Perceptions of research engagement among teacher educators in Cambodia: An explanatory mixed-methods design

Sokchea Ly[1]

[1]*Corresponding author, Hiroshima University, Higashihiroshima, Hiroshima, Email: ly.sokchea@nie.edu.kh, ORCID: https://orcid.org/0009-0004-9014-5541*

Article Info	Abstract
	This study aims to understand teacher educators' perceptions of research engagement in higher education-based teacher education. Integrative insights were gathered from analyzing survey data from 89 teacher educators and conducting semi-structured interviews with subsample 13 informants to explore their perspectives on professional roles and research engagement. This study reveals mixed perceptions of professional roles among teacher educators. While many value the role of a researcher, the teaching role is also significant. Although research is highly esteemed, not all teacher educators actively participate. Many use research to improve their professional practices but may not feel capable of conducting research. They show moderate awareness of the research's significance in their responsibilities, and research activities are not absent.

1. Introduction

The Cambodian National Institute of Education (NIE), under the Ministry of Education, Youth, and Sport (MoEYS), is vital for implementing education policies (MoEYS, 2019; NIE, 2022). It focuses on producing high-quality secondary school educators and aims to excel in teacher education, professional development, and research. Research and publication are crucial for career advancement at NIE, aligning with global trends where teacher training centers emphasize research for curriculum improvement and skill development (MoEYS, 2019, 2020; NIE, 2022). Teacher educators are expected to be active in teaching-related research (Cochran-Smith, 2005; Griffiths et al., 2010; Livingston et al., 2009; Smith, 2021).

In this study, "research engagement" covers both consuming and conducting research to develop professional knowledge and improve teaching practices (Borg & Alshumaimeri, 2012). Teacher educators' research engagement focuses on improving theoretical knowledge, enhancing the profession, and connecting with the professional community (Livingston et al., 2009; Willemse & Boei, 2017). Richter et al. (2021) highlight that teacher educators' perceptions influence their teaching methods. Meanwhile, Shen and Hongmei (2021) stress the importance of understanding these perceptions for improving instructional effectiveness and educational reform.

Research on the teaching-research relationship has been conducted, but teacher educators in Cambodian higher education-based teacher education have yet to receive much attention (Eam, 2015a, 2015b; Heng, 2020, 2022; Heng et al., 2022). Historically, research about teacher education and educators has not been appreciated much (Smith, 2021), resulting in a neglect of teacher educators' research in the field. Moreover, while author's prior two studies (Ly, 2023a, 2023b) have contributed to this field by exploring teacher educators' research engagement in different contexts, namely from the perspectives of professional learning needs and education policies, these studies did not focus explicitly on the teacher educators' research activities experienced and the individual and contextual challenges in engaging research. This study, using an explanatory mixed-methods approach, aims to understand how a teacher of teachers perceive their researcher role, research activities, the extent of their engagement in research, and factors promoting or hindering their research engagement. The findings can offer valuable insights

for policymakers, directors, managers, and teachers of teacher educators, ultimately enhancing their professional quality and teacher education in Cambodia and similar contexts. Understanding teacher educators' research aspects reveals their current research activity expectations nationally and internationally (BERA, 2014; European Commission, 2013; Lunenberg et al., 2016; MoEYS, 2019, 2020; Smith, 2021).

2. Literature review

2.1. Challenges in teacher educators' research engagement

As part of daily activities, it is commonly agreed that teacher educators should be involved in research; however, not all teachers choose to do so due to various challenges (Lunenberg et al., 2014; Willemse et al., 2016). Competence in research requires several crucial attributes, including perception and attitude toward research, motivation, autonomy, confidence, institutional support, and policy considerations. A study conducted in Myanmar, a similar developing context in the region (Kyaw, 2021), revealed that teacher educators face challenges stemming from policy, system, institutional, and personal factors, which affect their research production (Alhija & Majdob, 2017; Cardona, 2020; Kyaw, 2021).

The following sources suggest that teacher educators face two main challenges in their research engagement: individual and contextual (Heng, 2020; Kyaw, 2021; Smith & Flores, 2019; Thanh Tien, 2016; Willemse & Boei, 2017).

