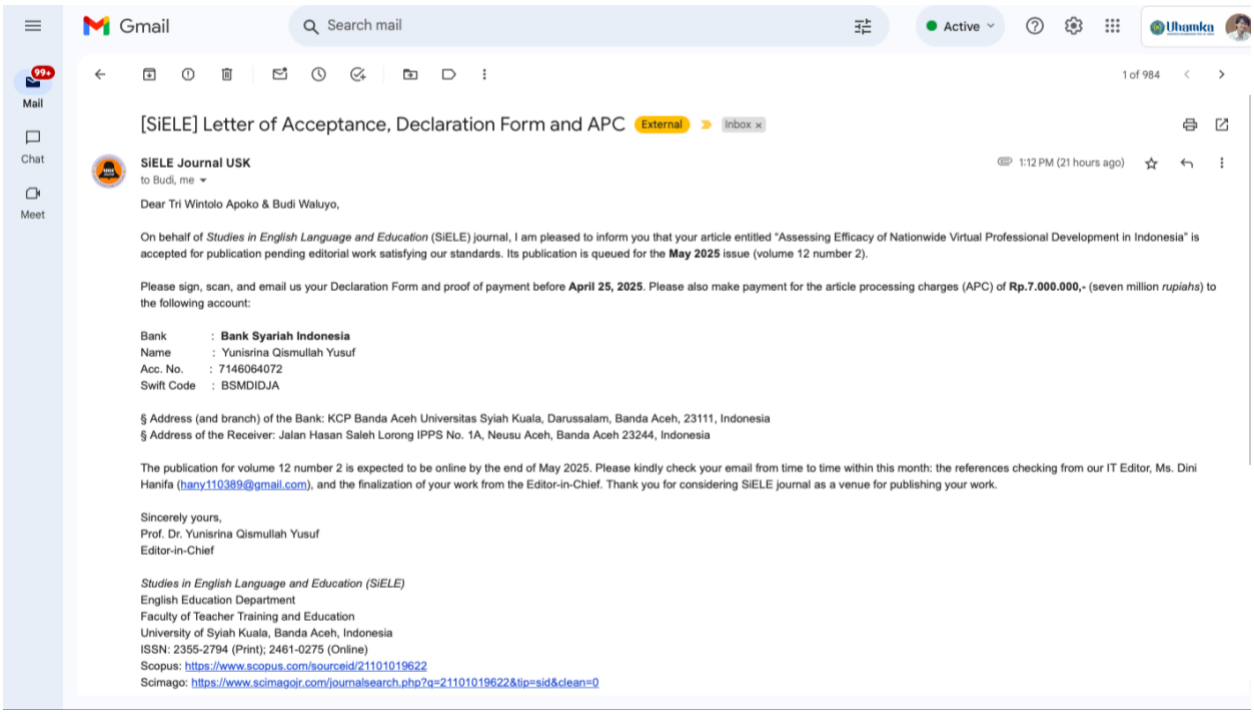

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On behalf of *Studies in English Language and Education* (SiELE) journal, I am pleased to inform you that your article entitled "Assessing Efficacy of Nationwide Virtual Professional Development in Indonesia" is accepted for publication pending editorial work satisfying our standards. Its publication is queued for the **May 2025** issue (volume 12 number 2).

Please sign, scan, and email us your Declaration Form and proof of payment before **April 25, 2025**. Please also make payment for the article processing charges (APC) of **Rp.7.000.000,-** (seven million *rupiahs*) to the following account:

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Penulis : Tri Wintolo Apoko, Budi Waluyo

No	Perihal	Tanggal
1	Bukti konfirmasi submit artikel dan artikel yang disbumit	15 April 2024
2	Bukti konfirmasi review dan hasil review pertama	8 Juli 2024
3	Bukti konfirmasi submit revisi pertama, respon kepada reviewer, dan artikel yang diresubmit	23 Juli 2024
4	Bukti konfirmasi review dan hasil review kedua	7 Maret 2025
5	Bukti konfirmasi submit revisi kedua, respon kepada reviewer, dan artikel yang diresubmit	23 Maret 2025
6	Bukti konfirmasi review dan hasil review ketiga	1 April 2025
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8	Bukti konfirmasi artikel accepted	19 April 2025
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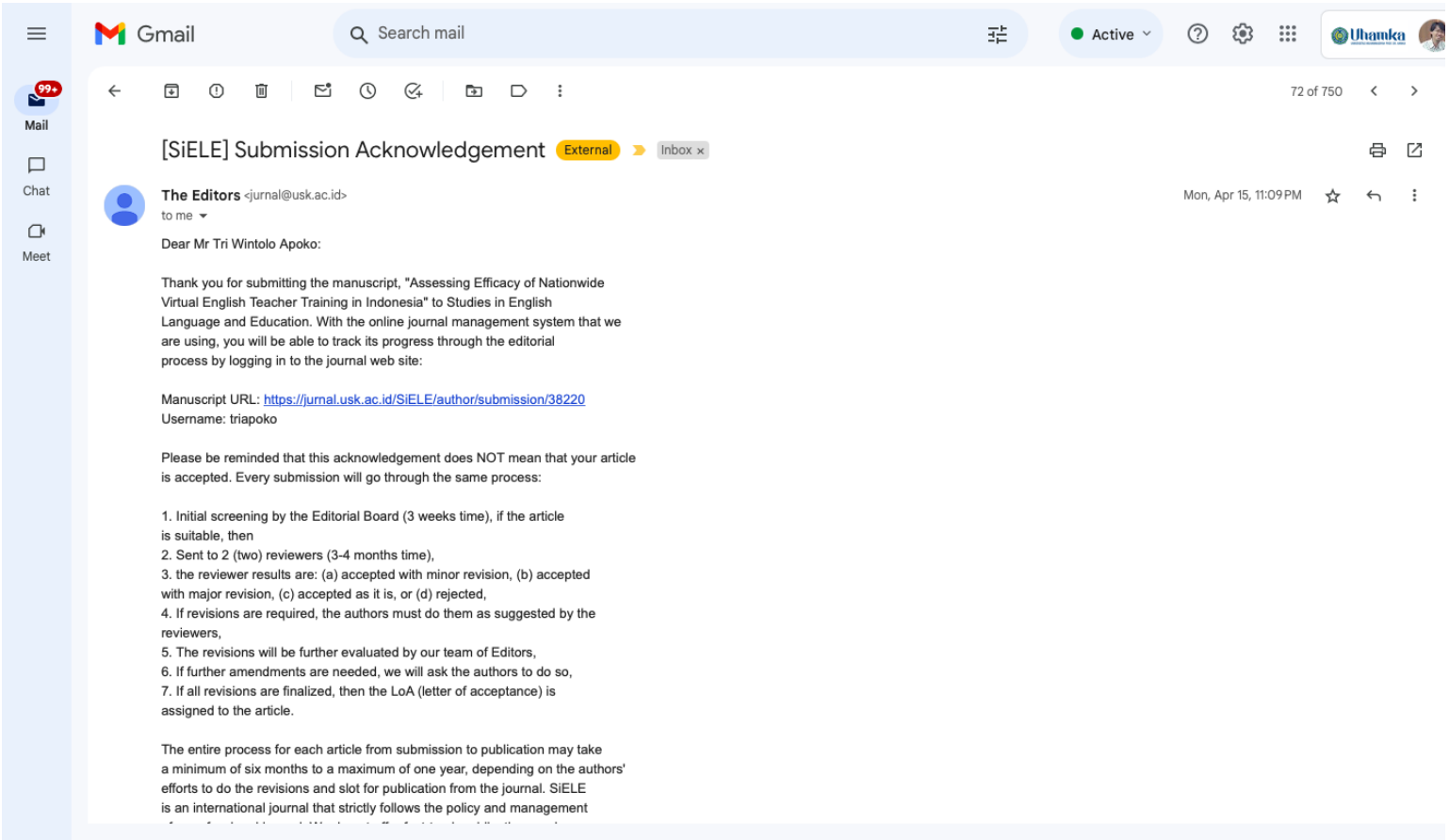
1.Bukti Konfirmasi Submit Artikel dan Artikel yang Disubmit (Tanggal 15 April 2024)



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Assessing Efficacy of Nationwide Virtual English Teacher Training in Indonesia

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Abstract

The study conducted a comprehensive evaluation of a national virtual English teacher training program in Indonesia, lasted over four months and involved a diverse cohort of teachers. Utilizing a sequential explanatory design within an interpretivist paradigm, it aimed to assess the program's effectiveness in enhancing teachers' pedagogical skills. The participants of this study were 76 EFL teachers attending the teacher profession education program (TPEP) within 4 months in one of private reputable university in Jakarta, Indonesia. The study combined quantitative analyses of surveys and test scores, focusing on the program's perceived usefulness, content,

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design, and learning outcomes, with qualitative insights from written interviews, applying deductive thematic analysis. Findings revealed that teachers highly valued the program, noting significant perceived learning gains and satisfaction with its content and structure. However, an intriguing disconnect emerged between these positive perceptions and the teachers' actual test scores, suggesting a complex interplay that warrants further scholarly attention. Qualitative data highlighted the program's benefits, such as flexibility and collaborative opportunities, alongside challenges like limited interpersonal interaction and technological hurdles, revealing a multifaceted impact of virtual professional development on teaching efficacy. The study recommends that TPEP should adopt a comprehensive approach in the future, investigating the influence of determining and extending the advantages of virtual professional development in strengthening teaching methods and student outcomes.

Keywords: Virtual training; English teachers; learning outcomes; professional development.

1. INTRODUCTION

The migration towards virtual professional development within the educational sector marks a significant paradigm shift in the approach to teacher training, driven by the dynamic and evolving requisites of the national and international teaching community (Alzahrani & Althaqafi, 2020; King, 2002). This pivotal transition towards online and blended learning modalities is not merely a response to technological advancements but a strategic evolution driven by the imperative to bridge geographical divides, enhance accessibility, and foster a globally interconnected community of educators (Ernest et al., 2013). Such a transformation is lauded for its potential to dismantle traditional barriers to professional development, offering unprecedented flexibility and enabling a cohesive, transnational exchange of pedagogical practices and insights. The commendations of virtual professional development extend beyond its logistic advantages, delving into the domain of enhanced collaborative opportunities and access to a wealth of resources previously constrained by physical boundaries (O'Dowd & Dooly, 2022). The extensive body of research further corroborates the multifaceted advantages of this shift (Bragg et al., 2021; Paudel, 2020; Powell & Bodur, 2019) indicating not only the enhanced accessibility and inclusivity afforded by virtual platforms but also the potential for creating expansive networks of collaboration that transcend local, national, and international boundaries.

Nonetheless, a significant gap exists in the research literature regarding the specific effectiveness of Indonesia's National EFL Teacher Profession Education Program (TPEP). Despite the broader integration of digital environments into professional development frameworks, there is a notable dearth of studies assessing the program's success in enhancing Indonesian EFL teachers' pedagogical skills and instructional expertise. This absence emphasizes the critical necessity for thorough research to assess and potentially improve the TPEP's influence on EFL teacher professional development in the Indonesian setting. Such findings could offer valuable insights into the implementation of nationally implemented virtual teacher training programs in other countries.

Given the burgeoning interest in virtual Professional Development Programs and the apparent need for more comprehensive evidence concerning their effectiveness, particularly on a

large-scale basis, this study aims to critically evaluate the National EFL Teacher Profession Education Program (TPEP) as implemented by the Indonesian government via online platforms. Indonesia's unique geographical composition, encompassing numerous islands, poses significant challenges for the uniform delivery of face-to-face national teacher training programs, making virtual implementations a cost-effective alternative. This research endeavors to fill the existing gap by assessing the impact of such virtual professional development initiatives on enhancing the pedagogical skills and competencies of Indonesian EFL teachers. The study is guided by two primary research questions:

1. How do English teachers perceive the efficacy of the nationally implemented virtual Teacher Profession Education Program (TPEP) in Indonesia after four months of engagement, considering both quantitative and qualitative data?
2. What is the correlation between teachers' perceived efficacy of the TPEP and their test scores?

2. LITERATURE REVIEW

2.1 Professional Development within Virtuality

Professional development within virtual environments has undergone significant evolution over the past few decades, transitioning from traditional, in-person training sessions to dynamic, online platforms that offer flexibility and accessibility to EFL teachers across the globe (Al-Nofaie, 2020; Marie, 2021; Philipsen et al., 2019; Wang et al., 2023) The inception of virtual professional development can be traced back to the early 2000s, when advancements in technology and the internet began to reshape the educational landscape. Virtual learning environments emerged as powerful tools for teacher education, facilitating asynchronous and synchronous learning opportunities beyond the constraints of physical classrooms (Hussain Al-Qahtani, 2020; Manegre & Sabiri, 2022). These platforms have enabled EFL teachers to engage in continuous professional learning, reflecting the shift towards more learner-centered approaches in teacher education (O'Dowd & Dooly, 2022).

Concepts of virtual professional development emphasize the integration of digital technologies to support the ongoing education of professionals. It involves teachers, structured programs, courses, workshops, and active and collaborative learning communities delivered through online platforms (Dille & Røkenes, 2021; Yurtseven Avci et al., 2020). These environments not only provide access to a wide range of resources and content but also facilitate interactions among EFL teachers, allowing for the exchange of ideas, practices, and feedback across different contexts and borders (Kohnke, 2021). The flexibility of virtual professional development programs has been particularly beneficial for EFL teachers in remote or underserved areas, offering them opportunities for growth and collaboration that were previously unattainable (Moser & Wei, 2023).

Implementation of virtual professional development varies significantly across countries and fields, reflecting diverse educational needs and technological infrastructures. In developed countries, such programs often feature sophisticated learning management systems with a wide array of interactive tools and resources (Lay et al., 2020). Conversely, in developing countries, the focus may be on leveraging mobile technology and social media platforms to overcome barriers to access (D'Angelo et al., 2022; McAleavy et al., 2018). Regardless of the context, successful implementations share common elements: a clear structure, support for collaborative learning,

enabling teachers to develop self-directed learning skills, and alignment with their needs such as improved online materials and assessments as well as curricular goals (Atmojo, 2021; Nguyen, 2021).

The effectiveness of virtual professional development programs has been a focal point of scholarly inquiry, with studies highlighting various benefits and challenges. Research indicates that such programs can lead to enhanced innovative teaching practices, increased content knowledge and skills, collaborative academic initiatives, and improved student outcomes (O'Dowd & Dooly, 2022; Singh et al., 2022). Teachers participating in virtual professional development often report a sense of empowerment and a stronger professional identity, as they are able to connect with new professional partnerships and experts in their field (O'Dowd & Dooly, 2022). However, challenges remain, including issues of digital literacy, engagement, self-regulation ability, internet connection, teachers' technical skills (Coman et al., 2020; Taghizadeh & Basirat, 2022; Truong & Murray, 2020).

2.2 EFL Teacher Professional Development within Virtuality

The evolution of virtual environments has significantly influenced English as a Foreign Language (EFL) Teacher Professional Development (PD), with a myriad of studies examining its impact across various educational settings and countries. These studies, utilizing diverse methodologies, have provided rich insights into the effectiveness, perceptions, challenges, and advantages of virtual PD programs, as well as recommendations for their optimization. In the United States, a mixed-methods experimental study addresses some concerns by developing a virtual coaching PD model to improve teachers' digital learning identities. With teachers concerned about staying current with evolving technologies, the study's findings point to coaching as an innovative way to PD (Zimmer & Matthews, 2022). Similarly, semi-structured interview responses were studied to better understand the initial and ongoing motivations of nineteen EFL Vietnamese teachers who participated in the PD program. The results revealed a significant effect of technology in pushing teachers to both start and stay in the course; a high influence of second language motivation on teachers' learning experiences; and a challenge to the known value of collaborative learning in virtual settings (Truong & Murray, 2019).

A group of 43 EFL university teachers who taught communication courses in South Korea assessed the benefits and obstacles of virtual environments for teachers, students, communication channels, and activity types. Several findings emerged from an analysis of variation among groups with no, low, and high experience. Expected instructor challenges and activity selection were key disparities between experience levels. Those with online teaching expertise reported fewer hurdles and employed a greater assortment of communication channels and activities while doing so (Bailey & Lee, 2020). However, in Chinese context, due to a lack of PD seminars, teachers had to rely on unofficial learning environments where they collaborated with peers in small groups to improve their use of technology. Thus, PD programs in China have not yet taken into consideration the roles that technology-based instruction plays in the learning process (Zhang, 2022).

In rural Mississippi, a mixed methods study by Moser and Wei (2023) investigated the experiences of K-12 language teachers (English as a Second or Other Language [ESOL] and World Language [WL]) who collaborated with one another via an online PD workshop designed to improve their knowledge and skills in online language teaching. The 50 teachers in this study indicated significant increases in their knowledge base, aspirations to adapt their practice, and positive attitudes of dealing with distant or remote learners. Additionally, qualitative findings by Nazari et al. (2019) demonstrated that all interviewees from EFL Iranian teachers (both novice and

experienced) had good attitudes regarding the online PD course. Furthermore, Adnan (2018) used a mixed-methods to investigate an online PD program in Turkey, commenting on participants' expectations, readiness and satisfaction. The data show a substantial link between individual readiness and satisfaction, with readiness positively predicting contentment.

3. METHODS

3.1 Research Design

The research design adopted for this study was a sequential explanatory design, chosen to investigate two main aspects: English teachers' perceived efficacy of the nationally implemented virtual Teacher Profession Education Program (TPEP) in Indonesia after four months of engagement, and the correlation between teachers' perceived efficacy of the TPEP and their test scores. This design strategy involved initially employing a quantitative method, followed by a qualitative approach. This methodological choice was based on Creswell's (2018) encouragement of its effectiveness in educational research for facilitating a comprehensive understanding of complex phenomena. Hauserman et al. (2013) accentuated its utility in exploring the intricacies of educational interventions within specific subject areas. By utilizing this sequential explanatory design, the study aimed to provide a coherent and in-depth analysis of teachers' perceptions and their relationship with program effectiveness, thus contributing to the broader discourse on virtual teacher education programs.

3.2 Context and Participant

The training was conducted entirely online, with centralization at a private university located in eastern Jakarta, utilizing a convenience sampling method. Table 1 outlines the demographic profile of 76 EFL teachers who participated in the study, showcasing a diverse yet predominantly female group—women represented 67% of participants, with men constituting the remaining 33%. A notable majority, 71%, were experienced teachers over 40 years old, indicating a cohort of seasoned professionals within the educational sector. Younger teachers were less represented, with figures revealing no participants under 25, 4% aged between 25 and 30, 16% between 31 and 35, and 9% between 36 and 40 years old. Geographically, the teachers came from various regions, with the largest groups originating from Banten (43%), Jakarta (28%), and West Java (24%), while minimal representation was noted from Central Java, East Java, and Papua, making up 1% and 3% respectively.

Most participants taught at the junior high school level (55%), with elementary and senior high schools each accounting for 22%. This diversity indicates the wide range of educational settings in which English is taught. In terms of teaching experience, 34% had between 11 and 15 years of experience, underscoring significant expertise. Technological access was high, with 74% having internet access at home and 97% at school, essential for contemporary teaching. Daily computer or laptop usage varied, with the most common duration being 4-5 hours (34%). Microsoft PowerPoint emerged as the preferred teaching tool (63%), highlighting a preference for presentation-based instruction. Primary uses of laptops or smartphones included completing school assignments (63%) and creating digital-based learning materials (24%), reflecting substantial engagement with digital resources in their educational activities.

Table 1. Demographics of the participants.

Categories	Descriptions	Total	Percentage
Gender	Female	51	67%
	Male	25	33%
Age	<25 years old	0	0%
	25-30 years old	3	4%
	31-35 years old	12	16%
	36-40 years old	7	9%
	>40 years old	54	71%
Home Location	Banten	33	43%
	Centra Java	1	1%
	East Java	1	1%
	Jakarta	21	28%
	Papua	2	3%
	West Java	18	24%
Educational Level of Teaching English	Elementary School	17	22%
	Junior High School	42	55%
	Senior High School	17	22%
Length of Teaching Experience	<3 years	3	4%
	3-5 years	19	25%
	6-10 years	24	32%
	11-15 years	26	34%
	16-20 years	8	11%
Having an internet connection at home	Yes	56	74%
	No	20	26%
Having an internet access at school	Yes	74	97%
	No	2	3%
Using a laptop/computer a day	<2 hours	8	11%
	2-3 hours	23	30%
	4-5 hours	26	34%
	6-7 hours	11	14%
	>7 hours	8	11%
Program mostly used for teaching needs	MS Word	28	37%
	MS Excel	0	0%
	MS PPT	48	63%
Activities mostly used through laptops/smartphones	Games & entertaining activities	8	11%
	Doing school assignment	48	63%
	Making digital-based learning contents	18	24%
	Making infographic projects	4	5%

3.3 Design: The Virtual Teacher Profession Education Program (TPEP)

Since its inception in 2018, the Virtual Teacher Profession Education Program (TPEP) for the English subject has undergone annual evaluations to enhance the quality of its learning activities and the caliber of its graduates. The program, tailored for in-service EFL teachers, spans one semester, approximately four months, and operates entirely online, utilizing a blend of G-Meets for virtual interactions and a Moodle-based Learning Management System (LMS) for course management. The TPEP is structured into two cycles, each designed to progressively develop participants' skills and knowledge. The initial cycle comprises sessions focused on material deepening (meetings 1-6), the development of instructional tools (meetings 7-13), a

comprehensive test, and a teaching practice phase at schools (meetings 14-17). Participants must pass the comprehensive test to proceed to the teaching practice. Successful completion of the first cycle leads to participation in the second cycle, which mirrors the first in structure but emphasizes further material deepening (meetings 28-33), instructional tool development (meetings 34-40), and culminates in another comprehensive test and extended teaching practice (meetings 41-57).

Within the TPEP, each course is thoroughly planned with specific activities to achieve its learning objectives. The material deepening course involves identifying and exploring problem cases, as well as determining their causes, facilitated by two instructors—a lecturer and a teacher—in a large class setting. The course on developing instructional tools focuses on exploring solution alternatives, determining solutions, developing action plans, and crafting evaluation plans, conducted in small groups of three, each comprising ten members. For the teaching practice component, participants are required to teach in their respective schools under the observation of instructors, engaging in activities such as teaching English in the initial meetings, video editing, analyzing students' learning assessment results, and reflecting on their teaching practices. This comprehensive approach, detailed in figures 1 and 2, ensures a robust and practical learning experience tailored to enhance the professional skills of EFL teachers.

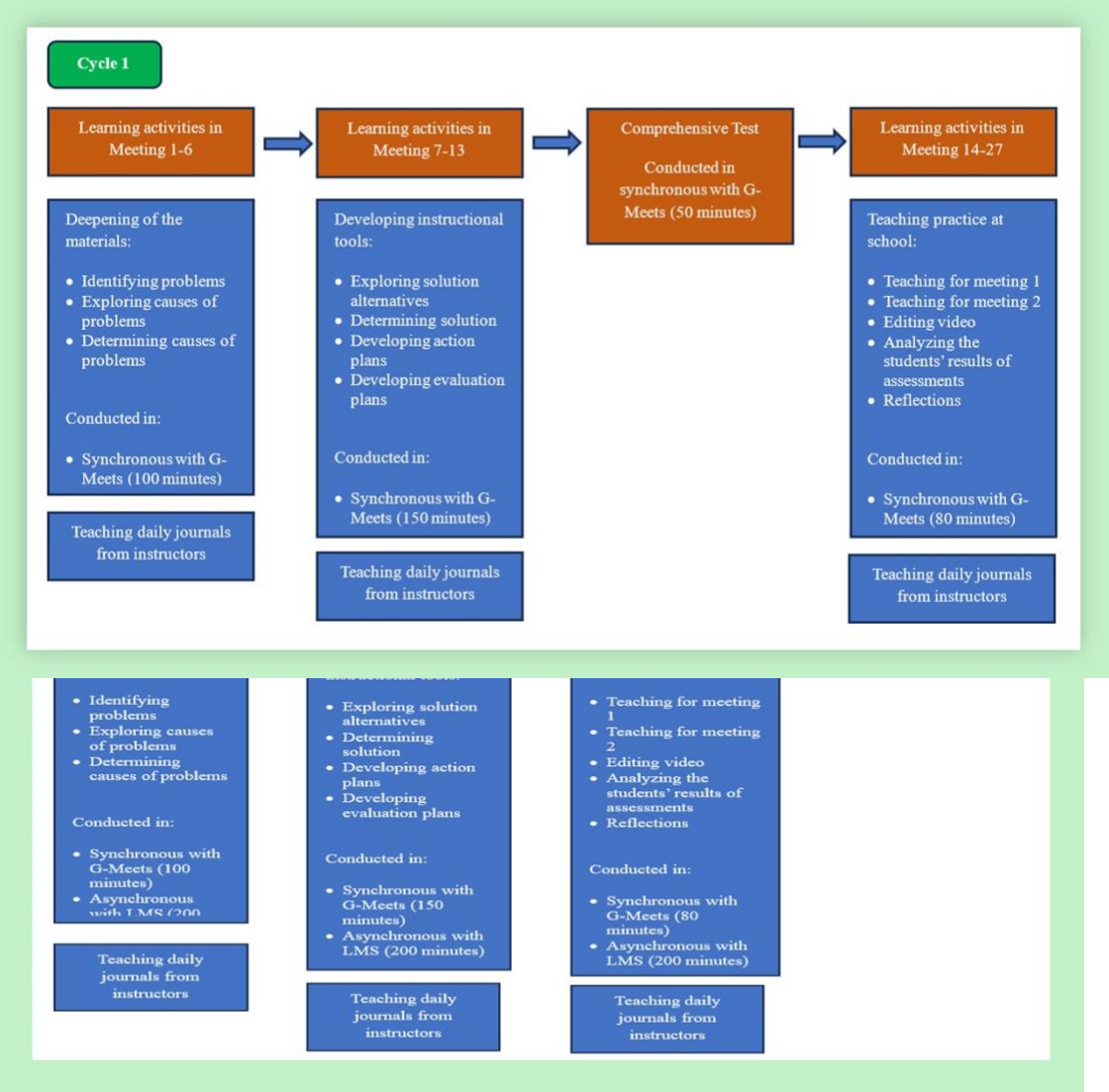

Figure 2. Cycle 2 for TPEP activities.

