English teachers in Indonesia

Pre-Submission SEMINAR

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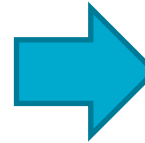
Outline of the presentation

1. Research context
2. Research questions
3. Research methodology
4. Findings
5. Discussions

1. Research context



- ❑ TPEP: A higher educational program for pre-service and in-service teachers to improve their professional skills. (Anwar et al., 2012; Law number 12 of 2012 concerning higher education)
- ❑ Challenges of using ICT
 - Developing countries
Limited use of ICT in teaching, lack of confidence & inadequate ICT infrastructure, & lack of planning ICT integration in teaching (Van Petegem, 2011; Mndzebele, 2013; Ngeze, 2017; Gill et.al 2015; Tondeur et., 2013)
 - Indonesia
Insufficient ICT training, lack of knowledge, not enough time & limited ICT facilities, and inability to design instructional materials using ICT (Muslim, Yusuf, & Juliana, 2018; Suryana, 2013; Mahdum, Hadriana, & Safriyanti, 2019).



However, there has been little discussion about the use of ICT for pre-service English teachers at TPEP in Indonesia

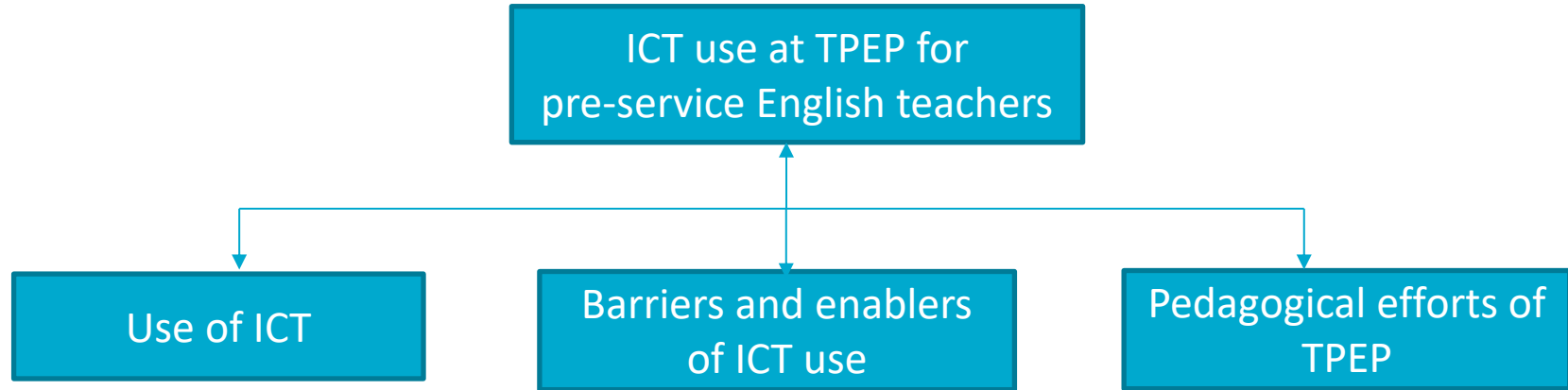


Conceptual framework

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3. Research Questions

1. What are pre-service English teachers' experiences on the use of ICT in teaching practice at TPEP in Indonesia?
2. How do demographic factors affect the use of ICT for pre-service English teachers in teaching practice at TPEP in Indonesia?
3. What are the key factors that underlie ICT barriers and ICT enablers experienced by pre-service English teachers in teaching practice at TPEP in Indonesia, and how are these factors interrelated?
4. How do demographic factors influence ICT barriers and ICT enablers experience by pre-service English teachers at TPEP in Indonesia?
5. Is there any relationship between ICT barriers & ICT enablers and the use of ICT by pre-service English teachers in teaching practice at TPEP in Indonesia?
6. What are the efforts of TPEP in improving the ability to use ICT for pre-service English teachers in teaching practice at TPEP in Indonesia?

3. Research Methodology



- ❑ Research design: mixed method
- ❑ Data collection: survey, semi-structured interviews
- ❑ Mode: online survey (Qualtrics), online semi-structured interviews
- ❑ Participants:
 - Survey: Pre-service English teachers (N=300), Lecturers (N=29)
 - Interviews: Pre-service English teachers (N=24) were taken from a subset of the survey respondents.
- ❑ Data analysis:
 - Descriptive and inferential statistics
 - Thematic analysis (Braun & Clark, 2022, 2006)