First, one of the challenges is related to their views on the research and researcher roles. Some teacher educators may question their abilities as educators if they need to be proficient in research. However, those who appreciate research and actively engage in research-oriented activities show a stronger inclination to participate in research-related programs, read research literature, and conduct independent research (Kosnik et al., 2016; Ping et al., 2018; Willemse & Boei, 2017).

Likewise, age, research experience, educational qualifications, and language proficiency influence research involvement alike (Alhija & Majdob, 2017; Heng, 2020; Kyaw, 2021; NIE International, 2017; Tack & Vanderlinde, 2014). Higher academic ranks are associated with greater research productivity (Hesli & Lee, 2011). Additionally, proficiency in foreign languages, mainly English, is another significant role in research consumption and production. In this regard, non-English language researchers face numerous barriers in reading, writing, and publishing research in English (Heng, 2020).

Considering the documents discussed thus far, one may suppose that the obstacles affecting teacher educators' research engagement at the individual level include perceptions of their role and research, age, educational qualification, position or ranking, and foreign language proficiency. Apart from the individual-level challenges mentioned earlier, the contextual-level challenges play a crucial role in promoting research engagement among teacher educators. An instance is the influence of research policies (Kyaw, 2022; Nguyen, 2015). According to Kyaw (2022), promoting teacher educators' research engagement can be achieved through supportive policies that cohere with their intended implementation, consistent enforcement of policies, and sufficient time for research preparation. Time allocation is a critical institutional aspect, as it significantly impacts research outcomes and reports (Heng, 2020; Swennen et al., 2017). The allocation of time between teaching and research, known as workload, also affects research productivity (Jung, 2012). Higher research productivity is observed when more time is dedicated to research (Alhija & Majdob, 2017). In the context of developing and emerging economic countries, other contextual conditions determining the institution's research performance and productivity include strategic plans, research policies, research culture, and especially governmental support in terms of facilities and finances (Heng, 2020; Negash et al., 2019; Pornsalnuwat, 2014; Thanh Tien, 2016).

The contextual-level challenges of teacher educators' research engagement include research policy, time allocation, research culture, research facilities, and research funds. Overall, it appears imperative that teacher educators address vital challenges—individual and contextual—to enhance their research engagement. This requires a committed or positive perception toward research, sufficient qualification, motivation, and foreign language skills. The policy should provide recognition and support regarding awareness, time, budget, and facilities.

2.2. Contextual background of the National Institute of Education, Cambodia

Over the years, the NIE has served various roles, such as a training place, a political periphery, and a storeroom. Following the 1979 victory over the genocidal regime, it underwent several name changes and became the Faculty of Pedagogy of the MoEYS in 1992. Receiving much support from organizations like the United Nations (Chim, 2020; NIE, 2007), it was restored and expanded to provide training and educational activities.

Since 2004, playing a vital role in producing teachers in Cambodia (Royal Government of Cambodia, 2004), it presently holds a prominent teacher education role in training teachers in the French language for lower secondary level and teachers in all subjects teaching upper secondary schools nationwide. Furthermore, it provides education programs for educational and administrative officers at all levels, focusing on developing essential 21st-century mindsets, knowledge, and skills (NIE, 2022). The NIE Center for Educational Research and Innovation is crucial in transforming the NIE into a full-fledged higher education. It supports the graduate programs of Master's and Doctoral programs. Likewise, one of the three strategic plans of the NIE (2022) is to improve the research capability of the staff and institute. However, the NIE's Strategic Plan highlights weaknesses, including teacher educators' limited research capability and the lack of dedicated research facilities (NIE, 2022). Similarly, no stated or allocated research time is paired with teaching duties. Although "research" has been signified by the governmental educational policies over a decade (MoEYS, 2010b, 2010a, 2011, 2014, 2019), the quality standard or research requirement benchmark for Cambodian NIE teacher educators has not been established, contributing to the lack of active research engagement.