3.3.1 The Use of Digital technologies

Within the framework of teaching practices, particularly for administering pretests and posttests, students frequently utilized an array of digital instruments. *Google Forms*, *Quizizz*, and *Kahoot!* were among the tools commonly adopted, with *Google Forms* leading in preference due to its user-friendliness and multifunctionality. This trend highlighted the pivotal role of accessible and efficient technological solutions in evaluating student learning outcomes and understanding. Furthermore, for delivering educational presentations, students employed various digital platforms: *PowerPoint* for structured presentations, *Canva* for engaging design, *Padlet* for collaborative interaction, and *YouTube* for dynamic video content. The inclusion of social media platforms such as *TikTok* into pedagogical practices reflected an adaptive response to the changing digital landscape and a commitment to meet students within their digital comfort zones. The deliberate use of these digital assets, underpinned by the Technological Pedagogical and Content Knowledge (TPACK) framework, aimed at enhancing the pedagogical experience. By integrating technological prowess with deep pedagogical and content knowledge, this strategy aimed to foster an educational environment that was not only more engaging but also more effectively communicated complex ideas, thereby elevating the quality and appeal of educational practices for students.

3.4 Instruments and Measures

3.4.1 The efficacy survey: Item, reliability, and validity

To collect quantitative data on the efficacy of the Virtual Teacher Profession Education Program (TPEP) among EFL teachers, an online survey was conducted. This survey was structured into two sections: the first gathered demographic information, while the second comprised 12 statements rated on a Likert scale ranging from strongly disagree (1) to strongly agree (5), explicitly designed without any negatively phrased items. Drawing on the works of Adnan (2020) and Pham et al. (2021), the questionnaire assessed participants' perceptions of online classes within the TPEP across three distinct dimensions, each represented by four statements: (1) perceived usefulness [Statements 1-4], (2) course content and design [Statements 5–8], and (3) outcomes of online learning [Statements 9-12]. The reliability of the survey was confirmed through Cronbach's alpha of .863, reflecting high internal consistency among the items.

The survey's validity was established using the Kaiser–Meyer–Olkin (KMO) measure and Bartlett's test of sphericity. The results from these tests were significant, with a chi-square value of $\chi 2\ (66) = 843.886$, $p < .001$, and a KMO measure of sampling adequacy at .928, indicating that the questionnaire was structurally valid for analyzing the constructs it intended to measure. Furthermore, the analysis verified that the data were normally distributed, as evidenced by the absence of skewness or kurtosis values exceeding the thresholds of +2 or -2, thereby affirming the survey's appropriateness for subsequent statistical evaluations.

3.4.2 Test scores

Test scores were utilized to complement the quantitative data. Each EFL teacher participated in a comprehensive test, where they answered questions provided by two raters during virtual meetings. The allotted time for each participant was 50 minutes. The mean test score obtained was 78.89, with a standard deviation of 4.85.

3.4.3 Written interviews

The teachers participated in written interviews regarding their perceptions of the usefulness, course content and design, and learning outcomes of the virtual TPEP. Written interviews offer flexibility and anonymity, allowing participants to respond at their convenience and provide honest feedback (Whetzel et al., 2003). They also enable thorough data analysis and interpretation, making them valuable for qualitative research. Participants could respond in either Indonesian or English to allow for more elaborate responses. In total, 7,716 words were collected and analyzed.

The interpretivist paradigm suggests that individuals construct knowledge and truth rather than encountering pre-existing entities. It prioritizes comprehending the subjective realities of individuals (J. W. Creswell, 2021). Researchers embracing this paradigm aim to investigate and clarify the underlying reasons for phenomena, with a particular emphasis on their context-specific manifestations (Cohen et al., 2002). Our decision to employ the interpretivist paradigm stemmed from our goal to thoroughly capture and analyze the nuanced and profound learning encounters of teachers within the virtual TPEP.

3.5 Data analysis

The analysis of the first research questions involved employing descriptive statistics and deductive thematic analysis (Terry et al., 2017). The thematic analysis process entailed systematically identifying, analyzing, and reporting patterns or themes within the qualitative data collected. It commenced with familiarizing oneself with the interview data through repeated readings, followed by the generation of initial codes to label relevant features. These codes were then organized into potential themes, which underwent review and refinement to ensure their accurate representation of the data. Subsequently, these thematic findings were compared to the outcomes derived from the descriptive statistics. On the other hand, the second research question was addressed through bivariate correlations, which examined the relationships between variables quantitatively.

4. RESULTS

Overall, teachers assessed the effectiveness of the Teacher Profession Education Program (TPEP) quite positively. The mean rating obtained was 3.96 (*SD* = .55), indicating a high level of efficacy. Below are the details of the results.

4.1 Perceived Usefulness

The assessment of the perceived usefulness of the virtual TPEP among teachers yielded significant insights, reflected by a mean score of 4.00 (*SD* = .69), indicative of a high level of appreciation for the program's efficacy. This quantitative evaluation, detailed in Table 2, underlines the multifaceted benefits of TPEP, particularly highlighting the effectiveness of online platforms like G-Meets, which a substantial 73.68% of participants found to be highly effective for engagement and learning. Similarly, the integration of a Learning Management System (LMS) was deemed quite beneficial by 68.42% of the respondents, facilitating a collaborative educational environment. The program's capacity to enhance active participation was particularly noted, with 78.95% of teachers acknowledging that it encouraged a dynamic exchange of queries and insights. Over half of the participants (56.58%) felt that TPEP promoted autonomy in their learning processes.

Table 2. Teachers' responses on perceived usefulness.

	SD	D	N	A	SA

1. Online learning via G-Meets is really effective for me.	2.63	2.63	6.58	73.68	14.47
2. Sharing information within the LMS collaboration room is quite helpful to me.	2.63	0.00	10.53	68.42	18.42
3. Online classes encourage me to ask questions and provide answers.	3.95	1.32	1.32	78.95	14.47
4. This TPEP's online learning makes me an autonomous learner.	2.63	1.32	11.84	56.58	27.63

The qualitative analysis further elaborated on the teachers' experiences, revealing a broad consensus on the advantages of online learning within the TPEP framework. Teachers underscored the program's pivotal role in providing increased flexibility and access to professional development resources, all while accommodating their existing teaching obligations. This mode of learning was credited with enriching their pedagogical repertoire through the acquisition of new knowledge, innovative teaching strategies, and methodologies, thereby advancing their teaching competencies and fostering pedagogical innovation. The teachers also valued the opportunities for collaboration and professional networking that the program facilitated, enhancing their educational practices through peer and mentor interactions. Nonetheless, some teachers articulated concerns regarding the limitations imposed by the absence of direct interpersonal interactions and varying levels of technological adeptness among participants.

> In my opinion, online learning at TPEP was very useful. Apart from being able to learn easily anywhere and at any time, we could also develop our abilities in using technology, play an active role in participating in learning, and know learning materials easily. (Respondent 36)
>
> TPEP was very useful because it could evaluate teacher deficiencies so that they could be overcome when TPEP was finished by applying what they had learned during TPEP. Teachers were more confident when in the classroom and were not afraid when asked to collect teaching materials by the Deputy Head of Curriculum. (Respondent 38)

4.2 Course Content and Design

The evaluation of teachers' perceptions concerning the course content and design within the virtual TPEP generated a mean satisfaction score of 3.98 (*SD* = .72), signifying a high level of approval among teachers. This data, as illustrated in Table 3, provides a detailed breakdown of the teachers' perspectives on the course content and design. A significant majority (75%) of respondents affirmed that the learning materials made available through the Learning Management System (LMS) were comprehensive and met their professional development needs. An equal percentage attested to the interactive nature of asynchronous online learning within the LMS, enhancing the learning experience. Furthermore, the appeal of synchronous online sessions via G-Meets was acknowledged by 67.11% of participants, who expressed enthusiasm for these real-time interactions. The overall design of the TPEP, as facilitated through online learning modalities, was met with approval by 69.74% of teachers.

Table 3. Teachers' responses on course content and design.

	SD	D	N	A	SA
5. Learning materials in the Learning Management System (LMS) fulfill my needs as a teacher.	2.63	1.32	3.95	75.00	17.11
6. Online learning through asynchronous mode (LMS) is conducted in an interactive manner.	3.95	2.63	6.58	75.00	11.84
7. Online learning through synchronous mode (G-Meets) which is facilitated by the instructors is exciting.	3.95	0.00	6.58	67.11	22.37
8. I am satisfied with TPEP design through online learning.	3.95	1.32	6.58	69.74	18.42

Qualitative data analysis further shed light on the consensus among teachers regarding the virtual TPEP's role in enhancing their competency in lesson planning and the creation of teaching modules. Many teachers shared positive feedback, attributing their enhanced skills in developing comprehensive lesson plans to the enriched content, insightful guidance from instructors, and the acquisition of broader knowledge and skills. The provision of clear explanations and robust support from lecturers and tutors was particularly valued for enabling effective understanding and application of lesson planning principles. A transformative shift was reported by some teachers, who moved from a dependence on sourcing content online to a more refined, guided approach in lesson planning, underpinned by the TPEP's resources. The importance of interactive exchanges and constructive feedback from instructors in the iterative refinement of lesson plans to align with educational objectives and learner requirements was also emphasized. However, challenges were noted by a minority, including discrepancies in instructor advice and obstacles in adapting to evolving curriculum demands.

> Thank God, I can understand that at first, I just copied and pasted from the internet, but with TPEP, my ability to create learning objectives using Bloom's taxonomy formula really helped me to create correct learning objectives, not just copy and paste anymore. (Respondent 7)
>
> Being guided well by lecturers and tutors patiently from the beginning until the end becomes a good lesson plan. I can explore and develop both my knowledge and skills. It is necessary to be a skilled teacher. (Respondent 34)

4.3 Perceived Learning Outcomes

The calculation of teachers' perceptions of their learning outcomes from the virtual TPEP produced a mean score of 3.91 (SD = 0.55), signifying a substantial level of perceived learning among the participants. Detailed in Table 4, the data delineates the various dimensions of learning outcomes as perceived by the teachers. Over half of the participants (51.32%) acknowledged a marked improvement in their competencies in developing lesson plans through online classes, underscoring the program's effectiveness prior to their participation in the TPEP program. A significant majority (59.21%) reported an augmentation in their ability to implement problem-based learning (PBL) and project-based learning (PjBL) methodologies, attributed to their experiences with online learning. Furthermore, an overwhelming 72.37% of respondents recognized an enhanced understanding of evaluation planning as facilitated by the online sessions. Additionally, a considerable percentage of teachers (63.16%) observed an uplift in their overall teaching capacity after the completion of the TPEP online.

Table 4. Teachers' responses on learning outcomes.

	SD	D	N	A	SA
9. My understanding in developing my lesson plans improves through online classes before participating in TPEP.	7.89	13.16	6.58	51.32	21.05
10. Through online learning, my ability to apply the problem-based learning (PBL) and Project-based learning (PjBL) learning models increases better.	5.26	1.32	0.00	59.21	34.21
11. Through online learning, my understanding in evaluation plan increases better.	3.95	1.32	2.63	72.37	19.74
12. After completing TPEP online, my teaching capacity increases.	10.53	2.63	2.63	63.16	21.05

The qualitative feedback from teachers regarding their learning outcomes from TPEP reveals a range of experiences and needs, reflecting the program's wide-reaching impact. Several teachers shared their contentment with the program, noting an increase in motivation, a broadening of their

knowledge base regarding effective teaching strategies, and an improvement in practical skills, including lesson plan formulation and technological integration in the classroom. Further, the enrichment in understanding innovative teaching models, such as PBL and PjBL, alongside enhanced access to academic resources, was highlighted as a significant benefit. Many teachers stressed the critical role of real-world applications, comprehensive educational materials, and direct mentorship from instructors as essential components in fulfilling their professional development objectives. However, challenges were also articulated, ranging from the difficulties encountered in adjusting to new teaching methodologies and technologies, to disparities in instructor viewpoints, and hurdles in accessing requisite resources.

> I found what I need and want because, with the Teacher Professional Education Program (TPEP), I am more understanding and open. There are many benefits, from not knowing to knowing. With this TPEP, I am more confident and more understanding, so I understand better what education means for teachers. (Respondent 26)
>
> The TPEP made me understand how to create teaching modules according to students' needs, how to make the learning process enjoyable, and how to be a good teacher. (Respondent 57)

4.4 The Correlation between Teachers' Perceptions and Test Scores

The bivariate correlation analysis revealed several significant relationships between teachers' perceptions in the virtual Teacher Profession Education Program (TPEP) and highlighted their interconnections. Perceived usefulness showed significant positive correlations with perceived learning outcomes (r = .29, p =.01), perceptions of the implemented course content and design (r =.88, p < .001), and the efficacy of the virtual TPEP (r =.90, p <.001). Similarly, perceived learning outcomes exhibited significant positive correlations with perceptions of the implemented course content and design (r =.38, p < .001) and the efficacy of the virtual TPEP (r =.63, p < .001). Perceptions of the implemented course content and design strongly correlated with the efficacy of the virtual TPEP (r = .94, p <.001). However, notably absent were significant correlations between any of these perceptions and actual test scores, indicating that while teachers' perceptions of the program's various aspects were interconnected and positively related, they did not directly align with student academic performance as measured by test scores, as seen in Table 5.

Table 5. Results of bivariate correlations.

		2	3	4	Test Scores
Perceived usefulness (1)	r	.29*	.88**	.90**	.01
	p	.01	.000	.000	.92
Perceived learning outcomes (2)	r		.38**	.63**	.19
	p		.000	.000	.10
Perceptions of the implemented course content and design (3)	r			.94**	-.02
	p			.000	.86
The efficacy of the virtual TPEP (4)	r				.06
	p				.60

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

5. DISCUSSION

The evaluation of the National EFL Teacher Profession Education Program (TPEP) in Indonesia has garnered positive feedback from participants, underscoring its efficacy within the realm of virtual professional development. Participating teachers have expressed high levels of perceived usefulness, satisfaction with the program's content and design, and notable perceived

learning outcomes. These aspects collectively suggest that the TPEP has been successful in achieving its intended objectives, fostering engagement, promoting learner autonomy, and enhancing pedagogical skills and instructional strategies. This aligns with existing literature, such as the work of O'Dowd & Dooly (2022) and Singh et al. (2022), which has documented the potential benefits of virtual professional development programs, including the advancement of innovative teaching practices, increased knowledge and skills, the initiation of collaborative academic endeavors, and the potential for improved student learning outcomes. Importantly, while much of the prior research has concentrated on the technological aspects of such programs across various contexts—including the United States (Zimmer & Matthews, 2022), Vietnam (Truong & Murray, 2019), and China (Zhang, 2022)—the present study contributes to a deeper understanding of the participant experience within such programs, drawing parallels to findings from South Korea (Bailey & Lee, 2020).

Furthermore, the qualitative aspects of this study enrich the overall narrative by shedding light on the teachers' valuation of the flexibility, resource accessibility, and collaborative prospects that TPEP provides, while also acknowledging certain drawbacks such as the absence of direct interpersonal interaction and the hurdles presented by varying levels of technological expertise. This perspective is consistent with the observations of Taghizadeh and Basirat (2022) and Truong and Murray (2020), who also identified similar challenges and opportunities within virtual learning environments. While it is recognized that both traditional and virtual professional development frameworks present unique challenges, the pivotal aim remains the effectiveness and achievement of training objectives. Notably, the advancement of technology seems to have fostered a positive disposition towards online teacher training programs, as evidenced by research from diverse contexts such as the U.S. (Moser & Wei, 2023), Iran (Nazari et al., 2019), and Turkey (Müge Adnan, 2018). This global trend towards the acceptance and effectiveness of virtual professional development underscores the potential for such programs to significantly impact teacher training and education quality, notwithstanding the challenges that accompany the shift from conventional to digital learning platforms.

Nevertheless, the observed disconnect between teachers' perceptions of the efficacy of the National EFL Teacher Profession Education Program (TPEP) in Indonesia and their actual test scores presents a nuanced challenge, drawing attention to an intriguing area for further scholarly inquiry. Despite the evident positive correlations among teachers' views on the usefulness of the program, its content and design, and its overall effectiveness, the absence of a direct correlation with tangible academic outcomes underlines a more intricate interplay at work. This phenomenon implies that the impact of professional development initiatives on teaching effectiveness may be influenced by a constellation of factors extending beyond the program's framework (Marie, 2021; Wang et al., 2023). These could include individual teacher characteristics, student demographics, or the overarching educational environment, each potentially playing a pivotal role in the translation of professional development into improved academic performance (Philipsen et al., 2019). This divergence between subjective evaluations of the program and objective measures of educational outcomes invites a deeper investigation into the complexities surrounding the effectiveness of virtual professional development in enhancing pedagogical practices.

The critical examination of this gap reinforces the argument for a comprehensive approach to the evaluation and refinement of teacher professional development initiatives, particularly those conducted in virtual settings. Previous research underscores that effective professional development programs, irrespective of their context, typically share several key attributes: structured frameworks, support mechanisms for collaborative learning, opportunities for teachers

to cultivate self-directed learning competencies, and a strong alignment with both teachers' professional needs and curricular objectives (Atmojo, 2021; Lay et al., 2020; Nguyen, 2021). Thus, the contrast between teachers' positive perceptions and the lack of measurable improvements in student outcomes not only elucidates the multifaceted nature of educational efficacy within virtual environments but also accentuates the necessity for a holistic strategy in the design and assessment of professional development programs (Dille & Røkenes, 2021; Yurtseven Avci et al., 2020). Such an approach should aim to not only address the immediate needs and preferences of teachers but also ensure the alignment of these programs with broader educational goals, thereby maximizing their potential to contribute meaningfully to teaching excellence and student achievement.

6. CONCLUSION

The insights garnered from this study shed light on the substantial potential and challenges of virtual professional development (VPD) programs, with reference to the National EFL Teacher Profession Education Program (TPEP) in Indonesia. The affirmative feedback from Indonesian teachers regarding the TPEP underscores the effectiveness of such platforms in surmounting geographical obstacles and advancing teacher education, thereby suggesting a viable approach for Indonesia to foster educational equity across its vast and diverse territories. This positive outcome invites further exploration into enhancing the efficacy and accessibility of VPD initiatives, through improvements in interactivity and technological support. On a global scale, the study advocates for leveraging VPD to break down geographical barriers and cultivate international educational collaboration, with the observed benefits of increased accessibility and innovation in teaching holding universal applicability. However, the noted disparity between teachers' perceptions of program efficacy and the actual academic performance of students underscores the complexity of relying solely on virtual platforms for professional development. This observation calls for an integrated approach that combines VPD with tangible strategies aimed at elevating student achievement, thereby optimizing the global impact of such programs.

Nonetheless, this study is not without its limitations, most notably the lack of significant correlation between teachers' perceived effectiveness of the TPEP and student test scores. This disconnect suggests that positive teacher perceptions may not necessarily translate into quantifiable advancements in student performance, highlighting the intricate nature of educational effectiveness and the myriad factors influencing teaching efficacy. Such factors could range from individual teacher attributes and student characteristics to broader educational contexts, all of which extend beyond the immediate scope of this research. Consequently, there is a pressing need for future investigations to adopt a more encompassing approach, examining these influential dimensions to ascertain and amplify the benefits of VPD in bolstering teaching methodologies and student outcomes. Moreover, the study's reliance primarily on self-reported data calls for a diversified methodological approach in subsequent research to corroborate and expand upon these initial findings, ensuring a more holistic and nuanced understanding of the impact of VPD in the educational domain.

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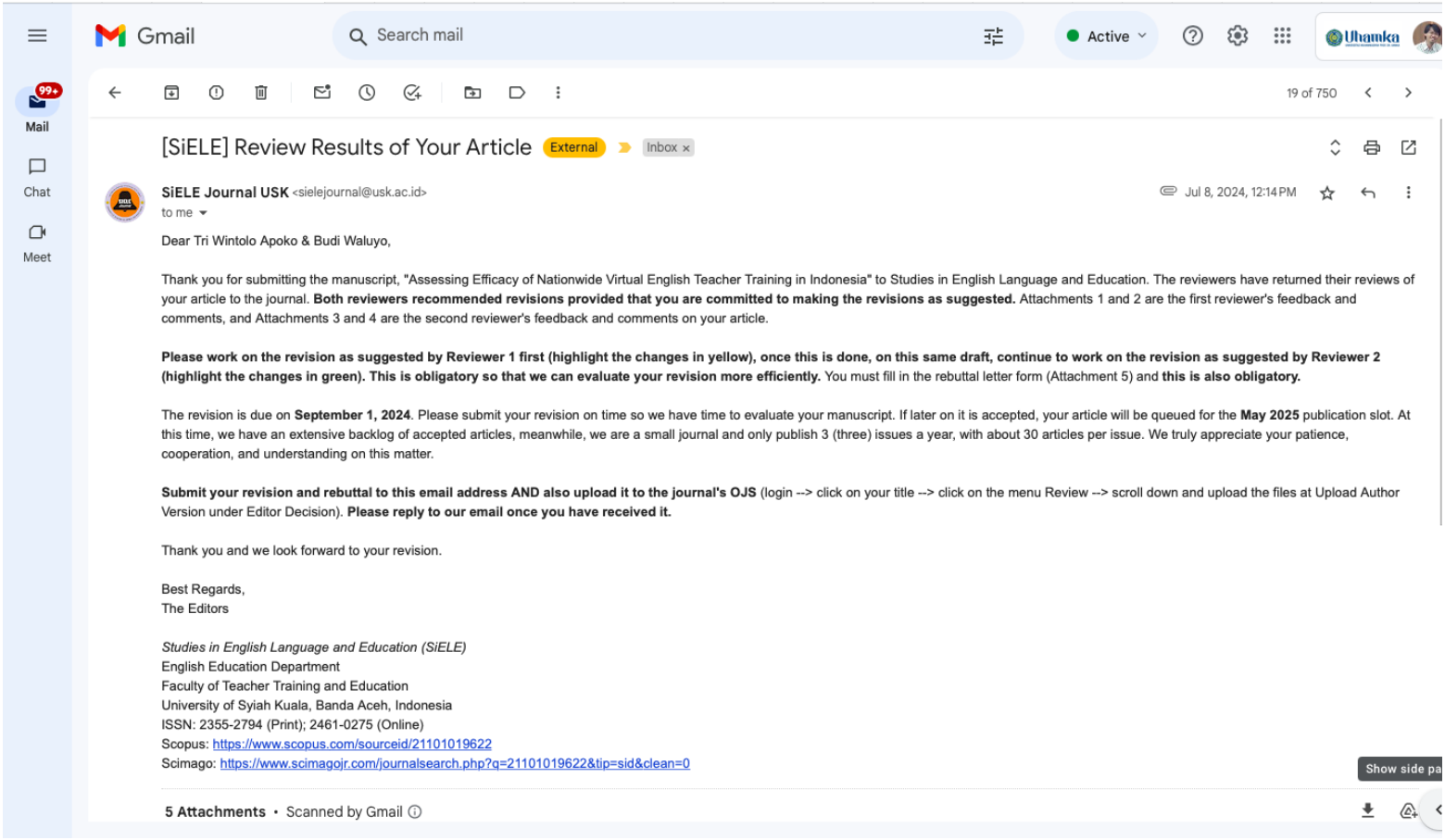
2. Bukti Konfirmasi Review dan Hasil Review Pertama (Tanggal 8 Juli 2024)



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to me

Dear Tri Wintolo Apoko & Budi Waluyo,

Thank you for submitting the manuscript, "Assessing Efficacy of Nationwide Virtual English Teacher Training in Indonesia" to Studies in English Language and Education. The reviewers have returned their reviews of your article to the journal. **Both reviewers recommended revisions provided that you are committed to making the revisions as suggested.** Attachments 1 and 2 are the first reviewer's feedback and comments, and Attachments 3 and 4 are the second reviewer's feedback and comments on your article.

Please work on the revision as suggested by Reviewer 1 first (highlight the changes in yellow), once this is done, on this same draft, continue to work on the revision as suggested by Reviewer 2 (highlight the changes in green). This is obligatory so that we can evaluate your revision more efficiently. You must fill in the rebuttal letter form (Attachment 5) and **this is also obligatory.**

The revision is due on **September 1, 2024**. Please submit your revision on time so we have time to evaluate your manuscript. If later on it is accepted, your article will be queued for the **May 2025** publication slot. At this time, we have an extensive backlog of accepted articles, meanwhile, we are a small journal and only publish 3 (three) issues a year, with about 30 articles per issue. We truly appreciate your patience, cooperation, and understanding on this matter.

Submit your revision and rebuttal to this email address AND also upload it to the journal's OJS (login --> click on your title --> click on the menu Review --> scroll down and upload the files at Upload Author Version under Editor Decision). **Please reply to our email once you have received it.**

Thank you and we look forward to your revision.