Participants

Survey: Pre-service English teachers

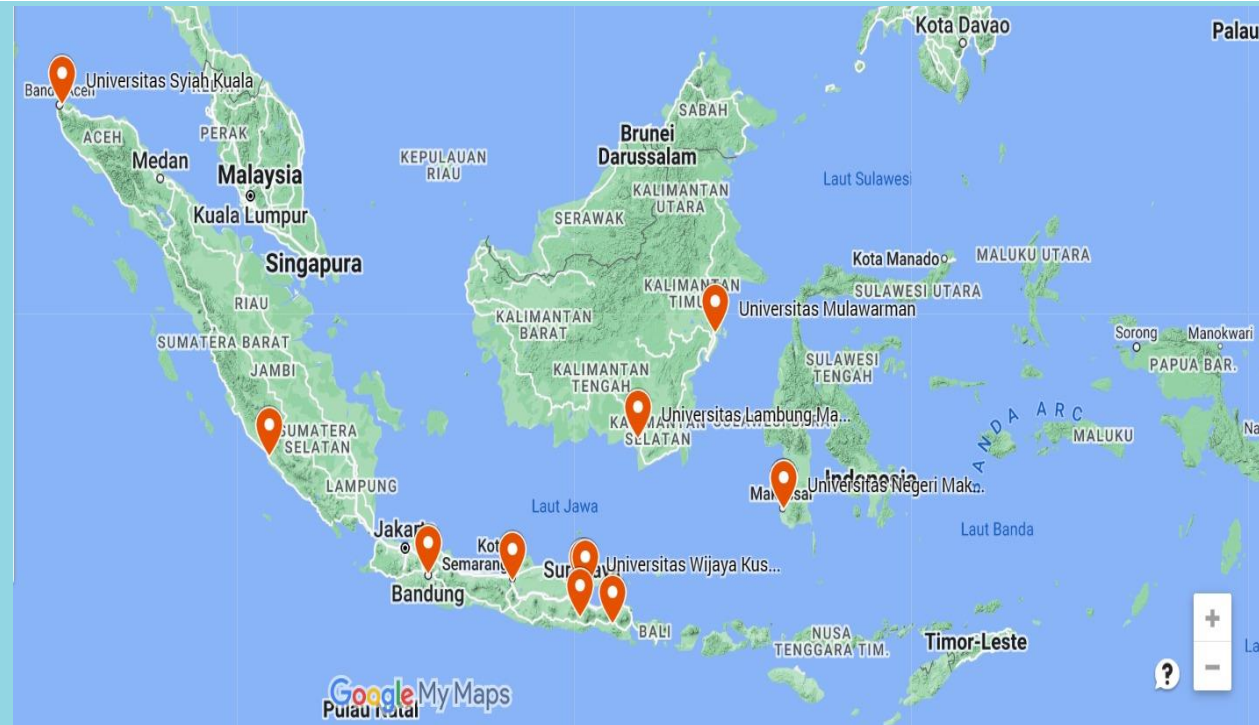
		N=	%
		300	
Gender	Male	67	22%
	Female	233	78%
Region	Rural	70	23%
	Urban	230	77%

Interview: Pre-service English teachers

		N = 24	%
Gender	Male	4	17%
	Female	20	83%
Region	Rural	7	29%
	Urban	17	71%

Survey: Lecturers

		N = 29	%
Gender	Male	9	31%
	Female	20	69%





4. Findings

RQ1: Pre-service English teachers on the ICT use (Survey)

1. Access to devices & services	The majority of teachers access devices computers/laptops & smartphones 99% and internet 100%, and access services virtual learning 88%, office software 87%, and video editing 85%.
2. Skills for using computer & internet	Teachers perform well in skills of using computers and the internet in teaching practice with an overall mean score of 3.82.
3. Motivation to access ICT	Teachers have high individual internal drive and desire to use ICT (intrinsic) of 4.45 and high external factors (extrinsic) of 4.17 motivations to access ICT in teaching activities.
4. Skills to access ICT	Teachers utilise operational of 4.46, informational of 4.16, and strategic skills of 4.12 to access ICT with a high level of proficiency in teaching practice.
5. Usage	Teachers use ICT well in general of 4.30 and instructional of 4.08 activities in teaching activities in the classroom.
6. Digital literacy	The majority of teachers use digital literacy in a high category of 3.86 in teaching practice at TPEP.