Accordingly, NIE teacher educators involved in various roles and programs (pre-and in-service, research, administration) may refrain from engaging in research. Specific research skills might not be considered essential, and the value of research involvement may not be immediately evident. These factors significantly influence teacher educators' research engagement. Therefore, with its individual and institutional challenges, the NIE context is the guiding framework to analyze factors influencing teacher educators' research participation. Teacher educators at the Cambodian NIE face significant research engagement challenges due to individual and contextual factors. At the personal level, limited research training, low proficiency in English, and varied perceptions of research roles hinder active participation. Contextually, the lack of clear research policies, insufficient time for research, inadequate facilities, and a weak institutional research culture further worsen these challenges. Despite NIE's strategic plan focusing on improving the research capacity of teacher educators, these barriers remain considerable, suggesting that enhancing research engagement requires addressing both personal competencies and institutional support.

Besides the NIE, the Cambodian higher education-based teacher education also includes teacher education colleges (TECs), currently consisting of Phnom Penh and Battambang Teacher Education Colleges. However, this study does not cover these two TECs for various reasons. First, these TECs have different phenomena, contexts, and feature lengths because these TECs were just assessed and accredited as a part of higher education institutions on 08 December 2022 by the MoEYS (JICA, 2023). Moreover, even though these TECs have been technically assisted by the Japan International Cooperation Agency (JICA) alike, each one's identity and characteristics are unique and notably different between the two and from other teacher education institutions (JICA, 2023). Considering these discrepancies and points, this current study focuses on the NIE, Cambodia's only prominent teacher education institution.

Drawing on earlier work exploring the professiona learning needs of Cambodian NIE teacher educators and policy review on Cambodian NIE teacher educators' research engagement (Ly, 2023a, 2023b), the author of this current study aims to reveal the extent to which NIE teacher educators perceive and engage in research, as well as the critical contextual challenges in their research engagement. The following questions, therefore, guided the study:

- How significant do the teacher educators value the research?
- What research activities have teacher educators experienced?
- What perceptions of teacher educators regarding research engagement?
- What are the key individual and institutional barriers in supporting or hindering teacher educators' research engagement?

3. Methodology

This research has ethics committee approval from Hiroshima University, dated 29/8/2022, and number HR-ES-000453.

3.1. Research design

This current study applied a sequential explanatory mixed methods design, consisting of a separate phase of data collection, with phase one using a survey and phase two semi-structured interview (Creswell & Creswell, 2018). It should be mentioned that the data utilized in this study were first gathered for a paper that was published earlier and examined the professional development requirements of teacher educators in Cambodia (Ly, 2023b). For this

current study, this existing data has been analyzed from different perspective with a specific focus on teacher educators' research engagement. This chosen design allows for the thorough observation of research engagement of teacher educators and their challenges in engagement within the contexts of teacher educators. Additionally, the foundation for the subsequent qualitative inquiry was formed based on the perspectives regarding the teacher educators' professional roles, their research activities, and their research engagement. This intentional sequencing aims to provide context for the details raised by the quantitative findings. Moreover, this explanatory mixed method approach is appropriate for a single researcher to manage the time and division of the tasks in a manageable investigation. Separation of data analysis and integration of data interpretation to better comprehend the responses to the study's overall purpose were done from the Google form-based survey (Bowen et al., 2017) and the semi-structured interview (Leech, 2002).

3.2. Research participants

During the initial quantitative stage, an online survey was administered to 105 teacher educators. In the subsequent phase, the researchers used purposive, intensity, and criterion sampling methods (Gay et al., 2012) to select sub-samples who volunteered for the study. Through intensive screening, the participants were chosen from various fields, such as Arts, Educational Sciences, English, History, Khmer Literature, Biology, Chemistry, Earth Sciences, Physics, and Mathematics.

Based on contractual agreements to preserve the privacy and confidentiality of the participants, data were ensured they could not be tracked in both the survey and interview. For this reason, there is no comparison between the teacher educators in the analysis and result section.