Best Regards,
The Editors

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REVIEWEER 1

STUDIES IN ENGLISH LANGUAGE AND EDUCATION
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MANUSCRIPT REVIEW FEEDBACK FORM

Reviewer code	NAH
Title of manuscript	**Assessing Efficacy of Nationwide Virtual English Teacher Training in Indonesia**
Reference number	-

*Please ensure that the abstract is 200 words minimum and 250 words maximum, and the article is 5000 words minimum and 8000 words maximum as per the submission guidelines: http://www.jurnal.unsyiah.ac.id/SiELE/about/submissions#authorGuidelines

Category	Yes	Partially	No
ARTICLE: Are the concerns in this article important to the field of English language education, linguistics, or literature?	/		
TITLE: Is the title clear and appropriate for the content of the manuscript?	/		
ABSTRACT: Does the abstract summarize the article clearly and effectively?		/	
INTRODUCTION: Does the introduction provide a meaningful purpose to the manuscript?			
Are the objectives set clearly?	/		
Is the gap of study justified?	/		

Is the technique of data collection explained clearly?	/		
Is the technique of data analysis explained clearly?	/		
FINDINGS: Are the findings expressed clearly?	/		
Is the presentation of the findings adequate and consistent?	/		
Are the tables and figures, if any, arranged and explained well?	/		
Do the findings answer the research question of this paper?	/		
DISCUSSION: Are the discussions meaningful, valid, and based on the findings?	/		
Are the discussions drawn reasonable and linked to other studies on the topic?	/		
IMPLICATIONS: Are the implications logical or pertinent to the manuscript?	/		
CONCLUSION: Are the conclusions and generalizations based on the findings?	/		
Are limitations of the study and suggestions for future research provided?	/		
REFERENCES: Are the references current and sufficient?	/		
GRAMMAR AND COHESION: Is the language clear and understandable?	/		
Is cohesion achieved throughout the article?	/		

DECISION FROM REVIEWER (tick where appropriate):	
Accept without revision	
Accept but needs minor revision	/
Accept but needs major revision	
Rejected	

REVIEWER'S COMMENTS (provide the strengths and weaknesses of the manuscript; please give comments/feedback to items ticked "Partially/No"):

The title accurately reflects the scope and subject of the study, indicating a focus on the assessment of a virtual training program for English teachers in Indonesia.

The abstract highlights specific benefits and challenges of the virtual program, such as flexibility and technological hurdles. However, the problem statement is missing. Overall, the abstract presents a thorough and balanced study overview, effectively highlighting its methodology, key findings, and implications. With minor revisions for clarity and detail, it will be an excellent summary of the research conducted.

The results indicate high participant satisfaction and perceived learning gains, juxtaposed with a notable discrepancy between perceptions and test scores.

However, minor grammatical errors and awkward phrases slightly impede readability. For instance:

> "The study conducted a comprehensive evaluation of a national virtual English teacher training program in Indonesia, lasted over four months and involved a diverse cohort of teachers." could be revised to
>
> "The study conducted a comprehensive evaluation of a national virtual English teacher training program in Indonesia, lasting over four months and involving a diverse cohort of teachers."
>
> "within 4 months in one of private reputable university" should be revised to
>
> "over four months at a reputable private university."

How many participants took part in the written interview? Results state that Respondents 38, 36, and 56. More than 50? Aren't there too many respondents for the qualitative study?

The authors aptly reference relevant studies, situating their findings within the existing body of research on virtual professional development. This strengthens the validity of their conclusions.

The methodology is clearly articulated, detailing the survey structure, which includes demographic information and a Likert scale-based assessment of various program dimensions. The methodology could benefit from more details about the participant sample, such as the selection criteria, the total number of respondents, and any measures taken to ensure a representative sample. This information is crucial for assessing the generalizability of the findings.

The discussion mentions the disconnect between perceived efficacy and test scores but does not delve deeply into possible reasons for this discrepancy. Providing a more detailed analysis of potential factors (e.g., teacher characteristics, and student demographics) would add depth to the discussion.

Overall, the discussion is a strong study component, effectively synthesizing findings, integrating relevant literature, and identifying important areas for future research. With some refinements for clarity, specificity, and depth, it will provide a valuable contribution to understanding virtual professional development for EFL teachers in Indonesia and beyond.

REVIEWER 2

STUDIES IN ENGLISH LANGUAGE AND EDUCATION
Department of English Education, Faculty of Teacher Training and Education,
Universitas Syiah Kuala, Jalan Tgk. Hasan Krueng Kale No. 3,
Kopelma Darussalam, Banda Aceh 23111, INDONESIA
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MANUSCRIPT REVIEW FEEDBACK FORM

Reviewer code	MIA
Title of manuscript	Assessing Efficacy of Nationwide Virtual English Teacher Training in Indonesia
Reference number	-

*Please ensure that the abstract is 200 words minimum and 250 words maximum, and the article is 5000 words minimum and 8000 words maximum as per the submission guidelines: http://www.jurnal.unsyiah.ac.id/SiELE/about/submissions#authorGuidelines

Category	Yes	Partially	No
ARTICLE: Are the concerns in this article important to the field of English language education, linguistics, or literature?	✓		
TITLE: Is the title clear and appropriate for the content of the manuscript?	✓		
ABSTRACT: Does the abstract summarize the article clearly and effectively?		✓	
INTRODUCTION: Does the introduction provide a meaningful purpose to the manuscript?	✓		
Are the objectives set clearly?	✓		
Is the gap of study justified?	✓		
Are research questions presented?	✓		
LITERATURE REVIEW: Is the literature review appropriate and adequate?	✓		
Are there discussions on previously published research on a similar topic?		✓	
METHODS: Are the techniques used appropriately for the collection and analysis of the data?	✓		
Does it clearly explain the participants/respondents of the research?	✓		
	✓		

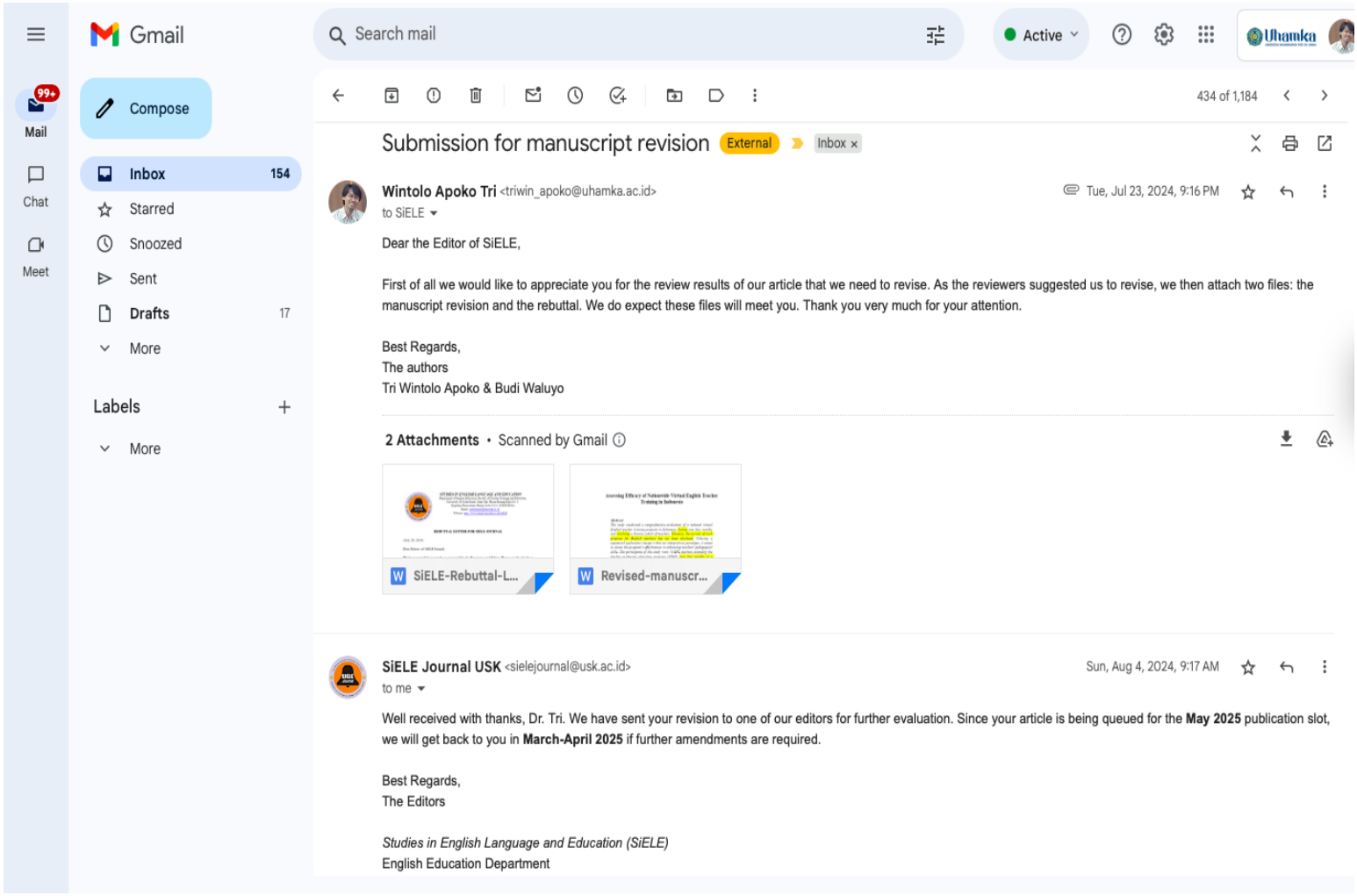
Does it clearly explain the instruments used in research?	✓		
Is the technique of data collection explained clearly?	✓		
Is the technique of data analysis explained clearly?	✓		
FINDINGS:			
Are the findings expressed clearly?	✓		
Is the presentation of the findings adequate and consistent?	✓		
Are the tables and figures, if any, arranged and explained well?	✓		
Do the findings answer the research question of this paper?	✓		
DISCUSSION:			
Are the discussions meaningful, valid, and based on the findings?		✓	
Are the discussions drawn reasonable and linked to other studies on the topic?		✓	
IMPLICATIONS:			
Are the implications logical or pertinent to the manuscript?		✓	
CONCLUSION:			
Are the conclusions and generalizations based on the findings?	✓		
Are limitations of the study and suggestions for future research provided?	✓		
REFERENCES:			
Are the references current and sufficient?	✓		
GRAMMAR AND COHESION:			
Is the language clear and understandable?	✓		
Is cohesion achieved throughout the article?	✓		

DECISION FROM REVIEWER (tick where appropriate):	
Accept without revision	
Accept but needs minor revision	✓
Accept but needs major revision	
Rejected	

REVIEWER'S COMMENTS (provide the strengths and weaknesses of the manuscript; please give comments/feedback to items ticked "Partially/No"):

Please refer to the comments provided in the manuscript (PDF).

3. Bukti Konfirmasi Submit Revisi Pertama, Respon kepada Reviewer, dan Artikel yang Diresubmit (Tanggal 23 Juli 2024)



STUDIES IN ENGLISH LANGUAGE AND EDUCATION
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REBUTTAL LETTER FOR SIELE JOURNAL

(July 20, 2024)

Dear Editors of SiELE Journal,

We have amended our article as suggested by the Reviewers and Editor. Please see the details in the following tables:

Authors' Responses to the Reviewers and Editor's Comments in the Manuscript

No.	Reviewer's comments	Authors' responses	Page
1	Reviewer 1 --- The title accurately reflects the scope and subject of the study, indicating a focus on the assessment of a virtual training program for English teachers in Indonesia.	Thank you for your positive feedback.	-
2	The abstract highlights specific benefits and challenges of the virtual program, such as flexibility and technological hurdles. However, the problem statement is missing. Overall, the abstract presents a thorough and balanced study overview, effectively highlighting its methodology, key findings, and implications. With minor revisions for clarity and detail, it will be an excellent summary of the research conducted.	We have added a sentence about the problem statement to the abstract as suggested.	Page 1
3	However, minor grammatical errors and awkward phrases slightly impede readability. For instance: "The study conducted a comprehensive evaluation of a national virtual English teacher training program in Indonesia, lasted over four months and involved a diverse cohort of teachers." could be revised to	Thank you for your valuable suggestions which would help to strengthen our manuscript. We already revised as you suggested.	Page 1

	"The study conducted a comprehensive evaluation of a national virtual English teacher training program in Indonesia, lasting over four months and involving a diverse cohort of teachers." "within 4 months in one of private reputable university" should be revised to "over four months at a reputable private university."		
4	How many participants took part in the written interview? Results state that Respondents 38, 36, and 56. More than 50? Aren't there too many respondents for the qualitative study?	All the teachers participated (n = 76). We have added the details.	Page 9
5	The authors aptly reference relevant studies, situating their findings within the existing body of research on virtual professional development. This strengthens the validity of their conclusions.	Thank you for your valuable comment which would help to strengthen our manuscript.	-
6	The methodology is clearly articulated, detailing the survey structure, which includes demographic information and a Likert scale-based assessment of various program dimensions. The methodology could benefit from more details about the participant sample, such as the selection criteria, the total number of respondents, and any measures taken to ensure a representative sample. This information is crucial for assessing the generalizability of the findings.	We have included the selection criteria, the total number of respondents, and any measures taken to ensure a representative sample, as suggested.	Pages 5
7	The discussion mentions the disconnect between perceived efficacy and test scores but does not delve deeply into possible reasons for this discrepancy. Providing a more detailed analysis of potential factors (e.g., teacher characteristics, and student demographics) would add depth to the discussion.	We have added the possible reasons, as suggested.	Pages 14
8	Overall, discussion is a strong study component, effectively synthesizing findings, integrating relevant literature, and identifying important areas for future research. With some refinements for clarity, specificity, and depth, it will provide a valuable contribution to understanding virtual professional development for EFL teachers in Indonesia and beyond.	We have improved the clarity, specificity, and depth of the discussion, as suggested.	Pages 13-14
	Reviewer 2 ----------		

1	Introduction You need to delete the phrases in the first research questions.	We have removed the phrases, as suggested.	Page 2
2	Literature review Can you explain whether there have been similar virtual training activities before related to your research topic?	Yes. We believe that the literature review section provides such details. Here are some of the paragraphs: Implementation of virtual professional development varies significantly across countries and fields, reflecting diverse educational needs and technological infrastructures. In developed countries, such programs often feature sophisticated learning management systems with a wide array of interactive tools and resources (Lay et al., 2020). Conversely, in developing countries, the focus may be on leveraging mobile technology and social media platforms to overcome barriers to access (D'Angelo et al., 2022; McAleavy et al., 2018). Regardless of the context, successful implementations share common elements: a clear structure, support for collaborative learning, enabling teachers to develop self-directed learning skills, and alignment with their needs such as improved online materials and assessments as well as curricular goals (Atmojo, 2021; Nguyen, 2021). A group of 43 EFL university teachers who taught communication courses in South Korea assessed the benefits and obstacles of virtual environments for teachers, students, communication channels, and activity types. Several findings emerged from an analysis of variation among groups with no, low, and high experience. Expected instructor challenges and activity selection were key disparities between experience levels. Those with online teaching expertise reported fewer hurdles and employed a greater assortment of communication channels and activities while doing so (Bailey & Lee, 2020). However, in Chinese context, due to a lack of PD seminars, teachers had to rely on unofficial learning environments where they collaborated with peers in small groups to improve their use of technology. Thus, PD programs in China have	Pages 2-4

		not yet taken into consideration the roles that technology-based instruction plays in the learning process (Zhang, 2022). In rural Mississippi, a mixed methods study by Moser and Wei (2023) investigated the experiences of K-12 language teachers (English as a Second or Other Language [ESOL] and World Language [WL]) who collaborated with one another via an online PD workshop designed to improve their knowledge and skills in online language teaching. The 50 teachers in this study indicated significant increases in their knowledge base, aspirations to adapt their practice, and positive attitudes of dealing with distant or remote learners. Additionally, qualitative findings by Nazari et al. (2019) demonstrated that all interviewees from EFL Iranian teachers (both novice and experienced) had good attitudes regarding the online PD course. Furthermore, Adnan (2018) used a mixed-methods to investigate an online PD program in Turkey, commenting on participants' expectations, readiness and satisfaction. The data show a substantial link between individual readiness and satisfaction, with readiness positively predicting contentment.	
3	Results Explain these excerpts from written interviews.	Thank you for your insightful suggestions which helped to strengthen our article. We already explained the excerpts from written interviews to support the quantitative data before the excerpts.	Pages 10-12
4	Discussion Needs to provide more discussion related to the four points described in the findings, namely (Perceived Usefulness, Course Content, and Design, Perceived Learning Outcomes, The Correlation between Teachers' Perceptions and Test Scores). What are the implications of each of these sub-points for your topic?	We have revised the discussion, as suggested by you and reviewer 2. Revisions are highlighted in yellow.	Pages 13-14
5	Proofreading	The manuscript has been proofread.	The whole manuscript.

	The manuscript needs proofreading in some sections		
	Editor's Comments		
1	Where is the problem statement?	We have added it, as requested.	Page 1
2	Intrepretive?	From the article we read, it's written "interpretivist".	Pages 1 and 9
3	How many respondents were interviewed for qualitative study? 57? Why so many?	All the teachers participated (n = 76). We have added the details.	Page 9

Authors' Responses to the Reviewers' Evaluations in the Review Forms

No.	**Reviewer 1** comments/suggestions	Corrections made
1	The reviewer ticked "Partially" for the Abstract in the reviewer form.	We have revised our abstract by providing the problem statement (see the abstract, lines 3-4)
2	The reviewer ticked "Partially" for the participants/respondents of the research in the reviewer form.	We have revised the Method section, especially in the number of participants of the research as the interviewees in the qualitative analysis. Related to the question "How many respondents interviewed for qualitative study? 57? Why so many?", we argue that we use written interviews as they offer flexibility and anonymity, allowing participants to respond at their convenience and provide honest feedback. Thus, all the respondents/participants answered the addressed questions from us.

No.	**Reviewer 2** comments/suggestions	Corrections made
1	The reviewer ticked "Partially" for the Abstract in the reviewer form.	We have revised our abstract by adding the problem statement (see the abstract, lines 3-4)
2	The reviewer ticked "Partially" for the discussion on previously published research on a similar topic in the reviewer form.	We have revised the Literature Review section, especially in the discussion on previously published research on a similar topic.

Thank you.

Sincerely,
Authors

Assessing Efficacy of Nationwide Virtual English Teacher Training in Indonesia

Abstract

The study conducted a comprehensive evaluation of a national virtual English teacher training program in Indonesia, lasting over four months and involving a diverse cohort of teachers. However, the success of such program for English teachers has not been disclosed. Utilizing a sequential explanatory design within an interpretivist paradigm, it aimed to assess the program's effectiveness in enhancing teachers' pedagogical skills. The participants of this study were 76 EFL teachers attending the teacher profession education program (TPEP) over four months at a private reputable university in Jakarta, Indonesia. The study combined quantitative analyses of surveys and test scores, focusing on the program's perceived usefulness, content, design, and learning outcomes, with qualitative insights from written interviews, applying deductive thematic analysis. Findings revealed that teachers highly valued the program, noting significant perceived learning gains and satisfaction with its content and structure. However, an intriguing disconnect emerged between these positive perceptions and the teachers' actual test scores, suggesting a complex interplay that warrants further scholarly attention. Qualitative data highlighted the program's benefits, such as flexibility and collaborative opportunities, alongside challenges like limited interpersonal interaction and technological hurdles, revealing a multifaceted impact of virtual professional development on teaching efficacy. The study recommends that TPEP should adopt a comprehensive approach in the future, investigating the influence of determining and extending the advantages of virtual professional development in strengthening teaching methods and student outcomes.

Keywords: Virtual training; English teachers; learning outcomes; professional development.

1. INTRODUCTION

The migration towards virtual professional development within the educational sector marks a significant paradigm shift in the approach to teacher training, driven by the dynamic and evolving requisites of the national and international teaching community (Alzahrani & Althaqafi, 2020; King, 2002). This pivotal transition towards online and blended learning modalities is not merely a response to technological advancements but a strategic evolution driven by the imperative to bridge geographical divides, enhance accessibility, and foster a globally interconnected community of educators (Ernest et al., 2013). Such a transformation is lauded for its potential to dismantle traditional barriers to professional development, offering unprecedented flexibility and enabling a cohesive, transnational exchange of pedagogical practices and insights. The commendations of virtual professional development extend beyond its logistic advantages, delving into the domain of enhanced collaborative opportunities and access to a wealth of resources previously constrained by physical boundaries (O'Dowd & Dooly, 2022). The extensive body of research further corroborates the multifaceted advantages of this shift (Bragg et al., 2021; Paudel,

2020; Powell & Bodur, 2019) indicating not only the enhanced accessibility and inclusivity afforded by virtual platforms but also the potential for creating expansive networks of collaboration that transcend local, national, and international boundaries.

Nonetheless, a significant gap exists in the research literature regarding the specific effectiveness of Indonesia's National EFL Teacher Profession Education Program (TPEP). Despite the broader integration of digital environments into professional development frameworks, there is a notable dearth of studies assessing the program's success in enhancing Indonesian EFL teachers' pedagogical skills and instructional expertise. This absence emphasizes the critical necessity for thorough research to assess and potentially improve the TPEP's influence on EFL teacher professional development in the Indonesian setting. Such findings could offer valuable insights into the implementation of nationally implemented virtual teacher training programs in other countries.

Given the burgeoning interest in virtual Professional Development Programs and the apparent need for more comprehensive evidence concerning their effectiveness, particularly on a large-scale basis, this study aims to critically evaluate the National EFL Teacher Profession Education Program (TPEP) as implemented by the Indonesian government via online platforms. Indonesia's unique geographical composition, encompassing numerous islands, poses significant challenges for the uniform delivery of face-to-face national teacher training programs, making virtual implementations a cost-effective alternative. This research endeavours to fill the existing gap by assessing the impact of such virtual professional development initiatives on enhancing the pedagogical skills and competencies of Indonesian EFL teachers. The study is guided by two primary research questions:

3. How do English teachers perceive the efficacy of the nationally implemented virtual Teacher Profession Education Program (TPEP) in Indonesia over four months of engagement?
4. What is the correlation between teachers' perceived efficacy of the TPEP and their test scores?

2. LITERATURE REVIEW

2.1 Professional Development within Virtuality

Professional development within virtual environments has undergone significant evolution over the past few decades, transitioning from traditional, in-person training sessions to dynamic, online platforms that offer flexibility and accessibility to EFL teachers across the globe (Al-Nofaie, 2020; Marie, 2021; Philipsen et al., 2019; Wang et al., 2023). The inception of virtual professional development can be traced back to the early 2000s, when advancements in technology and the internet began to reshape the educational landscape. Virtual learning environments emerged as powerful tools for teacher education, facilitating asynchronous and synchronous learning opportunities beyond the constraints of physical classrooms (Hussain Al-Qahtani, 2020; Manegre & Sabiri, 2022). These platforms have enabled EFL teachers to engage in continuous professional learning, reflecting the shift towards more learner-centred approaches in teacher education (O'Dowd & Dooly, 2022).

Concepts of virtual professional development emphasize the integration of digital technologies to support the ongoing education of professionals. It involves teachers, structured programs, courses, workshops, and active and collaborative learning communities delivered through online platforms (Dille & Røkenes, 2021; Waluyo & Rofiah, 2021; Yurtseven Avci et al.,

2020). These environments not only provide access to a wide range of resources and content but also facilitate interactions among EFL teachers, allowing for the exchange of ideas, practices, and feedback across different contexts and borders (Kohnke, 2021). The flexibility of virtual professional development programs has been particularly beneficial for EFL teachers in remote or underserved areas, offering them opportunities for growth and collaboration that were previously unattainable (Moser & Wei, 2023).

Implementation of virtual professional development varies significantly across countries and fields, reflecting diverse educational needs and technological infrastructures. In developed countries, such programs often feature sophisticated learning management systems with a wide array of interactive tools and resources (Lay et al., 2020). Conversely, in developing countries, the focus may be on leveraging mobile technology and social media platforms to overcome barriers to access (D'Angelo et al., 2022; McAleavy et al., 2018). Regardless of the context, successful implementations share common elements: a clear structure, support for collaborative learning, enabling teachers to develop self-directed learning skills, and alignment with their needs such as improved online materials and assessments as well as curricular goals (Atmojo, 2021; Nguyen, 2021).

The effectiveness of virtual professional development programs has been a focal point of scholarly inquiry, with studies highlighting various benefits and challenges. Research indicates that such programs can lead to enhanced innovative teaching practices, increased content knowledge and skills, collaborative academic initiatives, and improved student outcomes (O'Dowd & Dooly, 2022; Singh et al., 2022; Waluyo & Apridayani, 2024). Teachers participating in virtual professional development often report a sense of empowerment and a stronger professional identity, as they are able to connect with new professional partnerships and experts in their field (O'Dowd & Dooly, 2022). However, challenges remain, including issues of digital literacy, engagement, self-regulation ability, internet connection, teachers' technical skills (Coman et al., 2020; Taghizadeh & Basirat, 2022; Truong & Murray, 2020).

2.2 EFL Teacher Professional Development within Virtuality

The evolution of virtual environments has significantly influenced English as a Foreign Language (EFL) Teacher Professional Development (PD), with a myriad of studies examining its impact across various educational settings and countries. These studies, utilizing diverse methodologies, have provided rich insights into the effectiveness, perceptions, challenges, and advantages of virtual PD programs, as well as recommendations for their optimization. In the United States, a mixed-methods experimental study addresses some concerns by developing a virtual coaching PD model to improve teachers' digital learning identities. With teachers concerned about staying current with evolving technologies, the study's findings point to coaching as an innovative way to PD (Zimmer & Matthews, 2022). Similarly, semi-structured interview responses were studied to better understand the initial and ongoing motivations of nineteen EFL Vietnamese teachers who participated in the PD program. The results revealed a significant effect of technology in pushing teachers to both start and stay in the course; a high influence of second language motivation on teachers' learning experiences; and a challenge to the known value of collaborative learning in virtual settings (Truong & Murray, 2019).

A group of 43 EFL university teachers who taught communication courses in South Korea assessed the benefits and obstacles of virtual environments for teachers, students, communication channels, and activity types. Several findings emerged from an analysis of variation among groups with no, low, and high experience. Expected instructor challenges and activity selection were key

disparities between experience levels. Those with online teaching expertise reported fewer hurdles and employed a greater assortment of communication channels and activities while doing so (Bailey & Lee, 2020). However, in Chinese context, due to a lack of PD seminars, teachers had to rely on unofficial learning environments where they collaborated with peers in small groups to improve their use of technology. Thus, PD programs in China have not yet taken into consideration the roles that technology-based instruction plays in the learning process (Zhang, 2022).