4. Findings

Pre-service English teachers on the ICT use (Semi-structured Interview)

As creating media

I use technology to create learning media ... sometimes I use [Canva](#) or [PowerPoint](#) to explain the material by connecting to the internet. Then, I used technology to create [a short video](#), like an explanation video. (Rani/I-06)

As a learning material resource

I usually used [YouTube](#) as an initial learning simulation because the students tended to have visual and audiovisual learning styles. I used [YouTube](#) as a simulation to build prior knowledge before starting the learning activities. (Gita/I-026)

As an interactive E-learning tool

...I showed them [a video](#). Then, I asked them to identify the content of the [YouTube video](#), and we discussed the content of the video together. With the video, they will find it easier to understand what will be discussed later. (Salam/I-024)

As an assessment tool

...I usually use [Quizizz](#) to conduct [assessments](#) for my students. So, ... because in my experience and discussion with my supervising teacher, if the students use manual assessments, they get a bit bored. So, I try to give them something new, like Quizizz, for the assessment. (Urla/I-030)

4. Findings

RQ 2: The effect of demographic factors on the use of ICT (Survey)

1. Gender

1. Females (mean=3.85) and males (mean=3.73) had significant differences in skills in using computers and internet applications ($p = 0.046$), operational skills ($p=0.017$), strategic skills ($p=0.046$), and general use of ICT ($p=0.012$).

2. Age

2. Older (mean=4.53) and younger (mean=4.40) teachers had significant differences in accessing blogs ($p=0.007$), operational skills ($p=0.0$), and finding information ($p=0.027$).

3. Region

3. Urban (mean=4.19) and rural (mean=4.05) teachers had no significant difference in the use of ICT ($p= 0.055$, $p>0.05$).

4. Education

4. Teachers with Master's degrees (mean=4.77) and Bachelor's degrees (mean=4.45) had significant differences in accessing virtual learning software ($p=0.008$), operational skills ($p=0.007$), general use of ICT ($p=0.021$), understanding digital practices ($p=0.024$), and finding information ($p=0.009$).

5. Teaching experience

5. Experienced (mean=4.22) and less experienced (mean=4.11) teachers had significant differences in informational skills ($p=0.043$).

4. Findings



RQ 3: The key factors that underlie ICT barriers and ICT enablers (survey)

Barriers

ICT integration
challenges in
teaching English

Resource and
support deficiencies
in ICT integration

Enablers

ICT efficacy in
teaching English

ICT integration in
teaching English

4. Findings

Factors influencing ICT barriers and enablers encountered during teaching practice. (Semi-structured Interview)



ICT BARRIERS: LACK OF INFRASTRUCTURE

Lack of internet access

- The Wi-Fi is available in the office room, but the connection is not good in the classrooms if the location of the classes is away from the office. (Desy/I-044)

Lack of hardware

- The facilities in schools are limited, such as only having 2 LCDs. Then, when the video is turned on, it does not have a speaker. (Desy/I-42)

Lack of electricity

- Besides, there is no electricity in some classrooms. The electricity does not reach those classrooms. (Rara/I-030)

ICT Barriers: Restrictions and policies

DISTINCTIVE BY DESIGN

- They cannot bring laptops and handphones. (Rara/I-036)

4. Findings

ICT Enablers in Teaching Practice. (Semi-structured Interview)



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Improvising
personal technology

- Then, I prepared **my own speaker** because the speaker is more prominent to bring to the classroom. So, I used a small speaker. (Marsa/I-024)

Resource sharing

- I **shared the link** with the students so they could access it on their phones. (Mimi/I-034)

Administrative
support and
approval

- If a teacher uses a handphone and internet in learning, the teacher **asks permission from the vice principal and the coordinator teacher** of the classroom. (Desy/I-046)

Instructional
support

- ...when I use the Quizizz technology application, I **need to explain how** the students should **create their accounts** and how **to access them**. But so far, its usage has not been very widespread among all the students. (Nara/I-028)

4. Findings



RQ 4: The influence of demographic factors toward barriers and enablers of ICT (survey)

- ☐ Age: Younger (mean=2.30) and older (mean=2.19) teachers had no significant difference in barriers and enablers of ICT ($p>0.5$)
- ☐ Gender: Male (mean=2.84) and female (mean=2.75) had no significant difference in barriers and enablers of ICT ($p>0.5$)
- ☐ Region: Rural (mean=2.96) and urban (mean=2.72) teachers had significantly different ICT barriers to resource and support deficiencies in ICT integration ($p=0.019$).
- ☐ Education: Teachers with Master's degrees (mean=4.43) and teachers with Bachelor's degrees (mean=4.18) had significantly different ICT enablers to ICT efficacy in teaching English ($p=0.029$) and ICT enablers to ICT integration in teaching English ($p=0.007$)
- ☐ Teaching experience: Experienced (mean=4.01) and less experienced (mean=4.06) teachers had no significant difference in barriers and enablers of ICT ($p>0.5$)

4. Findings



RQ 5: The relationship between ICT barriers and ICT enablers and the use of ICT (survey)

- ❖ There was a significant large **positive linear relationship** between the **ICT enablers of ICT efficacy in teaching English** toward **the strategic skill to access ICT** and **instructional use of ICT**, $r = .510$ and $r = .594$, $p < .01$
- ❖ There was a significant large **positive linear relationship** between the **ICT enabler of ICT integration in teaching English** toward **the strategic skill to access ICT**, $r = .507$, $p < .01$.
- ❖ There was a significant moderate **negative linear relationship** between **ICT barriers of ICT integration challenges in teaching English** toward **the six variables of the ICT** used, ranging from $-.300$ to $-.388$ (r -value), $p < .01$.
- ❖ There was a significant moderate **negative linear relationship** between **ICT barriers of resource and support deficiencies in ICT integration** toward **creating information on the ICT** used ($r = -.350$, $p < .01$).