In rural Mississippi, a mixed methods study by Moser and Wei (2023) investigated the experiences of K-12 language teachers (English as a Second or Other Language [ESOL] and World Language [WL]) who collaborated with one another via an online PD workshop designed to improve their knowledge and skills in online language teaching. The 50 teachers in this study indicated significant increases in their knowledge base, aspirations to adapt their practice, and positive attitudes of dealing with distant or remote learners. Additionally, qualitative findings by Nazari et al. (2019) demonstrated that all interviewees from EFL Iranian teachers (both novice and experienced) had good attitudes regarding the online PD course. Furthermore, Adnan (2018) used a mixed-methods to investigate an online PD program in Turkey, commenting on participants' expectations, readiness and satisfaction. The data show a substantial link between individual readiness and satisfaction, with readiness positively predicting contentment.

3. METHODS

3.1 Research Design

The research design adopted for this study was a sequential explanatory design, chosen to investigate two main aspects: English teachers' perceived efficacy of the nationally implemented virtual Teacher Profession Education Program (TPEP) in Indonesia after four months of engagement, and the correlation between teachers' perceived efficacy of the TPEP and their test scores. This design strategy involved initially employing a quantitative method, followed by a qualitative approach. This methodological choice was based on Creswell's (2018) encouragement of its effectiveness in educational research for facilitating a comprehensive understanding of complex phenomena. Hauserman et al. (2013) accentuated its utility in exploring the intricacies of educational interventions within specific subject areas. By utilizing this sequential explanatory design, the study aimed to provide a coherent and in-depth analysis of teachers' perceptions and their relationship with program effectiveness, thus contributing to the broader discourse on virtual teacher education programs.

3.2 Context and Participant

The training, hosted entirely online by a private university in eastern Jakarta, employed convenience sampling to select participants based primarily on their availability and willingness to participate in the Virtual Teacher Profession Education Program (TPEP). To enrich the study's generalizability, the sample included a diverse cohort of teachers from various geographical regions—Banten, Jakarta, West Java, Central Java, East Java, and Papua—and across different educational levels, including elementary, junior high, and senior high schools. This strategic selection aimed to capture a broad spectrum of experiences and backgrounds, thereby providing insights into the technological engagement and instructional challenges faced by English as a Foreign Language (EFL) teachers at various stages of education within Indonesia. The intent was

to ensure that the findings could be applicable to a wider population of EFL teachers, reflecting the varied educational contexts throughout the country.

Table 1 outlines the demographic profile of 76 EFL teachers who participated in the study, showcasing a diverse yet predominantly female group—women represented 67% of participants, with men constituting the remaining 33%. A notable majority, 71%, were experienced teachers over 40 years old, indicating a cohort of seasoned professionals within the educational sector. Younger teachers were less represented, with figures revealing no participants under 25, 4% aged between 25 and 30, 16% between 31 and 35, and 9% between 36 and 40 years old. Geographically, the teachers came from various regions, with the largest groups originating from Banten (43%), Jakarta (28%), and West Java (24%), while minimal representation was noted from Central Java, East Java, and Papua, making up 1% and 3% respectively.

Most participants taught at the junior high school level (55%), with elementary and senior high schools each accounting for 22%. This diversity indicates the wide range of educational settings in which English is taught. In terms of teaching experience, 34% had between 11 and 15 years of experience, underscoring significant expertise. Technological access was high, with 74% having internet access at home and 97% at school, essential for contemporary teaching. Daily computer or laptop usage varied, with the most common duration being 4-5 hours (34%). Microsoft PowerPoint emerged as the preferred teaching tool (63%), highlighting a preference for presentation-based instruction. Primary uses of laptops or smartphones included completing school assignments (63%) and creating digital-based learning materials (24%), reflecting substantial engagement with digital resources in their educational activities.

Table 1. Demographics of the participants.

Categories	Descriptions	Total	Percentage
Gender	Female	51	67%
	Male	25	33%
Age	<25 years old	0	0%
	25-30 years old	3	4%
	31-35 years old	12	16%
	36-40 years old	7	9%
	>40 years old	54	71%
Home Location	Banten	33	43%
	Centra Java	1	1%
	East Java	1	1%
	Jakarta	21	28%
	Papua	2	3%
	West Java	18	24%
Educational Level of Teaching English	Elementary School	17	22%
	Junior High School	42	55%
	Senior High School	17	22%
Length of Teaching Experience	<3 years	3	4%
	3-5 years	19	25%
	6-10 years	24	32%
	11-15 years	26	34%
	16-20 years	8	11%
Having an internet connection at home	Yes	56	74%
	No	20	26%
Having an internet access at school	Yes	74	97%
	No	2	3%
Using a laptop/computer a day	<2 hours	8	11%

	2-3 hours	23	30%
	4-5 hours	26	34%
	6-7 hours	11	14%
	>7 hours	8	11%
Program mostly used for teaching needs	MS Word	28	37%
	MS Excel	0	0%
	MS PPT	48	63%
Activities mostly used through laptops/smartphones	Games & entertaining activities	8	11%
	Doing school assignment	48	63%
	Making digital-based learning contents	18	24%
	Making infographic projects	4	5%

3.3 Design: The Virtual Teacher Profession Education Program (TPEP)

Since its inception in 2018, the Virtual Teacher Profession Education Program (TPEP) for the English subject has undergone annual evaluations to enhance the quality of its learning activities and the calibre of its graduates. The program, tailored for in-service EFL teachers, spans one semester, approximately four months, and operates entirely online, utilizing a blend of G-Meets for virtual interactions and a Moodle-based Learning Management System (LMS) for course management. The TPEP is structured into two cycles, each designed to progressively develop participants' skills and knowledge. The initial cycle comprises sessions focused on material deepening (meetings 1-6), the development of instructional tools (meetings 7-13), a comprehensive test, and a teaching practice phase at schools (meetings 14-17). Participants must pass the comprehensive test to proceed to the teaching practice. Successful completion of the first cycle leads to participation in the second cycle, which mirrors the first in structure but emphasizes further material deepening (meetings 28-33), instructional tool development (meetings 34-40), and culminates in another comprehensive test and extended teaching practice (meetings 41-57).

Within the TPEP, each course is thoroughly planned with specific activities to achieve its learning objectives. The material deepening course involves identifying and exploring problem cases, as well as determining their causes, facilitated by two instructors—a lecturer and a teacher—in a large class setting. The course on developing instructional tools focuses on exploring solution alternatives, determining solutions, developing action plans, and crafting evaluation plans, conducted in small groups of three, each comprising ten members. For the teaching practice component, participants are required to teach in their respective schools under the observation of instructors, engaging in activities such as teaching English in the initial meetings, video editing, analysing students' learning assessment results, and reflecting on their teaching practices. This comprehensive approach, detailed in figures 1 and 2, ensures a robust and practical learning

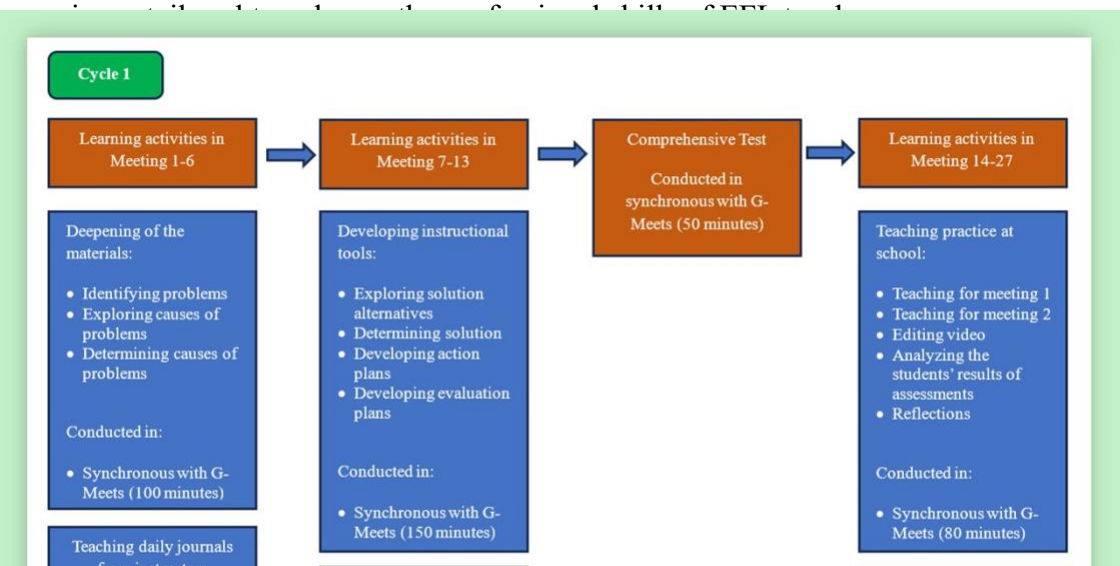

Figure 1. Cycle 1 for TPEP activities.

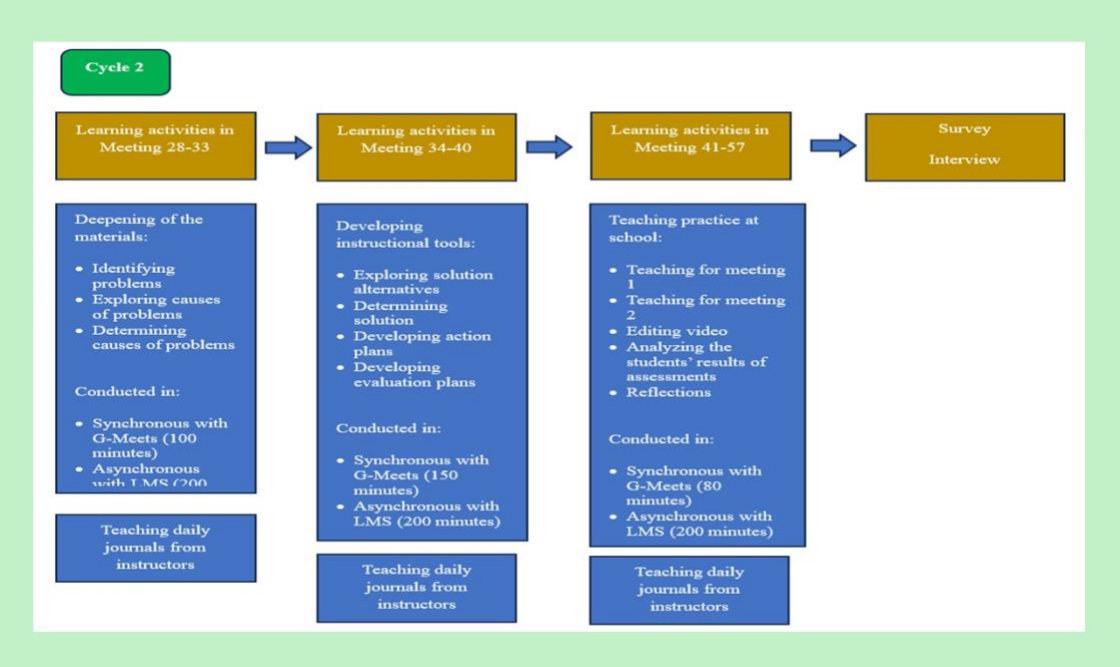

Figure 2. Cycle 2 for TPEP activities.

3.3.1 The Use of Digital technologies

Within the framework of teaching practices, particularly for administering pre-tests and post-tests, students frequently utilized an array of digital instruments. *Google Forms*, *Quizizz*, and *Kahoot!* were among the tools commonly adopted, with *Google Forms* leading in preference due to its user-friendliness and multifunctionality. This trend highlighted the pivotal role of accessible and efficient technological solutions in evaluating student learning outcomes and understanding. Furthermore, for delivering educational presentations, students employed various digital platforms: *PowerPoint* for structured presentations, *Canva* for engaging design, *Padlet* for collaborative interaction, and *YouTube* for dynamic video content. The inclusion of social media platforms such as *TikTok* into pedagogical practices reflected an adaptive response to the changing digital landscape and a commitment to meet students within their digital comfort zones. The deliberate use of these digital assets, underpinned by the Technological Pedagogical and Content Knowledge (TPACK) framework, aimed at enhancing the pedagogical experience. By integrating technological prowess with deep pedagogical and content knowledge, this strategy aimed to foster an educational environment that was not only more engaging but also more effectively communicated complex ideas, thereby elevating the quality and appeal of educational practices for students.

3.4 Instruments and Measures

3.4.1 The efficacy survey: Item, reliability, and validity

To collect quantitative data on the efficacy of the Virtual Teacher Profession Education Program (TPEP) among EFL teachers, an online survey was conducted. This survey was structured into two sections: the first gathered demographic information, while the second comprised 12 statements rated on a Likert scale ranging from strongly disagree (1) to strongly agree (5),

explicitly designed without any negatively phrased items. Drawing on the works of Adnan (2020) and Pham et al. (2021), the questionnaire assessed participants' perceptions of online classes within the TPEP across three distinct dimensions, each represented by four statements: (1) perceived usefulness [Statements 1-4], (2) course content and design [Statements 5–8], and (3) outcomes of online learning [Statements 9-12]. The reliability of the survey was confirmed through Cronbach's alpha of .863, reflecting high internal consistency among the items.

The survey's validity was established using the Kaiser–Meyer–Olkin (KMO) measure and Bartlett's test of sphericity. The results from these tests were significant, with a chi-square value of $\chi 2$ (66) = 843.886, $p < .001$, and a KMO measure of sampling adequacy at .928, indicating that the questionnaire was structurally valid for analysing the constructs it intended to measure. Furthermore, the analysis verified that the data were normally distributed, as evidenced by the absence of skewness or kurtosis values exceeding the thresholds of +2 or -2, thereby affirming the survey's appropriateness for subsequent statistical evaluations.

3.4.2 Test scores

Test scores were utilized to complement the quantitative data. Each EFL teacher participated in a comprehensive test, where they answered questions provided by two raters during virtual meetings. The allotted time for each participant was 50 minutes. The mean test score obtained was 78.89, with a standard deviation of 4.85.

3.4.3 Written interviews

All the teachers (n = 76) participated in written interviews regarding their perceptions of the usefulness, course content and design, and learning outcomes of the virtual TPEP. Written interviews offer flexibility and anonymity, allowing participants to respond at their convenience and provide honest feedback (Whetzel et al., 2003). They also enable thorough data analysis and interpretation, making them valuable for qualitative research. Participants could respond in either Indonesian or English to allow for more elaborate responses. In total, 7,716 words were collected and analysed.

The interpretivist paradigm suggests that individuals construct knowledge and truth rather than encountering pre-existing entities. It prioritizes comprehending the subjective realities of individuals (Creswell, 2021). Researchers embracing this paradigm aim to investigate and clarify the underlying reasons for phenomena, with a particular emphasis on their context-specific manifestations (Cohen et al., 2002). Our decision to employ the interpretivist paradigm stemmed from our goal to thoroughly capture and analyse the nuanced and profound learning encounters of teachers within the virtual TPEP.

3.5 Data analysis

The analysis of the first research questions involved employing descriptive statistics and deductive thematic analysis (Terry et al., 2017). The thematic analysis process entailed systematically identifying, analysing, and reporting patterns or themes within the qualitative data collected. It commenced with familiarizing oneself with the interview data through repeated readings, followed by the generation of initial codes to label relevant features. These codes were then organized into potential themes, which underwent review and refinement to ensure their accurate representation of the data. Subsequently, these thematic findings were compared to the outcomes derived from the descriptive statistics. On the other hand, the second research question was addressed through bivariate correlations, which examined the relationships between variables quantitatively.

4. RESULTS

Overall, teachers assessed the effectiveness of the Teacher Profession Education Program (TPEP) quite positively. The mean rating obtained was 3.96 (*SD* = .55), indicating a high level of efficacy. Below are the details of the results.

4.1 Perceived Usefulness

The assessment of the perceived usefulness of the virtual TPEP among teachers yielded significant insights, reflected by a mean score of 4.00 (*SD* = .69), indicative of a high level of appreciation for the program's efficacy. This quantitative evaluation, detailed in Table 2, underlines the multifaceted benefits of TPEP, particularly highlighting the effectiveness of online platforms like G-Meets, which a substantial 73.68% of participants found to be highly effective for engagement and learning. Similarly, the integration of a Learning Management System (LMS) was deemed quite beneficial by 68.42% of the respondents, facilitating a collaborative educational environment. The program's capacity to enhance active participation was particularly noted, with 78.95% of teachers acknowledging that it encouraged a dynamic exchange of queries and insights. Over half of the participants (56.58%) felt that TPEP promoted autonomy in their learning processes.

Table 2. Teachers' responses on perceived usefulness.

	SD	D	N	A	SA
1. Online learning via G-Meets is really effective for me.	2.63	2.63	6.58	73.68	14.47
2. Sharing information within the LMS collaboration room is quite helpful to me.	2.63	0.00	10.53	68.42	18.42
3. Online classes encourage me to ask questions and provide answers.	3.95	1.32	1.32	78.95	14.47
4. This TPEP's online learning makes me an autonomous learner.	2.63	1.32	11.84	56.58	27.63

The qualitative analysis further elaborated on the teachers' experiences, revealing a broad consensus on the advantages of online learning within the TPEP framework. Teachers highlighted the program's pivotal role in providing increased flexibility and access to professional development resources, all while accommodating their existing teaching obligations. This mode of learning was credited with enriching their pedagogical repertoire through the acquisition of new knowledge, innovative teaching strategies, and methodologies, thereby advancing their teaching competencies and fostering pedagogical innovation. The teachers also valued the opportunities for collaboration and professional networking that the program facilitated, enhancing their educational practices through peer and mentor interactions. Nonetheless, some teachers articulated concerns regarding the limitations imposed by the absence of direct interpersonal interactions and varying levels of technological adeptness among participants. Below are the excerpts from the written interviews.

> In my opinion, online learning at TPEP was very useful. Apart from being able to learn easily anywhere and at any time, we could also develop our abilities in using technology, play an active role in participating in learning, and know learning materials easily. (Respondent 36)
>
> TPEP was very useful because it could evaluate teacher deficiencies so that they could be overcome when TPEP was finished by applying what they had learned during TPEP. Teachers were more confident when in the classroom and were not afraid when asked to collect teaching materials by the Deputy Head of Curriculum. (Respondent 38)

4.2 Course Content and Design

The evaluation of teachers' perceptions concerning the course content and design within the virtual TPEP generated a mean satisfaction score of 3.98 (*SD* = .72), signifying a high level of approval among teachers. This data, as illustrated in Table 3, provides a detailed breakdown of the teachers' perspectives on the course content and design. A significant majority (75%) of respondents affirmed that the learning materials made available through the Learning Management System (LMS) were comprehensive and met their professional development needs. An equal percentage attested to the interactive nature of asynchronous online learning within the LMS, enhancing the learning experience. Furthermore, the appeal of synchronous online sessions via G-Meets was acknowledged by 67.11% of participants, who expressed enthusiasm for these real-time interactions. The overall design of the TPEP, as facilitated through online learning modalities, was met with approval by 69.74% of teachers.

Table 3. Teachers' responses on course content and design.

	SD	D	N	A	SA
5. Learning materials in the Learning Management System (LMS) fulfil my needs as a teacher.	2.63	1.32	3.95	75.00	17.11
6. Online learning through asynchronous mode (LMS) is conducted in an interactive manner.	3.95	2.63	6.58	75.00	11.84
7. Online learning through synchronous mode (G-Meets) which is facilitated by the instructors is exciting.	3.95	0.00	6.58	67.11	22.37
8. I am satisfied with TPEP design through online learning.	3.95	1.32	6.58	69.74	18.42

Qualitative data analysis further shed light on the consensus among teachers regarding the virtual TPEP's role in enhancing their competency in lesson planning and the creation of teaching modules. Many teachers shared positive feedback, attributing their enhanced skills in developing comprehensive lesson plans to the enriched content, insightful guidance from instructors, and the acquisition of broader knowledge and skills. The provision of clear explanations and robust support from lecturers and tutors was particularly valued for enabling effective understanding and application of lesson planning principles. A transformative shift was reported by some teachers, who moved from a dependence on sourcing content online to a more refined, guided approach in lesson planning, underpinned by the TPEP's resources. The importance of interactive exchanges and constructive feedback from instructors in the iterative refinement of lesson plans to align with educational objectives and learner requirements was also emphasized. However, challenges were noted by a minority, including discrepancies in instructor advice and obstacles in adapting to evolving curriculum demands. Some excerpts from the written interviews are provided below.

> Thank God, I can understand that at first, I just copied and pasted from the internet, but with TPEP, my ability to create learning objectives using Bloom's taxonomy formula really helped me to create correct learning objectives, not just copy and paste anymore. (Respondent 7)
>
> Being guided well by lecturers and tutors patiently from the beginning until the end becomes a good lesson plan. I can explore and develop both my knowledge and skills. It is necessary to be a skilled teacher. (Respondent 34)

4.3 Perceived Learning Outcomes

The calculation of teachers' perceptions of their learning outcomes from the virtual TPEP produced a mean score of 3.91 (*SD* = 0.55), signifying a substantial level of perceived learning among the participants. Detailed in Table 4, the data delineates the various dimensions of learning outcomes as perceived by the teachers. Over half of the participants (51.32%) acknowledged a marked improvement in their competencies in developing lesson plans through online classes, underscoring the program's effectiveness prior to their participation in the TPEP program. A

significant majority (59.21%) reported an augmentation in their ability to implement problem-based learning (PBL) and project-based learning (PjBL) methodologies, attributed to their experiences with online learning. Furthermore, an overwhelming 72.37% of respondents recognized an enhanced understanding of evaluation planning as facilitated by the online sessions. Additionally, a considerable percentage of teachers (63.16%) observed an uplift in their overall teaching capacity after the completion of the TPEP online.

Table 4. Teachers' responses on learning outcomes.

	SD	D	N	A	SA
9. My understanding in developing my lesson plans improves through online classes before participating in TPEP.	7.89	13.16	6.58	51.32	21.05
10. Through online learning, my ability to apply the problem-based learning (PBL) and Project-based learning (PjBL) learning models increases better.	5.26	1.32	0.00	59.21	34.21
11. Through online learning, my understanding in evaluation plan increases better.	3.95	1.32	2.63	72.37	19.74
12. After completing TPEP online, my teaching capacity increases.	10.53	2.63	2.63	63.16	21.05

The qualitative feedback from teachers regarding their learning outcomes from TPEP reveals a range of experiences and needs, reflecting the program's wide-reaching impact. Several teachers shared their contentment with the program, noting an increase in motivation, a broadening of their knowledge base regarding effective teaching strategies, and an improvement in practical skills, including lesson plan formulation and technological integration in the classroom. Further, the enrichment in understanding innovative teaching models, such as PBL and PjBL, alongside enhanced access to academic resources, was highlighted as a significant benefit. Many teachers stressed the critical role of real-world applications, comprehensive educational materials, and direct mentorship from instructors as essential components in fulfilling their professional development objectives. However, challenges were also articulated, ranging from the difficulties encountered in adjusting to new teaching methodologies and technologies, to disparities in instructor viewpoints, and hurdles in accessing requisite resources. Below are the excerpts from the written interviews.

> I found what I need and want because, with the Teacher Professional Education Program (TPEP), I am more understanding and open. There are many benefits, from not knowing to knowing. With this TPEP, I am more confident and more understanding, so I understand better what education means for teachers. (Respondent 26)
>
> The TPEP made me understand how to create teaching modules according to students' needs, how to make the learning process enjoyable, and how to be a good teacher. (Respondent 57)

4.4 The Correlation between Teachers' Perceptions and Test Scores

The bivariate correlation analysis revealed several significant relationships between teachers' perceptions in the virtual Teacher Profession Education Program (TPEP) and highlighted their interconnections. Perceived usefulness showed significant positive correlations with perceived learning outcomes ($r = .29$, $p = .01$), perceptions of the implemented course content and design ($r = .88$, $p < .001$), and the efficacy of the virtual TPEP ($r = .90$, $p < .001$). Similarly, perceived learning outcomes exhibited significant positive correlations with perceptions of the implemented course content and design ($r = .38$, $p < .001$) and the efficacy of the virtual TPEP ($r = .63$, $p < .001$). Perceptions of the implemented course content and design strongly correlated with the efficacy of the virtual TPEP ($r = .94$, $p < .001$). However, notably absent were significant correlations between

any of these perceptions and actual test scores, indicating that while teachers' perceptions of the program's various aspects were interconnected and positively related, they did not directly align with student academic performance as measured by test scores, as seen in Table 5.

Table 5. Results of bivariate correlations.

		2	3	4	Test Scores
Perceived usefulness (1)	r	.29*	.88**	.90**	.01
	p	.01	.000	.000	.92
Perceived learning outcomes (2)	r		.38**	.63**	.19
	p		.000	.000	.10
Perceptions of the implemented course content and design (3)	r			.94**	-.02
	p			.000	.86
The efficacy of the virtual TPEP (4)	r				.06
	p				.60

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

5. DISCUSSION

The evaluation of Indonesia's National EFL Teacher Profession Education Program (TPEP) has received overwhelmingly positive feedback, demonstrating its effectiveness in virtual professional development. Teachers who participated in the program reported high levels of satisfaction with its content and design, as well as substantial gains in terms of learning outcomes. These indicators suggest that TPEP has effectively met its objectives, which include increasing teacher engagement, promoting learner autonomy, and enhancing both pedagogical skills and instructional strategies. This success aligns with research by O'Dowd and Dooly (2022) and Singh et al. (2022), which highlights the myriad benefits of virtual professional development, such as fostering innovative teaching practices, broadening knowledge bases, initiating collaborative academic projects, and potentially enhancing student learning outcomes. Moreover, while much existing research has focused on the technological implementations of such programs in diverse international settings—including the United States (Zimmer & Matthews, 2022), Vietnam (Truong & Murray, 2019), and China (Zhang, 2022)—this study enriches the literature by examining the experiences of participants in Indonesia, offering insights that mirror those observed in South Korea (Bailey & Lee, 2020). This contribution is significant as it accentuates the comprehensive ways in which virtual professional development can be tailored to effectively meet the specific needs and circumstances of educators, thereby enhancing the overall impact on educational practices and outcomes.

Furthermore, the qualitative aspects of this study enrich the overall narrative by shedding light on the teachers' valuation of the flexibility, resource accessibility, and collaborative prospects that TPEP provides, while also acknowledging certain drawbacks such as the absence of direct interpersonal interaction and the hurdles presented by varying levels of technological expertise. This perspective is consistent with the observations of Taghizadeh and Basirat (2022) and Truong and Murray (2020), who also identified similar challenges and opportunities within virtual learning environments. While it is recognized that both traditional and virtual professional development frameworks present unique challenges, the pivotal aim remains the effectiveness and achievement of training objectives. Notably, the advancement of technology seems to have fostered a positive disposition towards online teacher training programs, as evidenced by research from diverse

contexts such as the U.S. (Moser & Wei, 2023), Iran (Nazari et al., 2019), and Turkey (Adnan, 2018). This global trend towards the acceptance and effectiveness of virtual professional development discloses the potential for such programs to significantly impact teacher training and education quality, notwithstanding the challenges that accompany the shift from conventional to digital learning platforms.

The observed discrepancy between teachers' perceptions of the effectiveness of the National EFL Teacher Profession Education Program (TPEP) in Indonesia and their actual test scores highlights a complex challenge and underlines the need for further scholarly exploration. Despite the positive correlations among teachers' views on the program's usefulness, content, and overall impact, the absence of a direct link to tangible academic results suggests a more intricate interplay of factors beyond the program's structure (Marie, 2021; Wang et al., 2023). This phenomenon indicates that the influence of professional development on teaching effectiveness may extend beyond the curriculum and involve a variety of other elements, such as individual teacher characteristics, student demographics, or the broader educational context (Apridayani & Waluyo, 2022; Philipsen et al., 2019). The lack of alignment between subjective evaluations of the program and objective measures of educational outcomes necessitates a deeper examination of the complexities involved in virtual professional development and its efficacy in enhancing pedagogical practices.

Further complicating this issue are the diverse backgrounds and environments of the teachers and students involved. Factors such as teachers entrenched pedagogical beliefs, varying levels of technological proficiency, and motivation may influence the adoption and implementation of new educational strategies (Abedi & Ackah-Jnr, 2023; Apoko & Cahyono, 2024). Similarly, students' socioeconomic backgrounds, language proficiency levels, and engagement levels are critical in shaping the educational experience. Moreover, external factors such as school infrastructure, administrative support, classroom dynamics, and cultural attitudes toward education may impede the effective translation of professional development into improved academic performance (Abonyi et al., 2020; Adeniyi et al., 2024) These multifaceted dynamics emphasize the necessity of conducting comprehensive investigations into the impact of virtual professional development programs, aiming to better understand and enhance their effect on pedagogical practices and educational outcomes.

The critical examination of this gap reinforces the argument for a comprehensive approach to the evaluation and refinement of teacher professional development initiatives, particularly those conducted in virtual settings. Previous research underlines that effective professional development programs, irrespective of their context, typically share several key attributes: structured frameworks, support mechanisms for collaborative learning, opportunities for teachers to cultivate self-directed learning competencies, and a strong alignment with both teachers' professional needs and curricular objectives (Atmojo, 2021; Kusuma & Waluyo, 2023; Lay et al., 2020; Nguyen, 2021). Thus, the contrast between teachers' positive perceptions and the lack of measurable improvements in student outcomes not only elucidates the multifaceted nature of educational efficacy within virtual environments but also accentuates the necessity for a holistic strategy in the design and assessment of professional development programs (Dille & Røkenes, 2021; Pratiwi & Waluyo, 2023; Yurtseven Avci et al., 2020). Such an approach should aim to not only address the immediate needs and preferences of teachers but also ensure the alignment of these programs with broader educational goals, thereby maximizing their potential to contribute meaningfully to teaching excellence and student achievement.

6. CONCLUSION

The insights garnered from this study shed light on the substantial potential and challenges of virtual professional development (VPD) programs, with reference to the National EFL Teacher Profession Education Program (TPEP) in Indonesia. The affirmative feedback from Indonesian teachers regarding the TPEP indicates the effectiveness of such platforms in surmounting geographical obstacles and advancing teacher education, thereby suggesting a viable approach for Indonesia to foster educational equity across its vast and diverse territories. This positive outcome invites further exploration into enhancing the efficacy and accessibility of VPD initiatives, through improvements in interactivity and technological support. On a global scale, the study advocates for leveraging VPD to break down geographical barriers and cultivate international educational collaboration, with the observed benefits of increased accessibility and innovation in teaching holding universal applicability. However, the noted disparity between teachers' perceptions of program efficacy and the actual academic performance of students stresses the complexity of relying solely on virtual platforms for professional development. This observation calls for an integrated approach that combines VPD with tangible strategies aimed at elevating student achievement, thereby optimizing the global impact of such programs.

Nonetheless, this study is not without its limitations, most notably the lack of significant correlation between teachers' perceived effectiveness of the TPEP and student test scores. This disconnect suggests that positive teacher perceptions may not necessarily translate into quantifiable advancements in student performance, highlighting the intricate nature of educational effectiveness and the myriad factors influencing teaching efficacy. Such factors could range from individual teacher attributes and student characteristics to broader educational contexts, all of which extend beyond the immediate scope of this research. Consequently, there is a pressing need for future investigations to adopt a more encompassing approach, examining these influential dimensions to ascertain and amplify the benefits of VPD in bolstering teaching methodologies and student outcomes. Moreover, the study's reliance primarily on self-reported data calls for a diversified methodological approach in subsequent research to corroborate and expand upon these initial findings, ensuring a more holistic and nuanced understanding of the impact of VPD in the educational domain.

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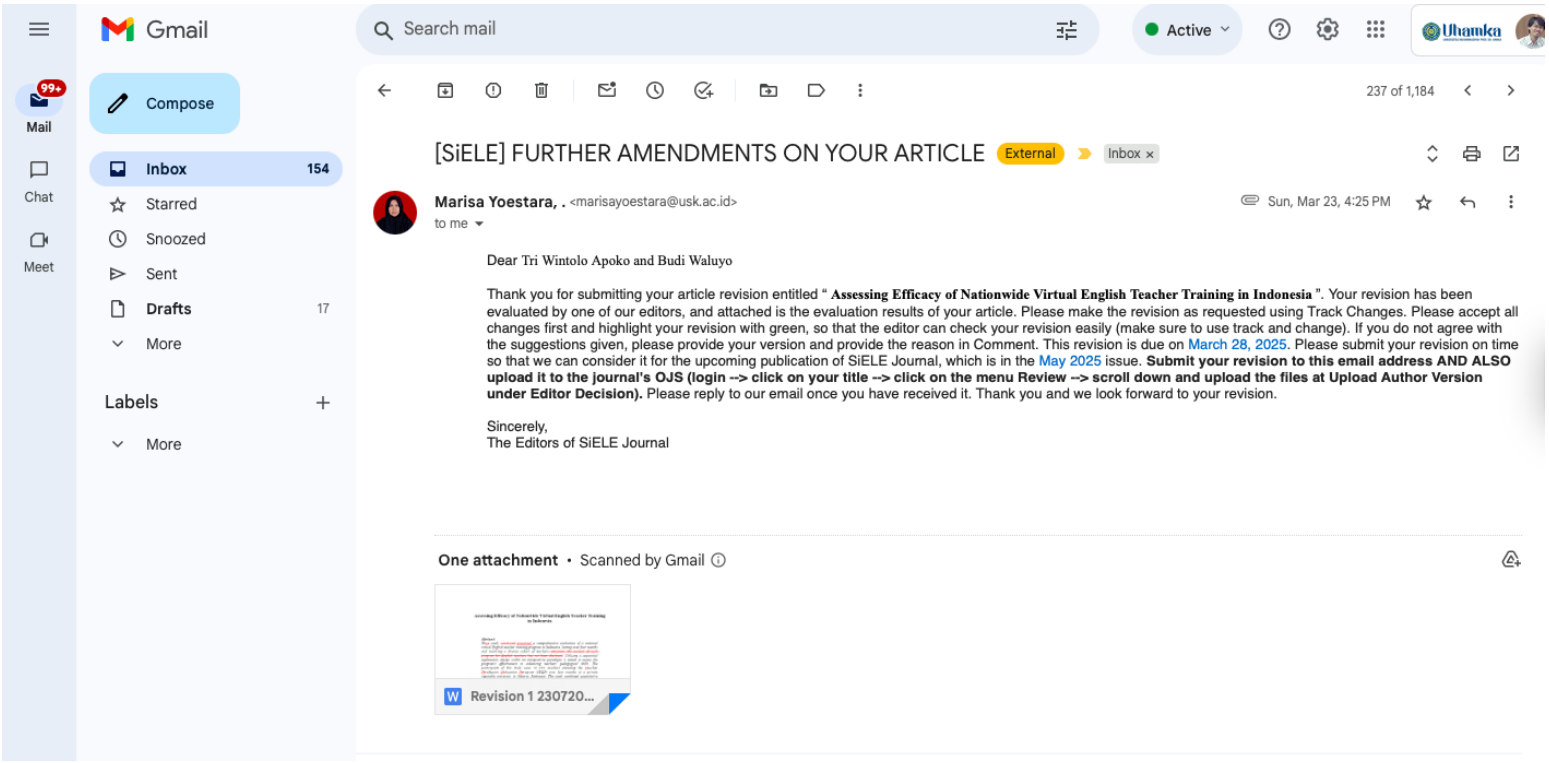
4. Bukti konfirmasi review dan hasil review kedua (Tanggal 23 Maret 2025)



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Assessing Efficacy of Nationwide Virtual English Teacher Training in Indonesia

Abstract

This study presented a comprehensive evaluation of a national virtual English teacher training program in Indonesia, lasting over four months and involving a diverse cohort of teachers. Utilizing a sequential explanatory design within an interpretivist paradigm, it aimed to assess the program's effectiveness in enhancing teachers' pedagogical skills. The participants of this study were 76 EFL teachers attending the Teacher Profession Education Program (TPEP) over four months at a private reputable university in Jakarta, Indonesia. The study combined quantitative analyses of surveys and test scores, focusing on the program's perceived usefulness, content, design, and learning outcome, with qualitative insights from written interviews, applying deductive thematic analysis. Findings revealed that teachers highly valued the program, noting significant perceived learning gains and satisfaction with its content and structure. However, an intriguing disconnect emerged between these positive perceptions and the teachers' actual test scores, suggesting a complex interplay that warrants further scholarly attention. Qualitative data highlighted the program's benefits, such as flexibility and collaborative opportunities, alongside challenges including limited interpersonal interactions and technological hurdles, revealing a multifaceted impact of virtual professional development on teaching efficacy. The study recommends that TPEP should adopt a comprehensive approach in the future, investigating the influence of determining and extending advantages of virtual professional development in strengthening teachers' teaching methods and students' learning outcomes.

Keywords: Virtual training; English teachers; learning outcomes; professional development.

1. INTRODUCTION

The migration towards virtual professional development within the educational sector marks a significant paradigm shift in the approach to teacher training, driven by the dynamic and evolving requisites of the national and international teaching community (Alzahrani & Althaqafi, 2020; King, 2002). The pivotal transition towards online and blended learning modalities is not merely a response to technological advancements but a strategic evolution driven by the imperative to bridge geographical divides, enhance accessibility, and foster a globally interconnected community of educators (Ernest et al., 2013). Such a transformation is lauded for its potential to dismantle traditional barriers to professional development, offering unprecedented flexibility and enabling a cohesive, transnational exchange of pedagogical practices and insights. The commendations of virtual professional development extend beyond its logistic advantages, delving into the domain of enhanced collaborative opportunities and access to a wealth of resources previously constrained by physical boundaries (O'Dowd & Dooly, 2022). The extensive body of research further corroborates the multifaceted advantages of this shift (Bragg et al., 2021; Paudel, 2020; Powell & Bodur, 2019) indicating not only the enhanced accessibility and inclusivity that could be afforded by virtual platforms, but also the potential for creating expansive networks of collaboration that transcend local, national, and international boundaries.

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Nonetheless, a significant gap exists in the research literature regarding the specific effectiveness of Indonesia's National EFL Teacher Profession Education Program (TPEP). Despite the broader integration of digital environments into professional development frameworks, there is a notable dearth of studies assessing the program's success, particularly in enhancing Indonesian EFL teachers' pedagogical skill and instructional expertise. This absence emphasises the critical necessity for thorough research to assess and potentially improve the TPEP's influence on EFL teacher professional development in the Indonesian setting. Such findings could offer valuable insights into the implementation of national virtual teacher training programs in other countries.

Given the burgeoning interest in virtual Professional Development programs and the apparent need for more comprehensive evidence concerning their effectiveness, particularly on a large-scale basis, this study aims to critically evaluate the National EFL Teacher Profession Education Program (TPEP) as implemented by the Indonesian government via online platforms. Indonesia's unique geographical composition, encompassing numerous islands, poses significant challenges for the uniform delivery of face-to-face national teacher training programs, making virtual implementations a cost-effective alternative. This research endeavours to fill the existing gap by assessing the impact of such virtual professional development initiatives on enhancing the pedagogical skills and competencies of Indonesian EFL teachers. The study is guided by two primary research questions:

1. How do English teachers perceive the efficacy of the nationally implemented virtual Teacher Profession Education Program (TPEP) in Indonesia over four months of engagement?
2. What is the correlation between teachers' perceived efficacy of the TPEP and their test scores?

2. LITERATURE REVIEW

2.1 Professional Development within Virtuality

Professional development within virtual environments has undergone a significant evolution over the past few decades, transitioning from traditional, in-person training sessions to dynamic, online platforms that offer flexibility and accessibility to EFL teachers across the globe (Al-Nofaie, 2020; Marie, 2021; Philipsen et al., 2019; Wang et al., 2023). The inception of virtual professional developments can be traced back to the early 2000s, when advancements in technology and the Internet began to reshape the educational landscape. Virtual learning environments emerged as powerful tools for teacher education, facilitating asynchronous and synchronous learning opportunities beyond the constraints of physical classrooms (Hussain Al-Qahtani, 2020; Manegre & Sabiri, 2022). These platforms have enabled EFL teachers to engage in continuous professional learning, reflecting the shift towards more learner-centred approaches in teacher education (O'Dowd & Dooly, 2022).

Concepts of virtual professional development emphasize the integration of digital technologies to support the ongoing education of professionals. It involves teachers, structured programs, courses, workshops, as well as active and collaborative learning communities delivered through online platforms (Dille & Røkenes, 2021; Waluyo & Rofiah, 2021; Yurtseven Avci et al., 2020). These virtual environments not only provide access to a wide range of resources and contents but also facilitate interactions among EFL teachers, allowing for the exchange of ideas, practices, and feedbacks across different contexts and borders (Kohnke, 2021). The flexibility of virtual professional development programs has been particularly beneficial for EFL teachers in remote or underserved areas, offering them opportunities for growth and collaboration that were previously unattainable (Moser & Wei, 2023).

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The implementation of virtual professional development varies significantly across countries and fields, reflecting diverse educational needs and technological infrastructures. In developed countries, such programs often feature sophisticated learning management systems with a wide array of interactive tools and resources (Lay et al., 2020). Conversely, in developing countries, the focus may be on leveraging mobile technology and social media platforms to overcome barriers to access (D'Angelo et al., 2022; McAleavy et al., 2018). Regardless of the context, successful implementations of virtual professional development share common elements: a clear structure and support for collaborative learning, enabling teachers to develop self-directed learning skills and alignment with their needs, such as improved online materials and assessments as well as curricular goals (Atmojo, 2021; Nguyen, 2021).

The effectiveness of virtual professional development programs has been a focal point of scholarly inquiry, with studies highlighting various benefits and challenges. Research indicates that such programs can lead to enhanced innovative teaching practices, increased content knowledge and skills, collaborative academic initiatives, and improved student outcomes (O'Dowd & Dooly, 2022; Singh et al., 2022; Waluyo & Apridayani, 2024). Teachers participating in virtual professional development often report a sense of empowerment and a stronger professional identity, as they are able to connect with new professional partnerships and experts in their field (O'Dowd & Dooly, 2022). However, challenges remain, including issues of digital literacy, engagement, self-regulation ability, Internet connection, and teachers' technical skills (Coman et al., 2020; Taghizadeh & Basirat, 2022; Truong & Murray, 2020).

2.2 EFL Teacher Professional Development within Virtuality

The evolution of virtual environments has significantly influenced English as a Foreign Language (EFL) Teacher Professional Development (PD), with a myriad of studies examining its impact across various educational settings and countries. Those studies, utilizing diverse methodologies, have provided rich insights into the effectiveness, perceptions, challenges, and advantages of virtual PD programs, as well as recommendations for their optimization. In the United States, a mixed-methods experimental study addresses some concerns by developing a virtual coaching PD model to improve teachers' digital learning identities. With teachers' concerned of staying current with evolving technologies, the study's findings point to coaching as an innovative way to PD (Zimmer & Matthews, 2022). Similarly, semi-structured interview responses were studied to better understand the initial and ongoing motivations of nineteen EFL Vietnamese teachers participating in the PD program. The results revealed a significant effect of technology in pushing teachers to both start and stay in the course; a high influence of second language motivation on teachers' learning experiences; and a challenge to the known value of collaborative learning in virtual settings (Truong & Murray, 2019).

A group of 43 EFL university teachers who taught communication courses in South Korea assessed the benefits and obstacles of virtual environments for teachers, students, communication channels, and activity types. Several findings emerged from an analysis of variation among groups with no, low, and high experience. Expected instructor's challenges and activity selection were key disparities between experience levels. Those with online teaching expertise reported fewer hurdles and employed a greater assortment of communication channels and activities while doing so (Bailey & Lee, 2020). However, in Chinese context, due to a lack of PD seminars, teachers had to rely on unofficial learning environments where they collaborated with peers in small groups to improve their use of technology. Thus, PD programs in China have not yet taken into consideration the roles that technology-based instruction plays in the learning process (Zhang, 2022).

In rural Mississippi, a mixed methods study by Moser and Wei (2023) investigated the experiences of K-12 language teachers (English as a Second or other Language [ESOL] and World Language [WL]) who collaborated with one another during an online PD workshop designed to improve their knowledge and skills in online language teaching. A total of fifty

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teachers in this study indicated significant increases in their knowledge base, aspirations to adapt their practice, and positive attitudes of dealing with distant or remote learners. Additionally, the qualitative findings by Nazari et al. (2019) demonstrated that all interviewees from EFL Iranian teachers (both novice and experienced) had good attitudes regarding the online PD course. Furthermore, Adnan (2018) used a mixed-methods design to investigate an online PD program in Turkey, commenting on participants' expectations, readiness and satisfaction. The data showed a substantial link between individual readiness and satisfaction, in which readiness positively predicting contentment.

3. METHODS

3.1 Research Design

The research design adopted for this study was a sequential explanatory design, focussing on investigating two main aspects: English teachers' perceived efficacy of the nationally implemented virtual Teacher Profession Education Program (TPEP) in Indonesia after four months of engagement, and the correlation between teachers' perceived efficacy of the TPEP and their test scores. This design strategy involved a quantitative method initially, followed by a qualitative approach. This sequential explanatory design was chosen based on Creswell's (2018) encouragement of effectiveness in educational research, particularly for facilitating a comprehensive understanding of complex phenomena. Hauserman et al. (2013) accentuated its utility in exploring the intricacies of educational interventions within specific subject areas. By utilizing this sequential explanatory design, the study aimed to provide a coherent and in-depth analysis of teachers' perceptions and their relationship with program effectiveness, thus contributing to the broader discourse on virtual teacher education programs.

3.2 Context and Participant

The training, the Virtual Teacher Profession Education Program (TPEP), hosted entirely online by a private university in eastern Jakarta. The convenience sampling techniques was employed to select participants based primarily on their availability and willingness to participate in this study. To ensure the study's generalizability, the sample consisted of a diverse cohort of teachers from various geographical regions—Banten, Jakarta, West Java, Central Java, East Java, and Papua—and across different educational levels, including elementary, junior high school, and senior high school levels. This strategic selection aimed to capture a broad spectrum of experiences and backgrounds, thereby providing insights into the technological engagement and instructional challenges faced by English as a Foreign Language (EFL) teachers at various stages of education in Indonesia. Therefore, the findings could be applicable to a wider population of EFL teachers, reflecting the varied educational contexts throughout the country.

Table 1 below outlines the demographic profile of 76 EFL teachers who participated in the study, showcasing a diverse yet predominantly female group in which women represented 67% of the participants, with men constituting the remaining 33%. A notable majority, 71%, were experienced teachers over 40 years old, indicating a cohort of seasoned professionals within the educational sector. Younger teachers were less represented, with figures revealing no participants under 25, 4% aged between 25 and 30, 16% aged between 31 and 35, and 9% aged between 36 and 40 years old. Geographically, the teachers came from various regions, with the largest groups originating from Banten (43%), Jakarta (28%), and West Java (24%), while minimal representation was noted from Central Java, East Java, and Papua, making up 1% and 3% respectively.

Most participants taught at junior high school level (55%). Meanwhile, elementary and senior high school level accounted for only 22% each. This diversity indicated a wide range of educational settings was employed in this study. In terms of teaching experience, 34% had

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between 11 and 15 years of experience, underscoring significant expertise. Technological access essential for contemporary teaching was also high, with 74% of the participants had internet access at home and 97% had access at school. Daily computer or laptop usage was varied, with the most common duration of 4-5 hours (34%). Microsoft PowerPoint emerged as the preferred teaching tool (63%), highlighting a preference for presentation-based instruction. Primary uses of laptops or smartphones included completing school assignments (63%) and creating digital-based learning materials (24%), reflecting substantial engagement with digital resources in their educational activities.

Table 1. Demographics of the participants.

Categories	Descriptions	Total	Percentage
Gender	Female	51	67%
	Male	25	33%
Age	<25 years old	0	0%
	25-30 years old	3	4%
	31-35 years old	12	16%
	36-40 years old	7	9%
	>40 years old	54	71%
Home location	Banten	33	43%
	Centra Java	1	1%
	East Java	1	1%
	Jakarta	21	28%
	Papua	2	3%
	West Java	18	24%
Educational level of teaching English	Elementary School	17	22%
	Junior High School	42	55%
	Senior High School	17	22%
Length of teaching experience	<3 years	3	4%
	3-5 years	19	25%
	6-10 years	24	32%
	11-15 years	26	34%
	16-20 years	8	11%
Having an Internet connection at home	Yes	56	74%
	No	20	26%
Having an Internet access at school	Yes	74	97%
	No	2	3%
Using a laptop/computer a day	<2 hours	8	11%
	2-3 hours	23	30%
	4-5 hours	26	34%
	6-7 hours	11	14%
	>7 hours	8	11%
Program mostly used for teaching needs	MS Word	28	37%
	MS Excel	0	0%
	MS PPT	48	63%
Activities mostly used through laptops/smartphones	Games & entertaining activities	8	11%
	Doing school assignment	48	63%
	Making digital-based learning contents	18	24%
	Making infographic projects	4	5%

3.3 Design: The Virtual Teacher Profession Education Program (TPEP)

Since its inception in 2018, the virtual Teacher Profession Education Program (TPEP) for English subject has undergone annual evaluations to enhance the quality of its learning activities and the calibre of its graduates. The program, tailored for in-service EFL teachers, spans one semester, approximately four months, and operates entirely online, utilizing a blend of G-Meets for virtual interactions and a Moodle-based Learning Management System (LMS)

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for course management. The TPEP is structured into two cycles, each designed to progressively develop the participants' skill and knowledge. The initial cycle comprises sessions focussing on material deepening (meetings 1-6), the development of instructional tools (meetings 7-13), a comprehensive test, and a teaching practice phase at schools (meetings 14-17). Participants must pass the comprehensive test first in order to proceed to the teaching practice. Successful completion of the first cycle leads to participation in the second cycle, which mirrors the first cycle in structure but emphasizes further material deepening (meetings 28-33) and instructional tool development (meetings 34-40), as well as culminates in another comprehensive test and extended teaching practice (meetings 41-57).

Within the TPEP, each course is thoroughly planned with specific activities in order to achieve its learning objectives. The material deepening course involves identifying and exploring problem cases as well as determining their causes. This course is facilitated by two instructors—a lecturer and a teacher—in a large class setting. The course on developing instructional tools focuses on exploring solutions or alternatives, determining solutions, developing action plans, and crafting evaluation plans. This course is conducted in small groups of three, each comprising ten members. For the teaching practice component, participants are required to teach in their respective schools under the observation of the instructors. They need to engage in activities, such as teaching English in the initial meetings, video editing, analysing students' learning assessment results, and reflecting on their teaching practices. This comprehensive approach, detailed in figures 1 and 2, ensures a robust and practical learning experience tailored to enhance the professional skills of EFL teachers.

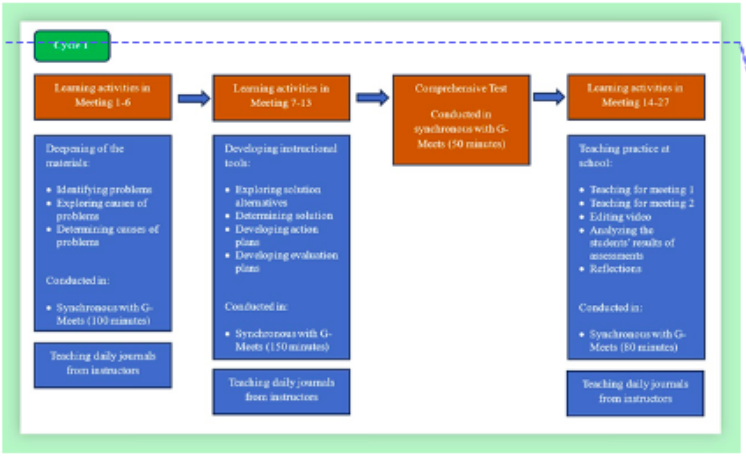

Figure 1. Cycle 1 for TPEP activities.