4. Findings



RQ6: The efforts of TPEP in improving the ability to use ICT for pre-service English teachers **(Open-ended questions)**

No	Efforts of TPEP	Responses
1.	ICT facilities and Internet access	The university computer lab ; the faculty of teacher training computer lab ... Then, classes are provided with LCD projectors or smart TVs (HP/02); Wi-Fi Connection , LCD , and computers (MF/02).
2.	ICT Training	Yes, I did. I attended several ICT training courses in and out of the campus. Some of them are online and some others are offline training (MF/016).
3.	Funding for technology	The government provides some budgets ...Yes, they do. Provides a lot of programs for some schoolteachers (S/020).

5. Discussion: The Use of ICT

- ❑ This study reported that pre-service English teachers **accessed devices and services**, had **high motivations** to access ICT, utilised **high operational, informational, and strategic skills**, used **ICT for general** and **instructional** activities, and used **digital literacy** in teaching in the TPEP.
- ❑ The qualitative results showed that these teachers used technology **to create media, a learning material resource, an interactive E-learning tool, and an assessment tool** in teaching in the TPEP.
- ❑ This study also found that pre-service English teachers **differ in** the use of ICT according to **gender, age, education, and teaching experience**. For example, experienced teachers are more likely to use informational skills to access technology in their teaching activities.

5. Discussion: Barriers and enablers of ICT use

- Two key findings for ICT barriers in this study were ICT integration challenges in teaching English and resource & support deficiencies in ICT integration. Additionally, the qualitative results found that pre-service English teachers faced challenges with ICT infrastructure (internet access, hardware, electricity) and restrictions and policies.
- There were also two key results for ICT enablers: ICT efficacy and ICT integration in teaching English. Meanwhile, the qualitative findings showed four ICT enablers: improvising personal technology, resource sharing, administrative support and approval, and instructional support
- This study also reported that pre-service English teachers differ on the barrier of using ICT in terms of the region, and these teachers also differ on the enablers of using ICT viewed education. For example, rural teachers are more likely to have barriers to using ICT, especially in resource & support deficiencies in ICT integration.
- However, The qualitative findings showed that both rural and urban areas faced challenges in resource & support deficiencies in ICT integration.

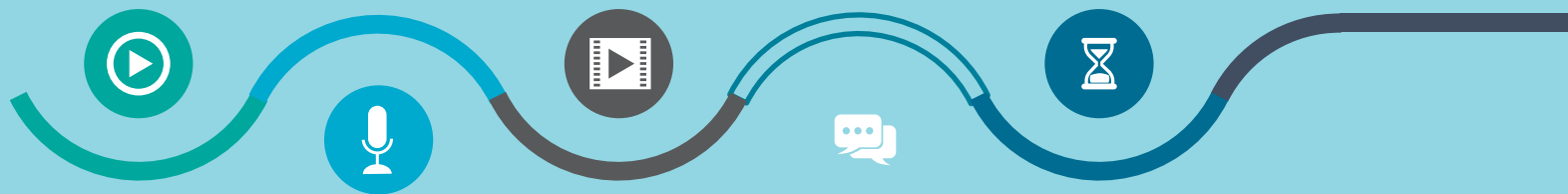
5. Discussion: The efforts of TPEP

- ❑ This study reported that **efforts have been made by TPEP** to improve the use of ICT by lecturers and pre-service English teachers.
- ❑ The provided efforts were **ICT facilities and internet access, ICT training, and funding for technology.**
- ❑ The **provided ICT facilities were** LCD, computer, Learning Management System, and improved internet access. **The ICT trainings were** held to introduce applications and platforms of English learning materials and create teaching media. **Funding for technology was used** to provide devices, internet access, and ICT training for educators.

- This study contributes to understanding the use of ICT in rural and urban areas in teaching English in Indonesia by considering the ICT barriers and ICT enablers
- Understanding the barriers and enablers of ICT in teaching English is a consideration for achieving a successful implementation of integrating technology in teaching and learning activities.
- Efforts that actively invest in ICT facilities, ICT training, and funding for technology improve the integration of technology in teaching and learning activities



THANK YOU





THANK YOU!