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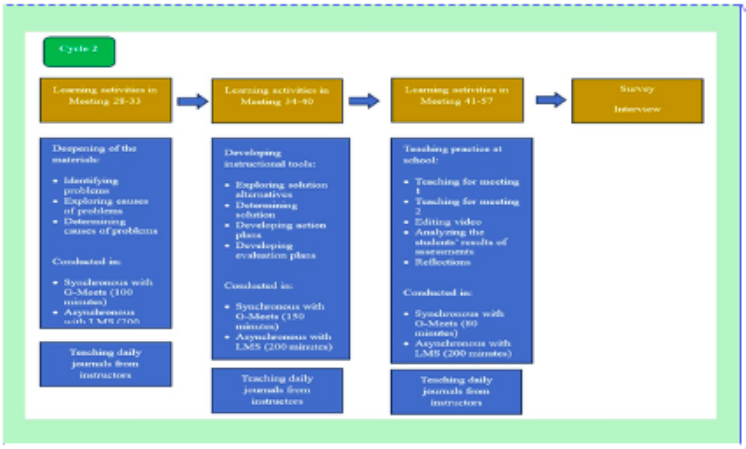

Figure 2. Cycle 2 for TPEP activities.

3.3.1 The Use of Digital Technologies

Within the framework of teaching practices, particularly for administering pre-tests and post-tests, students frequently utilized an array of digital instruments. *Google Forms*, *Quizizz*, and *Kahoot!* were among the tools commonly adopted, with *Google Forms* leading in preference due to its user-friendliness and multifunctionality. This trend highlighted the pivotal role of accessible and efficient technological solutions in evaluating student learning outcomes and understandings. Furthermore, for delivering educational presentations, students employed various digital platforms: *PowerPoint* for structured presentations, *Canva* for engaging designs, *Padlet* for collaborative interactions, and *YouTube* for dynamic video contents. The inclusion of social media platforms such as *TikTok* into pedagogical practices reflected an adaptive response to the changing digital landscape and a commitment to meet students in their digital comfort zones. The deliberate use of these digital assets, underpinned by the Technological Pedagogical and Content Knowledge (TPACK) framework, aimed at enhancing the pedagogical experience. By integrating technological prowess with deep pedagogical and content knowledge, this strategy aimed to foster an educational environment that was not only more engaging but also more effectively communicated complex ideas, thereby elevating the quality and appeal of educational practices for students.

3.4 Instruments and Measures

3.4.1 The efficacy survey: Item, reliability, and validity

To collect quantitative data on the efficacy of the virtual Teacher Profession Education Program (TPEP) among EFL teachers, an online survey was conducted. This survey was structured into two sections: the first section gathered demographic information, while the second section comprised of 12 statements rated on a Likert scale ranging from strongly disagree (1) to strongly agree (5), explicitly designed without any negatively phrased items. Drawing on the works of Adnan (2020) and Pham et al. (2021), the questionnaire assessed participants' perceptions of TPEP online classes across three distinct dimensions, each

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represented by four statements: (1) perceived usefulness dimension in statements one to four; (2) course content and design dimension in statements five to eight; and (3) outcomes of online learning dimension in statements nine to twelve. The reliability of the survey was confirmed through Cronbach's alpha of .863, reflecting a high internal consistency among the items.

The survey's validity was established using the Kaiser–Meyer–Olkin (KMO) measure and Bartlett's test of sphericity. The results from these tests were significant, with a chi-square value of $\chi 2$ (66) = 843.886, $p < .001$, and a KMO measure of sampling adequacy at .928, indicating that the questionnaire was structurally valid for analysing the constructs it intended to measure. Furthermore, the analysis also verified that the data were normally distributed as evidenced by the absence of skewness or kurtosis values exceeding the thresholds of +2 or -2, thereby affirming the survey's appropriateness for subsequent statistical evaluations.

3.4.2 Test scores

Test scores were utilized to complement the quantitative data. Each EFL teacher participating in a comprehensive test answered questions provided by two raters during the virtual meetings. The allotted time for each participant was 50 minutes. The mean test score obtained was 78.89, with a standard deviation of 4.85.

3.4.3 Written interviews

All of the teachers ($n = 76$) participated in written interviews regarding their perceptions of the usefulness, course content and design, as well as learning outcomes of the virtual TPEP. Written interviews offered flexibility and anonymity, allowing participants to respond at their convenience and provide honest feedback (Whetzel et al., 2003). They also enable thorough data analysis and interpretation, making them valuable for qualitative research. Participants could respond the interview questions in either Indonesian or English, allowing for more elaborated responses. In total, 7,716 words were collected and analysed.

The interpretivist paradigm suggests that individuals construct knowledge and truth rather than encountering pre-existing entities. It prioritizes on comprehending the subjective realities of individuals (Creswell, 2021). Researchers embracing this paradigm aim to investigate and clarify the underlying reasons for the observed phenomena, with a particular emphasis on their context-specific manifestations (Cohen et al., 2002). This current study's decision to employ the interpretivist paradigm stemmed from the goal to thoroughly capture and analyse the nuanced and profound learning experience encountered by teachers within the virtual TPEP.

3.5 Data Analysis

The analysis of the first research questions involved employing descriptive statistics and deductive thematic analysis (Terry et al., 2017). The thematic analysis systematically entailed the process of identifying, analysing, and reporting patterns or themes within the qualitative data collected. It commenced with familiarizing the interview data through repeated readings, followed by the generation of initial codes to label relevant features. These codes were then organized into potential themes, which underwent review and refinement to ensure their accurate representation of the data. Subsequently, these thematic findings were compared to the outcomes derived from the descriptive statistics. On the other hand, the second research question was addressed through bivariate correlations, which examined the relationships between variables quantitatively.

4. RESULTS

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Overall, teachers perceived the Teacher Profession Education Program (TPEP) to be quite positively effective. The mean rating obtained was 3.96 (*SD* = .55), indicating a high level of efficacy. Below are the details of the results.

4.1 Perceived Usefulness

The analysis of the virtual TPEP perceived usefulness among teachers yielded significant insights reflected by a mean score of 4.00 (*SD* = .69), indicating a high level of appreciation for the program's efficacy. This quantitative evaluation, detailed in Table 2, underlines the multifaceted benefits of TPEP, particularly highlighting the effectiveness of online platforms like G-Meets in which a substantial 73.68% of participants found to be highly effective for engagement and learning. Similarly, the integration of a Learning Management System (LMS) was deemed to be quite beneficial by 68.42% of the respondents, facilitating a collaborative educational environment. In addition, the program's capacity to enhance active participation was particularly noted, with 78.95% of teachers acknowledging that it encouraged a dynamic exchange of queries and insights. Furthermore, over half of the participants (56.58%) felt that TPEP promoted autonomy in their learning processes.

Table 2. Teachers' responses on perceived usefulness.

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1. Online learning via G-Meets is really effective for me.	2.63	2.63	6.58	73.68	14.47
2. Sharing information within the LMS collaboration room is quite helpful to me.	2.63	0.00	10.53	68.42	18.42
3. Online classes encourage me to ask questions and provide answers.	3.95	1.32	1.32	78.95	14.47
4. This TPEP's online learning makes me an autonomous learner.	2.63	1.32	11.84	56.58	27.63

The qualitative analysis further elaborated on the teachers' experiences, revealing a broad consensus on the advantages of online learning within the TPEP framework. Teachers highlighted the program's pivotal role in providing increased flexibility and access to professional development resources while accommodating their existing teaching obligations. This mode of learning was credited with enriching their pedagogical repertoire through the acquisition of new knowledge, innovative teaching strategies, and methodologies, thereby advancing their teaching competencies and fostering their pedagogical innovation. The teachers also valued the opportunities for collaboration and professional networking that the program facilitated, enhancing their educational practices through peer and mentor interactions. Nonetheless, some teachers articulated concerns regarding the limitations imposed by the absence of direct interpersonal interactions and the level of technological adeptness variation among participants. Below are the excerpts from the written interviews.

(1) 'In my opinion, online learning at TPEP was very useful. Apart from being able to learn easily anywhere and at any time, we could also develop our abilities in using technology, play an active role in participating in learning, and know learning materials easily'. (R36)

(2) 'TPEP was very useful because it could evaluate teacher deficiencies so that they could be overcome when TPEP was finished by applying what they had learned during TPEP. Teachers were more confident when in the classroom and were not afraid when asked to collect teaching materials by the Deputy Head of Curriculum'. (R38)

4.2 Course Content and Design

The analysis of teachers' perceptions concerning the course content and design within the virtual TPEP generated a mean satisfaction score of 3.98 (*SD* = .72), signifying a high level of approval among teachers. This data, as illustrated in Table 3, provides a detailed breakdown

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of teachers' perspectives on the course content and design. A significant majority of respondents (75%) affirmed that the learning materials made available through the Learning Management System (LMS) were comprehensive and met their professional development needs. An equal percentage attested to the interactive nature of asynchronous online learning within the LMS, enhancing the teachers' learning experience. Furthermore, the appeal of synchronous online sessions via G-Meets was acknowledged by 67.11% of participants, who expressed enthusiasm for these real-time interactions. The overall design of the TPEP, as facilitated through online learning modalities, was met with the approval by 69.74% of teachers.

Table 3. Teachers' responses on course content and design.

	SD	D	N	A	SA
5. Learning materials in the Learning Management System (LMS) fulfil my needs as a teacher.	2.63	1.32	3.95	75.00	17.11
6. Online learning through asynchronous mode (LMS) is conducted in an interactive manner.	3.95	2.63	6.58	75.00	11.84
7. Online learning through synchronous mode (G-Meets) which is facilitated by the instructors is exciting.	3.95	0.00	6.58	67.11	22.37
8. I am satisfied with TPEP design through online learning.	3.95	1.32	6.58	69.74	18.42

Qualitative data analysis further shed light on the consensus among teachers regarding the virtual TPEP's role in enhancing the competency in lesson planning and the creation of teaching modules. Many teachers shared positive feedback, attributing their enhanced skills in developing comprehensive lesson plans to the enriched content, insightful guidance from instructors, and the acquisition of broader knowledge and skills. The provision of clear explanations and robust support from lecturers and tutors was particularly valued, particularly for enabling effective understanding and application of lesson planning principles. A transformative shift was also reported by some teachers, who moved from a dependence on sourcing content online to a more refined, guided approach in lesson planning underpinned by the TPEP's resources. The importance of interactive exchanges and constructive feedback from instructors in the iterative refinement of lesson plans to align with educational objectives and learner requirements was also emphasized. However, challenges were noted by a minority, including discrepancies in instructor advices and obstacles in adapting to the evolving curriculum demands. Some excerpts from the written interviews are provided below.

(3) 'Thank God, I can understand that at first, I just copied and pasted from the internet, but with TPEP, my ability to create learning objectives using Bloom's taxonomy formula really helped me to create correct learning objectives, not just copy and paste anymore'. (R7)

(4) 'Being guided well by lecturers and tutors patiently from the beginning until the end becomes a good lesson plan. I can explore and develop both my knowledge and skills. It is necessary to be a skilled teacher'. (R34)

4.3 Perceived Learning Outcomes

The calculation of teachers' perceptions of their learning outcomes from the virtual TPEP produced a mean score of 3.91 ($SD = 0.55$), signifying a substantial level of perceived learning among the participants. Detailed in Table 4, the data delineates the various dimensions of learning outcomes as perceived by the teachers. Over half of the participants (51.32%) acknowledged a marked improvement in terms of their competencies in developing lesson plans through online classes, underscoring the program's effectiveness prior to their participation in the TPEP program. A significant majority (59.21%) reported an augmentation in their ability to implement problem-based learning (PBL) and project-based learning (PjBL) methodologies, attributed to their experiences with online learning. Furthermore, 72.37% of

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respondents recognized an enhanced understanding of evaluation planning as facilitated in the online sessions. Additionally, a considerable percentage of teachers (63.16%) observed an uplift in their overall teaching capacity after the completion of the TPEP online.

Table 4. Teachers' responses on learning outcomes.

	SD	D	N	A	SA
9. My understanding in developing my lesson plans improves through online classes before participating in TPEP.	7.89	13.16	6.58	51.32	21.05
10. Through online learning, my ability to apply the problem-based learning (PBL) and Project-based learning (PjBL) learning models increases better.	5.26	1.32	0.00	59.21	34.21
11. Through online learning, my understanding in evaluation plan increases better.	3.95	1.32	2.63	72.37	19.74
12. After completing TPEP online, my teaching capacity increases.	10.53	2.63	2.63	63.16	21.05

The qualitative feedback from teachers regarding their learning outcomes from TPEP revealed a range of experiences and needs, reflecting the program's wide-reaching impact. Several teachers shared their contentment with the program, noting an increase in motivation, a broadening of their knowledge base regarding effective teaching strategies, and an improvement in practical skills, including lesson plan formulation and technological integration in the classroom. Furthermore, the enrichment in understanding innovative teaching models, such as PBL and PjBL, alongside enhanced access to academic resources, was highlighted as a significant benefit. Many teachers stressed the critical role of real-world applications, comprehensive educational materials, and direct mentorship from instructors as essential components in fulfilling their professional development objectives. However, challenges were also articulated, ranging from the difficulties encountered in adjusting to new teaching methodologies and technologies to disparities in instructor viewpoints and hurdles in accessing requisite resources. Below are the excerpts from the written interviews.

(5) 'I found what I need and want because, with the Teacher Professional Education Program (TPEP), I am more understanding and open. There are many benefits, from not knowing to knowing. With this TPEP, I am more confident and more understanding, so I understand better what education means for teachers.' (R26)

(6) 'The TPEP made me understand how to create teaching modules according to students' needs, how to make the learning process enjoyable, and how to be a good teacher'. (R57)

4.4 The Correlation between Teachers' Perceptions and Test Scores

The bivariate correlation analysis revealed several significant relationships between teachers' perceptions in the virtual Teacher Profession Education Program (TPEP) and highlighted their interconnections. Perceived usefulness showed significant positive correlations with perceived learning outcomes (r = .29, p =.01), with perceptions of the implemented course content and design (r =.88, p < .001), and with the efficacy of the virtual TPEP (r =.90, p <.001). Similarly, perceived learning outcomes exhibited significant positive correlations with perceptions of the implemented course content and design (r =.38, p < .001) and with the efficacy of the virtual TPEP (r =.63, p < .001). Perceptions of the implemented course content and design strongly correlated with the efficacy of the virtual TPEP (r = .94, p <.001). However, notably absent were significant correlations between any of these perceptions and the teachers' actual test scores, indicating that while teachers' perceptions of the program's various aspects were interconnected and positively related, they did not directly align with the student academic performance as measured by the test scores, as seen in Table 5.

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Table 5. Results of bivariate correlations.

		2	3	4	Test Scores
Perceived usefulness (1)	r	.29*	.88**	.90**	.01
	p	.01	.000	.000	.92
Perceived learning outcomes (2)	r		.38**	.63**	.19
	p		.000	.000	.10
Perceptions of the implemented course content and design (3)	r			.94**	-.02
	p			.000	.86
The efficacy of the virtual TPEP (4)	r				.06
	p				.60
*. Correlation is significant at the 0.05 level (2-tailed).					
**. Correlation is significant at the 0.01 level (2-tailed).					

5. DISCUSSION

The evaluation of Indonesia's National EFL Teacher Profession Education Program (TPEP) has received overwhelmingly positive feedback, demonstrating its effectiveness in virtual professional development. Teachers who participated in the program reported high levels of satisfaction with its content and design, as well as substantial gains in terms of learning outcomes. These indicators suggested that TPEP has effectively met its objectives, which include increasing teachers' engagement, promoting learner autonomy, and enhancing both pedagogical skills and instructional strategies. This success aligned with research by O'Dowd and Dooly (2022) as well as Singh et al. (2022), which also highlighted the myriad benefits of virtual professional development, such as fostering innovative teaching practices, broadening knowledge bases, initiating collaborative academic projects, and potentially enhancing student learning outcomes. Moreover, while much existing research has focused on the technological implementations of such programs in diverse international settings—including in the United States (Zimmer & Matthews, 2022), Vietnam (Truong & Murray, 2019), and China (Zhang, 2022)—this study enriched the literature by examining the experiences of participants in Indonesia, offering insights that mirror those observed in South Korea (Bailey & Lee, 2020). This contribution was significant as it accentuated the comprehensive ways in which virtual professional development can be tailored to effectively meet the specific needs and circumstances of educators, thereby enhancing the overall impact on educational practices and outcomes.

Furthermore, the qualitative findings of this study enrich the overall narrative by shedding light on the teachers' valuation of the flexibility, resource accessibility, and collaborative prospects that TPEP provides, while also acknowledging certain drawbacks such as the absence of direct interpersonal interaction and the hurdles presented by varying levels of technological expertise. This perspective was consistent with the observations of Taghizadeh and Basirat (2022) as well as Truong and Murray (2020), who also identified similar challenges and opportunities within virtual learning environments. While it was recognized that both traditional and virtual professional development frameworks presented unique challenges, the pivotal aim remained the effectiveness and achievement of training objectives. Notably, the advancement of technology seemed to have fostered a positive disposition towards online teacher training programs, as evidenced by research from diverse contexts, such as the U.S. (Moser & Wei, 2023), Iran (Nazari et al., 2019), and Turkey (Adnan, 2018). The global trend towards the acceptance and effectiveness of virtual professional development disclosed the potential for such programs to significantly impact teacher training and education quality, notwithstanding the challenges that accompany the shift from conventional to digital learning platforms.

The observed discrepancy between teachers' perceptions of the national EFL Teacher Profession Education Program (TPEP)'s effectiveness in Indonesia and their actual test scores

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highlighted a complex challenge and underlined the need for further scholarly exploration. Despite the positive correlations among teachers' views on the program's usefulness, content, and overall impact, the absence of a direct link to tangible academic results suggested a more intricate interplay of factors beyond the program's structure (Marie, 2021; Wang et al., 2023). This phenomenon indicated that the influence of professional development on teaching effectiveness may extend beyond the curriculum and involve a variety of other elements, such as individual teacher characteristics, student demographics, or the broader educational contexts (Apridayani & Waluyo, 2022; Philipsen et al., 2019). The lack of alignment between subjective evaluations of the program and objective measures of the educational outcomes necessitated a deeper examination of the complexities involved in virtual professional development and its efficacy in enhancing pedagogical practices.

Further complicating issue were the diverse backgrounds and environments of the teachers and students involved. Factors such as teachers' entrenched pedagogical beliefs, varying levels of technological proficiency, and motivation may influence the adoption and implementation of new educational strategies (Abedi & Ackah-Jnr, 2023; Apoko & Cahyono, 2024). Similarly, students' socioeconomic backgrounds, language proficiency levels, and engagement levels were also critical in shaping the educational experience. Moreover, external factors such as school infrastructure, administrative support, classroom dynamic, and cultural attitude towards education may impede the effective translation of professional development into improved academic performance (Abonyi et al., 2020; Adeniyi et al., 2024) These multifaceted dynamics emphasized the necessity of conducting comprehensive investigations into the impact of virtual professional development programs, aiming to better understand and enhance their effect on pedagogical practices and educational outcomes.

The critical examination of this gap reinforced the argument for a comprehensive approach to the evaluation and refinement of teacher professional development initiatives, particularly those conducted in virtual settings. Previous research underlined that effective professional development programs, irrespective of their context, typically shared several key attributes: structured frameworks, support mechanisms for collaborative learning, opportunities for teachers to cultivate self-directed learning competencies, and strong alignments with both teachers' professional needs and curricular objectives (Atmojo, 2021; Kusuma & Waluyo, 2023; Lay et al., 2020; Nguyen, 2021). Thus, the contrast between teachers' positive perceptions and the lack of measurable improvements in the student outcomes not only elucidates the multifaceted nature of educational efficacy within virtual environments but also accentuates the necessity for a holistic strategy in the design and assessment of professional development programs (Dille & Røkenes, 2021; Pratiwi & Waluyo, 2023; Yurtseven Avci et al., 2020). Such approach should aim to not only address the immediate needs and preferences of teachers, but also ensure the alignment of these programs with broader educational goals, thereby maximizing their potential to contribute meaningfully to teaching excellence and students' achievement.

6. CONCLUSION

The insights garnered from this study shed light on the substantial potential and challenges of virtual professional development (VPD) programs, with reference to the national EFL Teacher Profession Education Program (TPEP) in Indonesia. The affirmative feedback from Indonesian teachers regarding the TPEP indicated the effectiveness of such platforms, particularly in surmounting geographical obstacles and advancing teacher education, thereby suggesting a viable approach for Indonesia to foster educational equity across its vast and diverse territories. This positive outcome invites further exploration into strategies in enhancing the efficacy and accessibility of VPD initiatives, particularly through improvements in interactivity and technological support. On a global scale, the study advocates for leveraging VPD to break down geographical barriers and cultivate international educational collaborations, especially with the observed benefits of increased accessibility and innovation

in teaching holding universal applicability. However, the noted disparity between teachers' perceptions of the program efficacy and the actual academic performance of students stresses the complexity of relying solely on virtual platforms for professional development. This observation calls for an integrated approach that combines VPD with tangible strategies aimed at elevating student achievement, thereby optimizing the global impact of such programs.

Nonetheless, this study is not without its limitations, most notably the lack of significant correlation between teachers' perceived effectiveness of the TPEP and student test scores. This disconnect suggests that positive teacher perceptions may not necessarily translate into quantifiable advancements in the student performance, highlighting the intricate nature of educational effectiveness and the myriad factors influencing teaching efficacy. Such factors could range from individual teacher attributes and student characteristics to broader educational contexts, all of which extend beyond the immediate scope of this research. Consequently, there is a pressing need for future investigations to adopt a more encompassing approach, examining these influential dimensions to ascertain and amplify the benefits of VPD in bolstering teaching methodologies and student outcomes. Moreover, the study's reliance primarily on self-reported data calls for a diversified methodological approach in subsequent research to corroborate and expand upon these initial findings, ensuring a more holistic and nuanced understanding of the impact of VPD in the educational domain.

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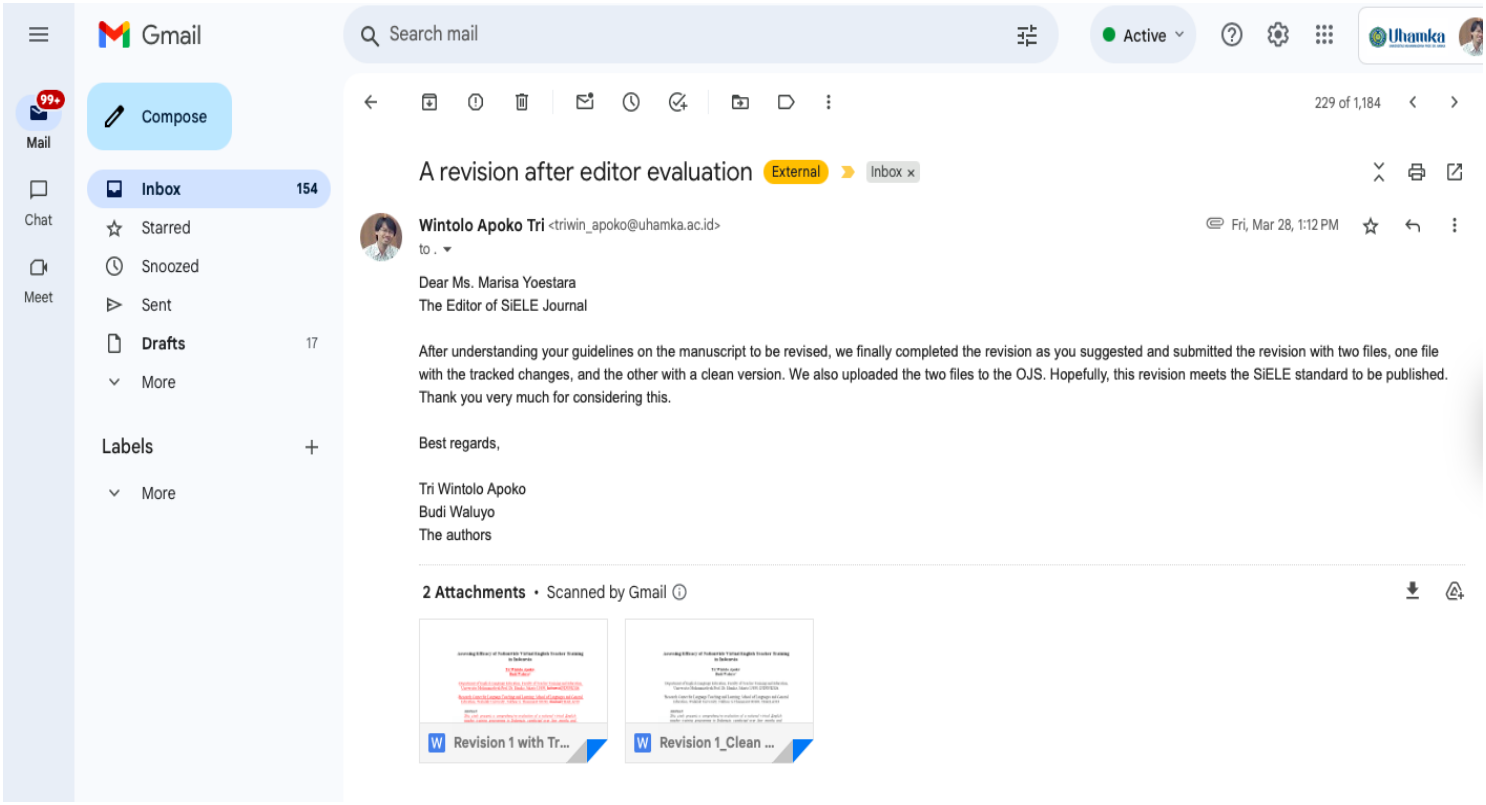

Assessing Efficacy of Nationwide Virtual Professional Development in Indonesia

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Abstract

This study presents a comprehensive evaluation of a national virtual professional development (VPD) programme in Indonesia, lasting over four months and involving a diverse cohort of teachers. Utilising a sequential explanatory mixed method design within an interpretivist paradigm, it aimed to assess the programme's effectiveness in enhancing in-service EFL teachers' pedagogical skills. The participants of this study were 76 in-service EFL teachers attending the Teacher Profession Education Programme (TPEP) over four months at a reputable private university in Jakarta, Indonesia. The study combined quantitative analyses of surveys and test scores—using descriptive statistics to examine perceptions of the programme's usefulness, content, design, and learning outcomes, and bivariate correlation to assess the relationships with test scores—with qualitative insights from the written interviews, which were analysed through deductive thematic analysis. Quantitative findings showed a high perceived efficacy of the TPEP ($M = 3.96$, $SD = .55$), with high ratings for perceived usefulness ($M = 4.00$, $SD = .69$), course content and design ($M = 3.98$, $SD = .72$), and learning outcomes ($M = 3.91$, $SD = .55$). However, no significant correlations were found between perceived efficacy and test scores ($r = .06$, $p = .60$) despite the strong correlations found among the perception variables themselves (e.g., usefulness and design: $r = .88$, $p < .001$). Qualitative findings supported these results, with in-service EFL teachers emphasising the programme's flexibility, enhanced pedagogical knowledge, and professional confidence, while also noting limitations such as inconsistent lecturer and trainer guidance and technological challenges.

Keywords: In-service EFL teachers, learning outcomes, pedagogical skills, virtual professional development.

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1. INTRODUCTION

The migration towards virtual professional development (VPD) within the educational sector marks a significant paradigm shift in the approach to teacher training, driven by the dynamic and evolving needs of the national and international teaching community (Alzahrani & Althaqafi,

2020; King, 2002). The pivotal transition towards online and blended learning modalities is not merely a response to technological advancements but a strategic evolution driven by the imperative to bridge geographical divides, enhance accessibility, and foster a globally interconnected community of educators (Ernest et al., 2013). Such a transformation is lauded for its potential to dismantle traditional barriers to professional development, offering unprecedented flexibility and enabling a cohesive, transnational exchange of pedagogical practices and insights. Moreover, the commendations of VPD extend beyond its logistical advantages, delving into the domain of enhanced collaborative opportunities and access to a wealth of resources previously constrained by physical boundaries (O'Dowd & Dooly, 2022). The extensive body of research further corroborates the multifaceted advantages of this shift (Bragg et al., 2021; Paudel, 2020; Powell & Bodur, 2019), indicating not only the enhanced accessibility and inclusivity afforded by virtual platforms, but also the potential for creating expansive networks of collaboration that transcend local, national, and international boundaries.

Nonetheless, a significant gap exists in the research literature regarding the specific effectiveness of Indonesia's National in-service EFL Teacher Profession Education Programme (TPEP). Despite the broader integration of digital environments into professional development frameworks, there is a notable dearth of studies assessing the programme's success, particularly in enhancing Indonesian in-service EFL teachers' pedagogical skills and instructional expertise. This absence emphasises the critical necessity for thorough research to assess and potentially improve the TPEP's influence on in-service EFL teacher professional development in the Indonesian setting. Such findings could offer valuable insights into the implementation of national VPD programmes in other countries. Given the burgeoning interest in VPD programmes and the apparent need for more comprehensive evidence concerning their effectiveness, particularly on a large-scale basis, this study aims to critically evaluate the National in-service EFL Teacher Profession Education Programme (TPEP) as implemented by the Indonesian government via online platforms. This research endeavours to fill the existing gap by assessing the impact of such VPD initiatives on enhancing the pedagogical skills and competencies of Indonesian in-service EFL teachers. The study is guided by two primary research questions:

5. How do in-service EFL teachers perceive the efficacy of the nationally implemented virtual Teacher Profession Education Programme (TPEP) in Indonesia over four months of engagement?
6. What is the correlation between in-service EFL teachers' perceived efficacy of the TPEP and their test scores?

2. LITERATURE REVIEW

2.1 Professional Development within Virtuality

Professional development (PD) within virtual environments has undergone a significant evolution over the past few decades, transitioning from traditional, in-person training sessions to dynamic, online platforms that offer flexibility and accessibility to English as Foreign Language (EFL) teachers across the globe (Al-Nofaie, 2020; Marie, 2021; Philipsen et al., 2019; Wang et al., 2023). The inception of virtual professional developments can be traced back to the early 2000s, when advancements in technology and the Internet began to reshape the educational landscape. Virtual learning environments emerged as powerful tools for teacher education, facilitating asynchronous and synchronous learning opportunities beyond the constraints of physical classrooms (Al-Qahtani, 2020; Manegre & Sabiri, 2022). These platforms have enabled EFL

teachers to engage in continuous professional learning, reflecting the shift towards more learner-centred approaches in teacher education (O'Dowd & Dooly, 2022).

Concepts of virtual professional development (VPD) emphasise the integration of digital technologies to support the ongoing education of professionals. It involves teachers, structured programmes, courses, workshops, as well as active and collaborative learning communities delivered through online platforms (Dille & Røkenes, 2021; Waluyo & Rofiah, 2021; Yurtseven Avci et al., 2020). These virtual environments not only provide access to a wide range of resources and contents but also facilitate interactions among EFL teachers, allowing for the exchange of ideas, practices, and feedbacks across different contexts and borders (Kohnke, 2021). The flexibility of VPD programmes has been particularly beneficial for EFL teachers in remote or underserved areas, offering them opportunities for growth and collaboration that were previously unattainable (Moser & Wei, 2023).

The implementation of VPD varies significantly across countries and fields, reflecting diverse educational needs and technological infrastructures. In developed countries, such programmes often feature sophisticated learning management systems with a wide array of interactive tools and resources (Lay et al., 2020). Conversely, in developing countries, the focus may be on leveraging mobile technology and social media platforms to overcome barriers to Internet access and related online applications (Hennessy et al., 2022; McAleavy et al., 2018). Regardless of the context, successful implementations of VPD programmes share common elements: a clear structure and support for collaborative learning, enabling teachers to develop self-directed learning skills and alignment with their needs, such as improved online materials and assessments as well as curricular goals (Atmojo, 2021; Nguyen, 2021).

The effectiveness of VPD programmes has been a focal point of scholarly inquiry, with studies highlighting various benefits and challenges. Research indicates that such programmes can lead to enhanced innovative teaching practices, increased content knowledge and skills, collaborative academic initiatives, and improved student outcomes (O'Dowd & Dooly, 2022; Singh et al., 2022; Waluyo & Apridayani, 2024). Teachers participating in VPD often report a sense of empowerment and a stronger professional identity, as they are able to connect with new professional partnerships and experts in their field (O'Dowd & Dooly, 2022). However, challenges remain, including issues of digital literacy, engagement, self-regulation ability, Internet connection, and teachers' technical skills (Coman et al., 2020; Taghizadeh & Basirat, 2022; Truong & Murray, 2020).

2.2 EFL Teacher Professional Development within Virtuality

The evolution of virtual environments has significantly influenced English as a Foreign Language (EFL) Teacher Professional Development (PD), with a myriad of studies examining its impact across various educational settings and countries. Those studies, utilising diverse methodologies, have provided rich insights into the effectiveness, perceptions, challenges, and advantages of VPD programmes, as well as recommendations for their optimization. In the United States, a mixed-methods study addresses concerns about teachers' ability to keep pace with rapidly evolving educational technologies by developing a virtual coaching PD model aimed at strengthening their digital learning identities. Given teachers' concerns about staying current with technological advancements, the study highlights coaching as an innovative and supportive approach to professional development (Zimmer & Matthews, 2022). Similarly, semi-structured interview responses were studied to better understand the initial and ongoing motivations of nineteen EFL Vietnamese teachers participating in the PD programme. The results revealed a

significant effect of technology in pushing EFL teachers to both start and stay in the course; a high influence of second language motivation on teachers' learning experiences; and a challenge to the known value of collaborative learning in virtual settings (Truong & Murray, 2019).

Bailey and Lee (2020) explored the experiences of 43 EFL university teachers who taught communication courses in South Korea and assessed the benefits and challenges of virtual environments in relation to teachers, students, communication channels, and activity types. Their analysis revealed notable differences among teachers with no, low, and high levels of online teaching experience. Key disparities included expected challenges faced by instructors and their selection of instructional activities. Teachers with more online teaching experience reported fewer difficulties and utilised a wider range of communication tools and activity types compared to their less experienced counterparts. However, in Chinese context, due to a lack of PD seminars, teachers had to rely on unofficial learning environments where they collaborated with peers in small groups to improve their use of technology. Thus, PD programmes in China have not yet taken into consideration the roles that technology-based instruction plays in the learning process (Zhang, 2022).

In rural Mississippi, a mixed methods study by Moser and Wei (2023) investigated the experiences of K-12 language teachers (English as a Second [ESL] or other Language [ESOL] and World Language [WL]) who collaborated with one another during a VPD workshop designed to improve their knowledge and skills in online language teaching. A total of fifty teachers in this study indicated significant increases in their knowledge base, aspirations to adapt their practice, and positive attitudes of dealing with distant or remote learners. Additionally, the qualitative findings by Nazari et al. (2019) demonstrated that all interviewees from EFL Iranian teachers (both novice and experienced) had good attitudes regarding the VPD course. Furthermore, Adnan (2018) used a mixed-methods design to investigate an VPD programme in Turkey, commenting on participants' expectations, readiness and satisfaction. The data showed a substantial link between individual readiness and satisfaction, in which readiness positively predicting contentment.

3. METHODS

3.1 Research Design

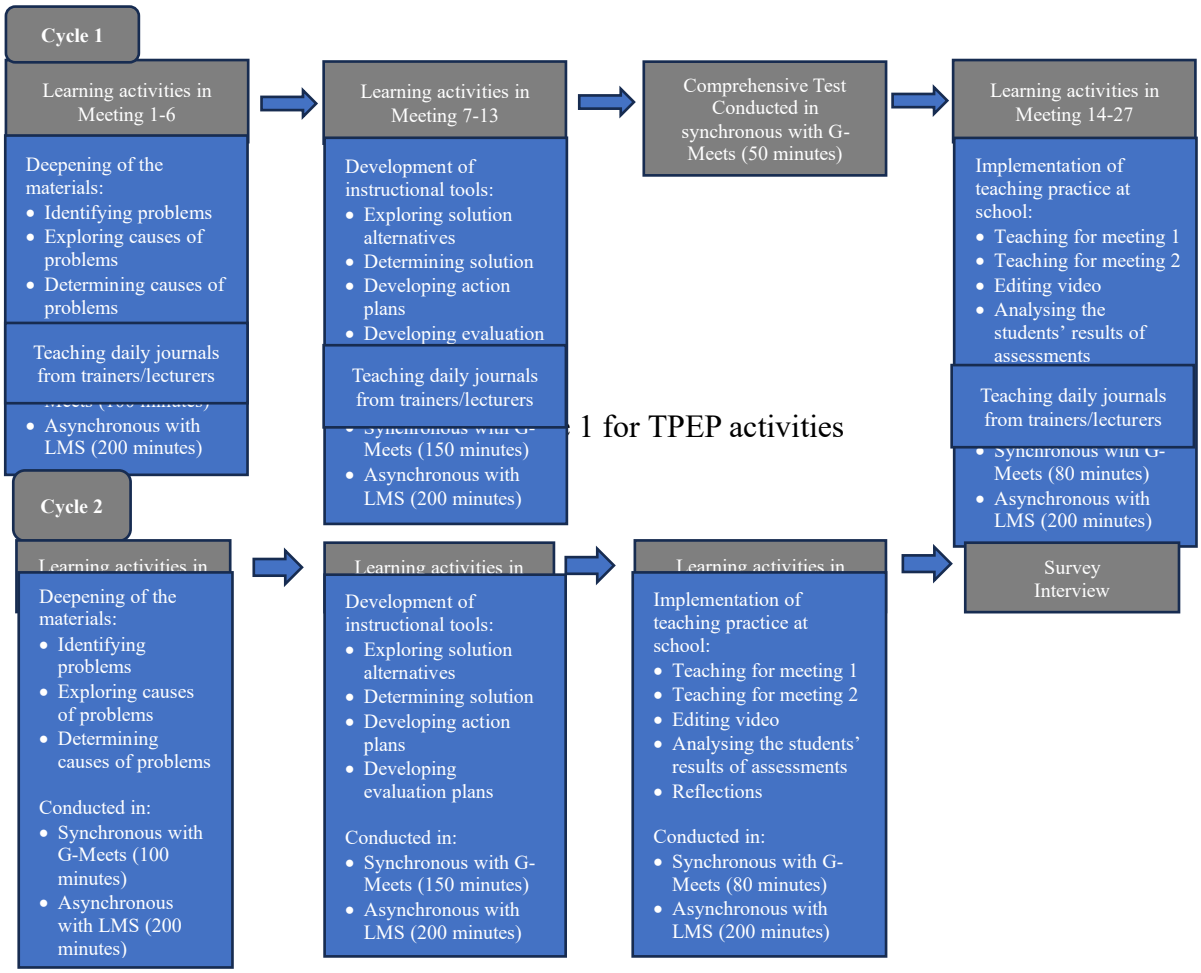
The research design adopted for this study was a sequential explanatory mixed method design, which integrates both quantitative and qualitative phases to investigate two main aspects: in-service EFL teachers' perceived efficacy of the nationally implemented virtual Teacher Profession Education Programme (TPEP) in Indonesia after four months of engagement, and the correlation between these perceptions and their test scores. In the quantitative phase, a survey study was conducted using a structured questionnaire to collect data on in-service EFL teachers' perceptions, along with their test scores. This was followed by the qualitative phase, which involved analysing written interview responses to gain deeper insights into in-service EFL teachers' experiences and perspectives related to the TPEP. The sequential explanatory design, as recommended by Creswell (2018), was selected for its ability to provide a comprehensive understanding of complex educational phenomena by explaining quantitative findings with qualitative evidence. This approach, also supported by Hauserman et al. (2013), is particularly effective in exploring the multifaceted nature of virtual professional development (VPD) programmes.

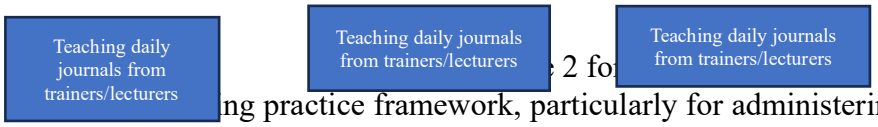
3.2 Context of the Study: The Virtual Teacher Profession Education Programme (TPEP)

Since its inception in 2018, the virtual Teacher Profession Education Programme (TPEP) for the subject of English has undergone annual evaluations to enhance the quality of its learning

activities and the calibre of its graduates. The programme, tailored for in-service EFL teachers, spans one semester—approximately four months—and operates entirely online, utilising a blend of G-Meets for virtual interactions and a Moodle-based Learning Management System (LMS) for course management. The TPEP is structured into two cycles, each designed to progressively develop in-service EFL teachers' skills and knowledge. The initial cycle comprises sessions focusing on the deepening of material (meetings 1–6), the development of instructional tools (meetings 7–13), the administration of a comprehensive test, and the implementation of teaching practice at schools (meetings 14–17). In-service EFL teachers must pass the comprehensive test before proceeding to the teaching practice. Successful completion of the first cycle leads to their participation in the second cycle, which mirrors the first cycle in structure but emphasises further material deepening (meetings 28–33) and instructional tool development (meetings 34–40). The second cycle culminates in another comprehensive test and extended teaching practice (meetings 41–57).

Within the TPEP, each course is thoroughly planned with specific activities to achieve its learning objectives. The material deepening course involves identifying and exploring problem cases as well as determining their causes. This course is facilitated by a lecturer and a trainer in a large class setting. The course on developing instructional tools focuses on exploring solutions or alternatives, determining solutions, developing action plans, and crafting evaluation plans. This course is conducted in small groups of three, each comprising ten members. For the teaching practice component, in-service EFL teachers are required to teach in their respective schools under the observation of the lecturer and the trainer. They engage in activities, such as teaching English in the initial meetings, video editing, analysing students' learning assessment results, and reflecting on their teaching practices. This comprehensive approach, detailed in Figures 1 and 2, ensures a robust and practical learning experience tailored to enhance the professional skills of in-service EFL teachers.





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ng practice framework, particularly for administering pre-tests and post-tests, in-service EFL teachers frequently utilised an array of digital instruments. Google Forms, Quizizz, and Kahoot! were among the most commonly adopted tools, with Google Forms preferred due to its user-friendliness and multifunctionality. This trend highlights the pivotal role of accessible and efficient use of technology in evaluating the students' learning outcomes and understanding. Furthermore, for delivering educational presentations, in-service EFL teachers employed various digital platforms: PowerPoint for structured presentations, Canva for engaging designs, Padlet for collaborative interactions, and YouTube for dynamic video contents. The inclusion of social media platforms such as TikTok in pedagogical practices reflected an adaptive response to the evolving digital landscape and a commitment to meet the students within their digital comfort zones. The deliberate use of these digital assets, underpinned by the Technological Pedagogical and Content Knowledge (TPACK) framework, aimed to enhance the pedagogical experience. The integration of technological skills, pedagogical expertise, and content knowledge in this study sought to foster an educational environment that was engaging, effective in conveying complex ideas, and capable of improving the overall quality and appeal of teaching practices for in-service EFL teachers.

3.3 Participant

The training, the virtual Teacher Profession Education Programme (TPEP), was hosted entirely online by a private university in eastern Jakarta. A convenience sampling technique was employed to select participants based primarily on their availability and willingness to take part in the study. To ensure the study's generalisability, the sample consisted of a diverse cohort of in-service EFL teachers from various geographical regions—Banten, Jakarta, West Java, Central Java, East Java, and Papua—and across different educational levels, including elementary, junior high school, and senior high school. This strategic selection aimed to capture a broad spectrum of experiences and backgrounds, thereby providing insights into the technological engagement and instructional challenges faced by in-service EFL teachers at various stages of education in Indonesia. Therefore, the findings may be applicable to a wider population of in-service EFL teachers, reflecting the varied educational contexts throughout the country.

Table 1 below outlines the demographic profile of 76 in-service EFL teachers who participated in the study, showcasing a diverse yet predominantly female group in which women represented 67% of the in-service EFL teachers, with men constituting the remaining 33%. A notable majority, 71%, were experienced teachers over 40 years old, indicating a cohort of seasoned professionals within the educational sector. Younger teachers were less represented, with figures revealing no participants under 25, 4% aged between 25 and 30, 16% aged between 31 and 35, and 9% aged between 36 and 40 years old. Geographically, the in-service EFL teachers came from various regions, with the largest groups originating from Banten (43%), Jakarta (28%), and West Java (24%), while minimal representation was noted from Central Java, East Java, and Papua, making up 1% and 3% respectively.

Most in-service EFL teachers taught at junior high school level (55%). Meanwhile, elementary and senior high school level accounted for only 22% each. This diversity indicated a wide range of educational settings was employed in this study. In terms of teaching experience, 34% had between 11 and 15 years of experience, underscoring significant expertise. Technological access essential for contemporary teaching was also high, with 74% of the participants had Internet access at home and 97% had access at school. Daily computer or laptop usage was varied, with the most common duration of 4-5 hours (34%). Microsoft PowerPoint emerged as the preferred teaching tool (63%), highlighting a preference for presentation-based instruction. Primary uses of laptops or smartphones included completing school assignments (63%) and creating digital-based learning materials (24%), reflecting substantial engagement with digital resources in their educational activities.

Table 1. Demographics of the participants.

Categories	Descriptions	Total	Percentage
Gender	Female	51	67%
	Male	25	33%
Age	<25 years old	0	0%
	25-30 years old	3	4%
	31-35 years old	12	16%
	36-40 years old	7	9%
	>40 years old	54	71%
Home location	Banten	33	43%
	Centra Java	1	1%
	East Java	1	1%
	Jakarta	21	28%
	Papua	2	3%
	West Java	18	24%
Educational level of teaching English	Elementary School	17	22%
	Junior High School	42	55%
	Senior High School	17	22%
Length of teaching experience	<3 years	3	4%
	3-5 years	19	25%
	6-10 years	24	32%
	11-15 years	26	34%
	16-20 years	8	11%
Having an Internet connection at home	Yes	56	74%
	No	20	26%
Having an Internet access at school	Yes	74	97%
	No	2	3%
Using a laptop/computer a day	<2 hours	8	11%
	2-3 hours	23	30%
	4-5 hours	26	34%
	6-7 hours	11	14%
	>7 hours	8	11%
Programme mostly used for teaching needs	MS Word	28	37%
	MS Excel	0	0%
	MS PPT	48	63%
Activities mostly used through laptops/smartphones	Games & entertaining activities	8	11%
	Doing school assignment	48	63%
	Making digital-based learning contents	18	24%
	Making infographic projects	4	5%

3.4 Instruments and Measures

3.4.1 The efficacy survey: Item, reliability, and validity

To collect quantitative data on the efficacy of the virtual Teacher Profession Education Programme (TPEP) among in-service EFL teachers, an online survey was conducted. This survey was structured into two sections: the first section gathered demographic information, while the second section comprised of 12 statements rated on a Likert scale ranging from strongly disagree (1) to strongly agree (5), explicitly designed without any negatively phrased items. Drawing on the works of Adnan (2020) and Pham et al. (2021), the questionnaire assessed in-service EFL teachers' perceptions of TPEP online classes across three distinct dimensions, each represented by four statements: (1) perceived usefulness dimension in statements one to four; (2) course content and design dimension in statements five to eight; and (3) outcomes of online learning dimension

in statements nine to twelve. The reliability of the survey was confirmed through Cronbach's alpha of .863, reflecting a high internal consistency among the items. This survey was translated into Bahasa Indonesia to avoid in-service EFL teachers' misunderstandings, then converted into a Google Form and distributed to them via online links shared in the WhatsApp groups of the TPEP classes.

The survey's validity was established using the Kaiser–Meyer–Olkin (KMO) measure and Bartlett's test of sphericity. The results from these tests were significant, with a chi-square value of $\chi 2\ (66) = 843.886$, $p < .001$, and a KMO measure of sampling adequacy at .928, indicating that the questionnaire was structurally valid for analysing the constructs it intended to measure. Furthermore, the analysis also verified that the data were normally distributed as evidenced by the absence of skewness or kurtosis values exceeding the thresholds of +2 or -2, thereby affirming the survey's appropriateness for subsequent statistical evaluations.

3.4.2 Test scores

Test scores were utilised to complement the quantitative data. Each in-service EFL teacher participating in a comprehensive test answered questions provided by two raters during the virtual meetings. The allotted time for each participant was 50 minutes. The mean test score obtained was 78.89, with a standard deviation of 4.85.

3.4.3 Written interviews

All participants took part in written interviews designed to explore their perceptions of the usefulness, course content and design, and learning outcomes of the virtual Teacher Profession Education Programme (TPEP). The interview consisted of four open-ended questions covering key areas: (1) the obstacles faced in joining the TPEP via online learning, (2) the perceived usefulness and associated benefits or drawbacks of online learning, (3) the suitability of the programme to their professional needs, and (4) their ability to develop lesson plans or teaching modules with guidance from lecturers and tutors. Each question required a minimum response of 50 words, and participants were allowed to respond in either Indonesian or English to encourage more authentic and elaborated reflections. The interviews were conducted online during the final week of the programme, and participants were given one week to complete and submit their responses. While no formal validity or reliability testing was conducted for these open-ended questions, the items were reviewed by two experts in teacher education to ensure their clarity and appropriateness. The written interviews were chosen in this study because they offered flexibility and anonymity, allowing participants to respond at their convenience and provide honest feedback (Whetzel et al., 2003). This method also enabled in-depth data analysis and interpretation, making it a valuable tool for the qualitative phase of the study.

The interpretivist paradigm suggests that individuals construct knowledge and truth rather than discover or encounter them as pre-existing entities. It prioritises on comprehending the subjective realities of individuals (Creswell, 2021). Researchers embracing this paradigm aim to investigate and clarify the underlying reasons for the observed phenomena, with a particular emphasis on their context-specific manifestations (Cohen et al., 2002). This current study's decision to employ the interpretivist paradigm stemmed from the goal to thoroughly capture and analyse the nuanced and profound learning experience encountered by in-service EFL teachers within the virtual TPEP.

3.5 Data Analysis

The analysis of the first research question—*How do in-service EFL teachers perceive the efficacy of the nationally implemented virtual Teacher Profession Education Programme (TPEP) in Indonesia over four months of engagement?*—involved both quantitative and qualitative methods. Descriptive statistics, including means, standard deviations, and percentages, were used to analyse the survey data. In addition, a deductive thematic analysis was applied to the written interview responses (Terry et al., 2017). This process involved systematically identifying, analysing, and reporting patterns or themes within the qualitative data. It began with familiarisation through repeated readings of the interview responses, followed by the generation of initial codes to capture key features. These codes were then organised into potential themes, which were reviewed and refined to ensure they accurately represented the data. The resulting themes were subsequently compared with the findings from the descriptive statistics to provide a comprehensive understanding. Meanwhile, the second research question—*What is the correlation between in-service EFL teachers' perceived efficacy of the TPEP and their test scores?*—was addressed through bivariate correlation analysis, which quantitatively examined the relationships between the variables (Swank & Mullen, 2017).

4. RESULTS

Overall, the in-service EFL teachers perceived the Teacher Profession Education Programme (TPEP) to be quite positively effective. The mean rating obtained was 3.96 (*SD* = .55), indicating a high level of efficacy. Below are the details of the results.

4.1 Perceived Usefulness

The analysis of the virtual TPEP perceived usefulness among in-service EFL teachers yielded significant insights reflected by a mean score of 4.00 (*SD* = .69), indicating a high level of appreciation for the programme's efficacy. These quantitative results, detailed in Table 2, underlines the multifaceted benefits of TPEP, particularly highlighting the effectiveness of online platforms like G-Meets in which a substantial 73.68% of in-service EFL teachers found to be highly effective for engagement and learning. Similarly, the integration of a Learning Management System (LMS) was deemed to be quite beneficial by 68.42% of the in-service EFL teachers, facilitating a collaborative educational environment. In addition, the programme's capacity to enhance active participation was particularly noted, with 78.95% of the in-service EFL teachers acknowledging that it encouraged a dynamic exchange of queries and insights. Furthermore, over half of the in-service EFL teachers (56.58%) felt that TPEP promoted autonomy in their learning processes.

Table 2. In-service EFL teachers' responses on perceived usefulness.

	SD	D	N	A	SA
1. Online learning via G-Meets is really effective for me.	2.63	2.63	6.58	73.68	14.47
2. Sharing information within the LMS collaboration room is quite helpful to me.	2.63	0.00	10.53	68.42	18.42
3. Online classes encourage me to ask questions and provide answers.	3.95	1.32	1.32	78.95	14.47
4. This TPEP's online learning makes me an autonomous learner.	2.63	1.32	11.84	56.58	27.63

The qualitative analysis further elaborated on the in-service EFL teachers' experiences, revealing a broad consensus on the advantages of online learning within the TPEP framework. In-service EFL teachers highlighted the programme's pivotal role in providing increased flexibility

and access to professional development resources while accommodating their existing teaching obligations. This mode of learning was credited with enriching their pedagogical repertoire through the acquisition of new knowledge, innovative teaching strategies, and methodologies, thereby advancing their teaching competencies and fostering their pedagogical innovation. The in-service EFL teachers also valued the opportunities for collaboration and professional networking that the programme facilitated, enhancing their educational practices through peer and mentor interactions. Nonetheless, some in-service EFL teachers articulated concerns regarding the limitations imposed by the absence of direct interpersonal interactions and the level of technological adeptness variation among in-service EFL teachers. Below are the excerpts from the written interviews.

(1) 'In my opinion, online learning at TPEP was very useful. Apart from being able to learn easily anywhere and at any time, we could also develop our abilities in using technology, play an active role in participating in learning, and know learning materials easily'. (R36)

(2) 'TPEP was very useful because it could evaluate teacher deficiencies so that they could be overcome when TPEP was finished by applying what they had learned during TPEP. Teachers were more confident when in the classroom and were not afraid when asked to collect teaching materials by the Deputy Head of Curriculum'. (R38)

4.2 Course Content and Design

The analysis of the in-service EFL teachers' perceptions concerning the course content and design within the virtual TPEP generated a mean satisfaction score of 3.98 (*SD* = .72), signifying a high level of approval among the in-service EFL teachers. This data, as illustrated in Table 3, provides a detailed breakdown of the their perspectives on the course content and design. A significant majority of in-service EFL teachers (75%) affirmed that the learning materials made available through the Learning Management System (LMS) were comprehensive and met their professional development needs. An equal percentage attested to the interactive nature of asynchronous online learning within the LMS, enhancing the in-service EFL teachers' learning experience. Furthermore, the appeal of synchronous online sessions via G-Meets was acknowledged by 67.11% of in-service EFL teachers, who expressed enthusiasm for these real-time interactions. The overall design of the TPEP, as facilitated through online learning modalities, was met with the approval by 69.74% of the in-service EFL teachers.

Table 3. In-service EFL teachers' responses on course content and design.

	SD	D	N	A	SA
5. Learning materials in the Learning Management System (LMS) fulfil my needs as a teacher.	2.63	1.32	3.95	75.00	17.11
6. Online learning through asynchronous mode (LMS) is conducted in an interactive manner.	3.95	2.63	6.58	75.00	11.84
7. Online learning through synchronous mode (G-Meets) which is facilitated by the instructors is exciting.	3.95	0.00	6.58	67.11	22.37
8. I am satisfied with TPEP design through online learning.	3.95	1.32	6.58	69.74	18.42

Qualitative data analysis further highlighted a general consensus among in-service EFL teachers regarding the virtual TPEP's role in enhancing their competency in lesson planning and the development of teaching modules. Most in-service EFL teachers shared positive feedback, attributing their improved skills in creating comprehensive lesson plans to the programme's enriched content, the insightful guidance provided by lecturers and trainers, and the acquisition of broader pedagogical knowledge and skills. The provision of clear explanations and robust support from lecturers and trainers was particularly valued, particularly for enabling effective understanding and application of lesson planning principles. A transformative shift was also reported by some in-service EFL teachers, who transitioned from relying on online-sourced

content to adopting a more structured and guided approach to lesson planning, supported by the resources provided through the TPEP. The importance of interactive exchanges and constructive feedback from lecturers and trainers in the iterative refinement of lesson plans to align with educational objectives and learner requirements was also emphasised. However, challenges were noted by a minority, including discrepancies in lecturer and trainer advices and obstacles in adapting to the evolving curriculum demands. Some excerpts from the written interviews are provided below.

(3) 'Thank God, I can understand that at first, I just copied and pasted from the Internet, but with TPEP, my ability to create learning objectives using Bloom's taxonomy formula really helped me to create correct learning objectives, not just copy and paste anymore'. (R7)

(4) 'Being guided well by lecturers and tutors patiently from the beginning until the end becomes a good lesson plan. I can explore and develop both my knowledge and skills. It is necessary to be a skilled teacher'. (R34)

4.3 Perceived Learning Outcomes

The calculation of the in-service EFL teachers' perceptions of their learning outcomes from the virtual TPEP produced a mean score of 3.91 (*SD* = 0.55), signifying a substantial level of perceived learning among the participants. Detailed in Table 4, the data delineates the various dimensions of learning outcomes as perceived by the in-service EFL teachers. Over half of the in-service EFL teachers (51.32%) reported a significant improvement in their ability to develop lesson plans through online classes when compared to their skills before participating in the TPEP, highlighting the programme's positive impact on their professional development. A significant majority (59.21%) of the in-service EFL teachers reported an augmentation in their ability to implement Problem-based Learning (PBL) and Project-based Learning (PjBL) methodologies, attributed to their experiences with online learning. Furthermore, 72.37% of in-service EFL teachers recognized an enhanced understanding of evaluation planning as facilitated in the online sessions. Additionally, a considerable percentage of the in-service EFL teachers (63.16%) observed an uplift in their overall teaching capacity after the completion of the TPEP online.

Table 4. In-service EFL teachers' responses on learning outcomes.

	SD	D	N	A	SA
9. My understanding in developing my lesson plans improves through online classes before participating in TPEP.	7.89	13.16	6.58	51.32	21.05
10. Through online learning, my ability to apply the problem-based learning (PBL) and Project-based learning (PjBL) learning models increases better.	5.26	1.32	0.00	59.21	34.21
11. Through online learning, my understanding in evaluation plan increases better.	3.95	1.32	2.63	72.37	19.74
12. After completing TPEP online, my teaching capacity increases.	10.53	2.63	2.63	63.16	21.05

The qualitative feedback from in-service EFL teachers regarding their learning outcomes from TPEP revealed a range of experiences and needs, reflecting the programme's wide-reaching impact. Several in-service EFL teachers shared their contentment with the programme, noting an increase in motivation, a broadening of their knowledge base regarding effective teaching strategies, and an improvement in practical skills, including lesson plan formulation and technological integration in the classroom. Furthermore, the enrichment in understanding innovative teaching models, such as Problem-based Learning (PBL) and Project-based Learning (PjBL), alongside enhanced access to academic resources, was highlighted as a significant benefit. Most in-service EFL teachers stressed the critical role of real-world applications, comprehensive educational materials, and direct mentorship from lecturers and trainers as essential components

in fulfilling their professional development objectives. However, challenges were also articulated, ranging from the difficulties encountered in adjusting to new teaching methodologies and technologies to disparities in lecturer and trainer viewpoints and hurdles in accessing requisite resources. Below are the excerpts from the written interviews.

(5) 'I found what I need and want because, with the Teacher Professional Education Programme (TPEP), I am more understanding and open. There are many benefits, from not knowing to knowing. With this TPEP, I am more confident and more understanding, so I understand better what education means for teachers. (R26)

(6) 'The TPEP made me understand how to create teaching modules according to students' needs, how to make the learning process enjoyable, and how to be a good teacher'. (R57)

4.4 The Correlation between In-service EFL Teachers' Perceptions and Their Test Scores

The bivariate correlation analysis revealed several significant relationships among in-service EFL teachers' perceptions of the virtual Teacher Profession Education Programme (TPEP), highlighting the strong interconnections between different aspects of their experiences. Perceived usefulness showed significant positive correlations with perceived learning outcomes (r = .29, p =.01), with perceptions of the implemented course content and design (r =.88, p < .001), and with the efficacy of the virtual TPEP (r =.90, p <.001). Similarly, perceived learning outcomes exhibited significant positive correlations with perceptions of the implemented course content and design (r =.38, p < .001) and with the efficacy of the virtual TPEP (r =.63, p < .001). Perceptions of the implemented course content and design strongly correlated with the efficacy of the virtual TPEP (r = .94, p <.001). However, significant correlations were notably absent between any of the in-service EFL teachers' perceptions and their actual test scores. This suggests that, although the various aspects of the programme were perceived as positively interconnected, these perceptions did not directly correspond to the in-service EFL teachers' academic performance as measured by the test scores (see Table 5).

Table 5. Results of bivariate correlations.

		2	3	4	Test Scores
Perceived usefulness (1)	r	.29*	.88**	.90**	.01
	p	.01	.000	.000	.92
Perceived learning outcomes (2)	r		.38**	.63**	.19
	p		.000	.000	.10
Perceptions of the implemented course content and design (3)	r			.94**	-.02
	p			.000	.86
The efficacy of the virtual TPEP (4)	r				.06
	p				.60
*. Correlation is significant at the 0.05 level (2-tailed).					
**. Correlation is significant at the 0.01 level (2-tailed).					

5. DISCUSSION

The evaluation of Indonesia's National EFL Teacher Profession Education Programme (TPEP) has received overwhelmingly positive feedback, demonstrating its effectiveness in virtual professional development (VPD). In-service EFL teachers who participated in the programme reported high levels of satisfaction with its content and design, as well as substantial gains in terms of learning outcomes. These indicators suggest that TPEP has effectively met its objectives, which include increasing in-service EFL teachers' engagement, promoting learner autonomy, and enhancing both pedagogical skills and instructional strategies. This success aligns with research by O'Dowd and Dooly (2022) and Singh et al. (2022), which also highlight the myriad benefits of

VPD, such as fostering innovative teaching practices, broadening knowledge bases, initiating collaborative academic projects, and potentially enhancing teacher learning outcomes. Moreover, although much existing research has focused on the technological implementations of such programmes in diverse international settings—including in the United States (Zimmer & Matthews, 2022), Vietnam (Truong & Murray, 2019), and China (Zhang, 2022)—this study enriches the literature by examining the experiences of participants in Indonesia, offering insights that mirror those observed in South Korea (Bailey & Lee, 2020). This contribution is significant as it accentuates the comprehensive ways in which VPD can be tailored to effectively meet the specific needs and circumstances of educators, thereby enhancing the overall impact on educational practices and outcomes.

The findings related to perceived usefulness demonstrated that the TPEP's structure and online delivery mode were effective in promoting in-service EFL teachers' engagement and autonomy. The in-service EFL teachers recognised the benefits of flexible scheduling, ease of access, and technology-enhanced learning experiences. These results support the broader literature, which highlights accessibility and interactivity as critical components of effective VPD (Taghizadeh & Basirat, 2022; O'Dowd & Dooly, 2022). Nonetheless, qualitative responses also indicated that some in-service EFL teachers experienced limitations due to inconsistent digital access and varying levels of technological proficiency. The implication is that while VPD programmes may increase accessibility, they also necessitate additional digital support mechanisms to ensure equitable participation. Regarding the course content and design, the in-service EFL teachers highlighted the structured and coherent progression from material deepening to lesson plan development and teaching practice. The integration of synchronous and asynchronous modes, as well as the opportunity to collaborate in smaller peer groups, was perceived as a strength of the programme. In-service EFL teachers reported that this structure allowed them to reflect on and refine their pedagogical knowledge while receiving targeted feedback from facilitators. These perceptions are consistent with existing research on the importance of scaffolding and collaborative learning in VPD contexts (Nguyen, 2021; Kusuma & Waluyo, 2023). Nevertheless, discrepancies in the consistency of lecturer and trainer feedback and clarity of instructional guidance were raised, pointing to the need for standardised facilitator training and quality assurance to maintain alignment across instructional teams.

In terms of perceived learning outcomes, in-service EFL teachers noted significant improvements in their ability to develop lesson plans, implement student-centred learning models (e.g., PBL and PjBL), and plan evaluations effectively. Most in-service EFL teachers reported a shift from surface-level teaching practices to more thoughtful, structured instructional design approaches supported by frameworks like Bloom's taxonomy. This supports earlier findings that VPD can increase teachers' confidence, technical knowledge, and pedagogical flexibility (Singh et al., 2022; Apridayani & Waluyo, 2022). Still, some in-service EFL teachers described barriers to applying new strategies in their teaching contexts due to rigid curricular demands, lack of school-level support, and limited classroom resources. These responses suggest that to ensure successful application, VPD should be paired with school-based initiatives and leadership support that encourage and enable implementation.

The analysis of the correlation between in-service EFL teachers' perceptions and their test scores revealed an unexpected disconnection. Even though the in-service EFL teachers reported high levels of satisfaction across all three dimensions—usefulness, content and design, and learning outcomes—these perceptions did not significantly correlate with their actual test performance. This finding echoes earlier studies which caution against assuming a direct

relationship between teacher perceptions and objective outcomes (Marie, 2021; Wang et al., 2023). Several factors may help explain this discrepancy. First, standardised test scores may not fully capture the applied competencies and growth in professional identity that the TPEP aimed to develop. The in-service EFL teachers may have internalised and implemented new strategies without those skills being reflected in exam formats focused on theoretical knowledge. Second, individual in-service EFL teacher characteristics—such as prior experience, age, and comfort with online platforms—may have influenced test outcomes independently of their perception of the programme. For example, older or more experienced in-service EFL teachers might have valued the training more but struggled with online assessments due to unfamiliarity with digital testing environments (Abedi & Ackah-Jnr, 2023; Apoko & Cahyono, 2024). Finally, contextual factors—such as disparities in infrastructure, school leadership, and teacher demographics—likely played a role in mediating the effectiveness of the programme in practice (Abonyi et al., 2020; Adeniyi et al., 2024).

These findings reinforce the argument that a comprehensive approach is essential when evaluating the success of professional development programmes. Effective VPD cannot be assessed solely through test scores or in-service EFL teacher satisfaction. Rather, evaluations must consider the interplay between in-service EFL teachers' perceptions, practical application, contextual challenges, and long-term instructional transformation. Previous research underlines that high-quality PD typically includes a structured framework, consistent mentorship, collaborative learning opportunities, and alignment with real classroom needs and curricular goals (Atmojo, 2021; Nguyen, 2021; Lay et al., 2020). The contrast observed in this study between positive in-service EFL teachers' perceptions and a lack of measurable improvement in test scores indicates the multifaceted nature of teacher learning and suggests the need for more authentic, performance-based assessments in VPD contexts.

6. CONCLUSION

The insights garnered from this study shed light on the substantial potentials and challenges of virtual professional development (VPD) programmes, with reference to the national EFL Teacher Profession Education Programme (TPEP) in Indonesia. The affirmative feedback from Indonesian teachers regarding the TPEP indicated the effectiveness of such platforms, particularly in overcoming geographical barriers and enhancing teacher education, thereby suggesting a viable approach for Indonesia to promote educational equity across its vast and diverse territories. This positive outcome invites further exploration into strategies in enhancing the efficacy and accessibility of VPD initiatives, particularly through improvements in interactivity and technological support. On a global scale, this study advocates for leveraging VPD to overcome geographical barriers and foster international collaborations in education due to its' observed benefits of increased accessibility and innovation in instructional practices, which demonstrate broad relevance across diverse educational contexts. Yet, the noted disparity between in-service EFL teachers' perceptions of the programme efficacy and the actual academic performance of the in-service EFL teachers stresses the complexity of relying solely on virtual platforms for professional development. This observation calls for an integrated approach that combines VPD with tangible strategies aimed at elevating teacher achievement, thereby optimizing the global impact of such programmes.

One notable finding of this study was the absence of a significant correlation between in-service EFL teachers' perceived effectiveness of the TPEP and their test scores. This disconnect

indicates that although in-service EFL teachers expressed positive perceptions of the programme, these perceptions did not necessarily correspond with measurable gains in academic performance. This outcome underscores the complex and multifaceted nature of educational effectiveness, shaped by a wide range of variables beyond programme content and delivery. These variables may include individual lecturer and trainer characteristics, teacher attributes, and broader institutional or contextual factors—all of which fall outside the immediate scope of this study. Therefore, future research should adopt a more comprehensive perspective that considers these interrelated dimensions to better understand and maximise the impact of VPD on both teaching practices and in-service EFL teachers' learning outcomes. Furthermore, as this study relied primarily on self-reported data, subsequent investigations would benefit from incorporating more diverse methodological approaches—such as classroom observations or longitudinal tracking of learning outcomes—to validate and extend these findings, ultimately contributing to a more robust understanding of VPD's role in educational advancement.

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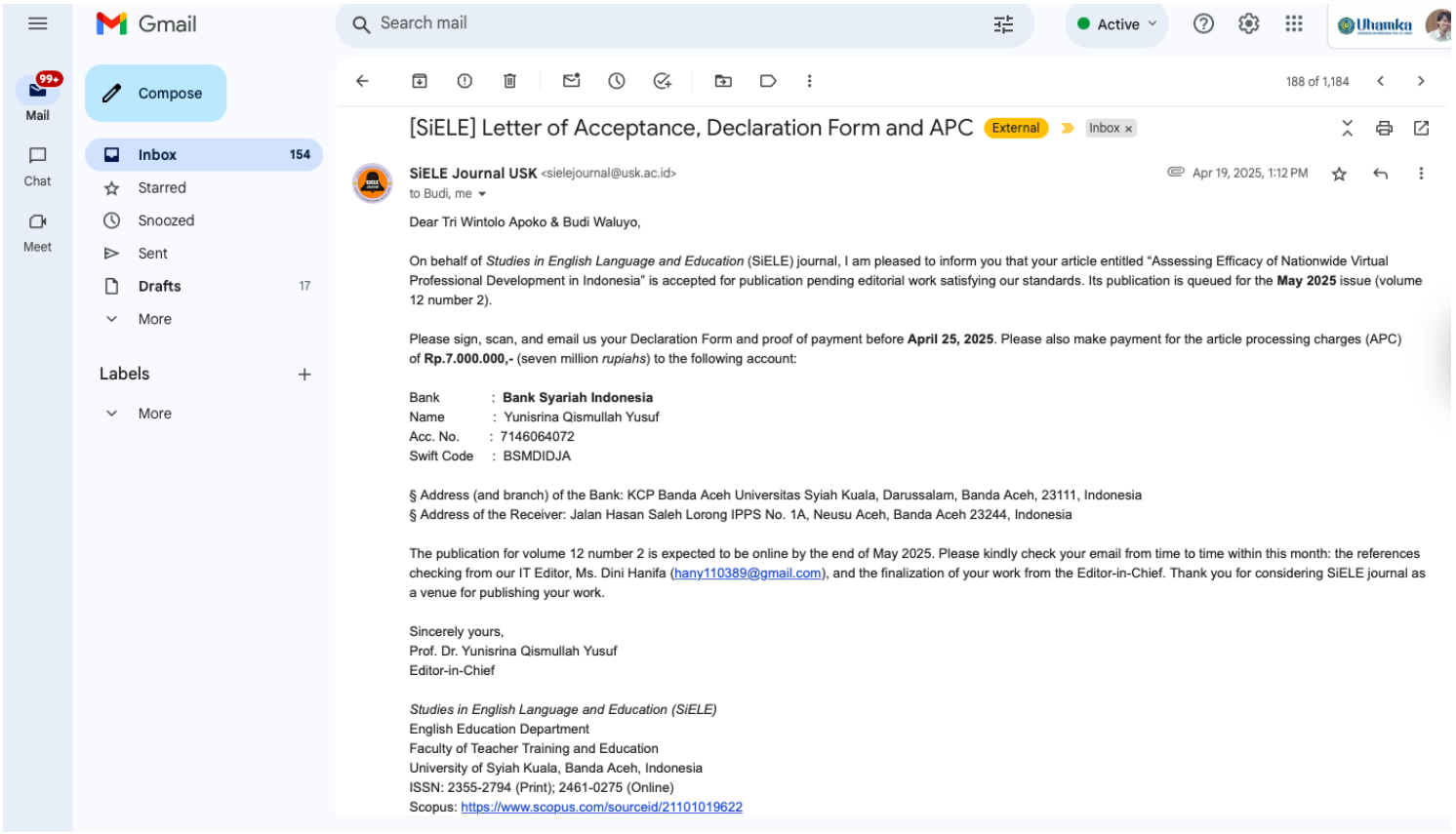

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to Budi, me

Dear Tri Wintolo Apoko & Budi Waluyo,

On behalf of *Studies in English Language and Education* (SiELE) journal, I am pleased to inform you that your article entitled "Assessing Efficacy of Nationwide Virtual Professional Development in Indonesia" is accepted for publication pending editorial work satisfying our standards. Its publication is queued for the **May 2025** issue (volume 12 number 2).

Please sign, scan, and email us your Declaration Form and proof of payment before **April 25, 2025**. Please also make payment for the article processing charges (APC) of **Rp.7.000.000,-** (seven million *rupiahs*) to the following account:

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The publication for volume 12 number 2 is expected to be online by the end of May 2025. Please kindly check your email from time to time within this month: the references checking from our IT Editor, Ms. Dini Hanifa (hany110389@gmail.com), and the finalization of your work from the Editor-in-Chief. Thank you for considering SiELE journal as a venue for publishing your work.

Sincerely yours,
Prof. Dr. Yunisrina Qismullah Yusuf
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LETTER OF ACCEPTANCE

Banda Aceh, **April 19, 2025**

Tri Wintolo Apoko[1]
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Dear **Tri Wintolo Apoko & Budi Waluyo,**

On behalf of *Studies in English Language and Education* (SiELE) journal, I am pleased to inform you that your article entitled **"Assessing Efficacy of Nationwide Virtual Professional Development in Indonesia"** is accepted for publication pending editorial work satisfying our standards. Its publication is queued for the **May 2025** issue (volume **12,** number **2**).

Please sign, scan, and email us your Declaration Form before **April 25, 2025.** The publication for volume **12,** number **2** is expected to be online by **the end of May 2025**. Do not hesitate to contact me if you have questions related to the publication.

Thank you for considering SiELE journal as a venue to publish your work, and I look forward to receiving more contributions from you in the future.

Sincerely yours,

Ir. Dr. Yunisrina Qismullah Yusuf
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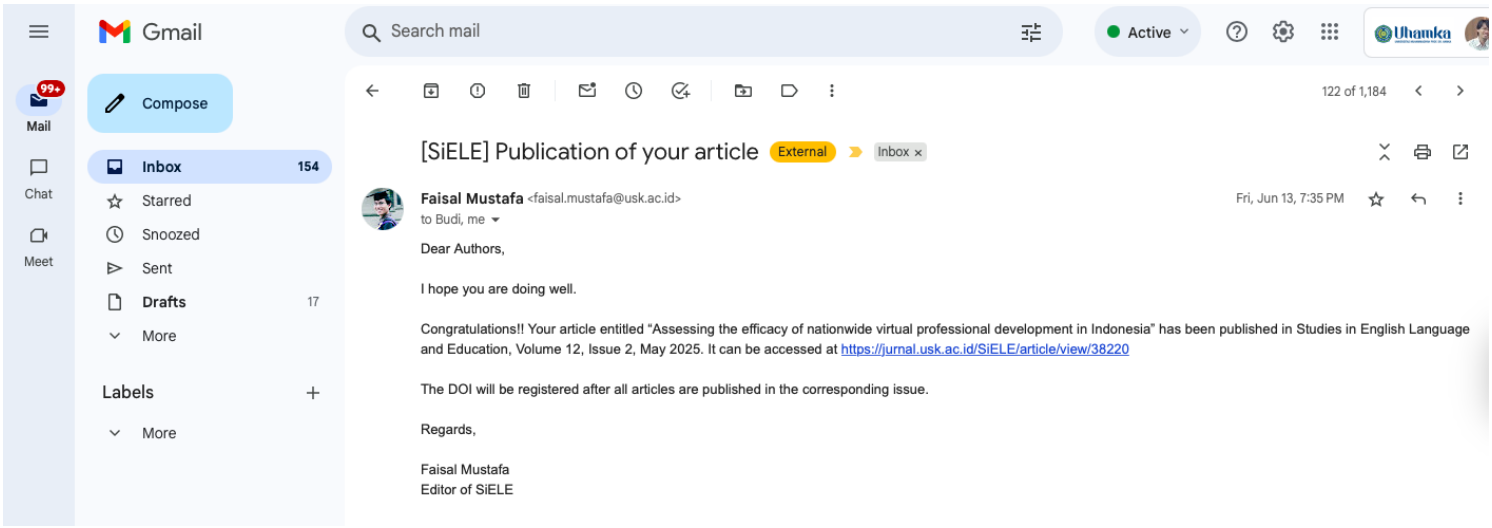
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