3.3. Instrument

The survey questionnaire was adapted from the study of MacPhail and colleagues (2018). The first section has six questions about "Life as a Teacher Educator"; the second section consists of 4 main questions about "Teacher Education and Research." The demographic section, having eight questions, gathers information relating to sex, age, employment status, educational qualification, and subject taught. The teacher educators' research involvement is assessed by asking them to rate on 5-point Likert scale statements, ranging from 1 (= strongly disagree) to 5 (= strongly agree). The research instruments were translated into Khmer to maximize comprehension and tested with twenty Cambodian graduate students and teacher educators of the TECs, the NIE, and the Regional Teacher Training Centers. The comments and feedback from the pilot test improved the questionnaire interview questions and protocol. Particularly for the survey questionnaire, the reliability of the scales had been run using Statistical Package for the Social Science (SPSS v.26); the Cronbach's reliability scale was highly acceptable with $\alpha = .956$.

Equally important, the research instruments comprising the survey questionnaire and the interview protocol had been reviewed by a team of human resource development for education, and they had been approved by the author's Institutional Research Ethics Review Board (IRB) for content validity and for guaranteeing the confidentiality and privacy of the participants, respectively.

3.4. Procedure

In collecting data, the NIE management, particularly the Head of the Department of Education, was the facilitator from September 19th to October 19th, 2022, for the survey administration to the entire population of teacher educators. Out of 105 teacher educators, 89 (= 85%) filled in the digital survey questionnaire, all acceptable.

Among the 89 above, subsample of 13 teacher educators volunteered to participate in one-on-one semi-structured interviews from 25th December 2022 to 16th January 2023. A positive rapport was established to encourage interviewees to openly share their experiences, emotions, and viewpoints (Leech, 2002); the study's objectives and advantages were explained beforehand. Once consent had been obtained to record the audio, the interview proceeded. While conducting interviews, a new identifier, such as TE1, TE2, TE3, …, was created for each participant to substitute their real names while the interviews were being conducted. These identities were generated and assigned at random. This coding procedure was implemented to protect their confidentiality and privacy.

3.5. Analysis

The raw data from the quantitative survey were entered into the SPSS v.26 data editor, cleaned, and analyzed using descriptive statistics of teacher educators' consumption and conduct of research. The interviewed data were transcribed verbatim for coding and categorizing the emerging themes using Nvivo11 software. In coding, the thematic

analysis (Creswell & Baez, 2021; Gay et al., 2012; Guest et al., 2014) was exploited to find the repeating keywords or phrases describing feelings, experiences, or responses. The texts were read many times to develop themes and codebooks, which were then discussed with other Ph.D. students and graduates from the teacher education field to solve the disagreement on the coding and finally revised to reach a consensus. The respondents' verbal comments about their professional role perceptions, research activeness, engagement, or experience were illustrated to support the themes.

In the same way, as described earlier, the analysis of the research question relating to the key challenges influencing teacher educators' research involvement was focused mainly on the contextual background of the studied subjects, i.e., the individual and institutional levels. Drawing from the contexts, the findings from the analysis were discussed to share the interpretations and meaning elicited.

3.6. Limitations

It is important to note that the studied context was used and analyzed to examine the emergent challenges in teacher educators' research engagement. Even though this analysis added valuable understanding into the individual and institutional obstacles determining the teacher educators' research engagement, the study has excluded other various aspects that may impact teacher educators' research engagement, where the challenges go beyond the individual-institutional contexts, including the national level such as politics and governmental support, culture, industry, and donor agencies.

4. Results

The results are integrated with quantitative and qualitative data in a single section. An examination of the numerical data using descriptive statistics opens this combined section. Subsequently, it delves into the qualitative stage and offers insights from the semi-structured interviews. Subsections within this part are arranged by the broad themes discovered during the quantitative and qualitative phases, supplemented by substantial remarks from the respondents.

4.1. Demography, perceived professional role, and significance of research valued

Demographics and professional backgrounds of teacher educators have been reported. Male teacher educators account for more than half of respondents (n = 53; 60%), most of whom are middle-aged adults. Half of the respondents have been employed by the institute for over ten years (*n = 48;* 54%). In the meantime, most teacher educators held a Master's degree (*n = 81;* 91%), whereas Ph.D. holders accounted for 6.7% (*n = 6*). Most of them work full time (96%), of which 75% serve in pre-service teacher education programs. To be exact, 92.1% (*n = 82*) of them teach in Bachelor + 1 pre-service teacher education program, whereas 27% (*n = 24*) in Bachelor + 2. Nearly one-fourth of the respondents are serving in both programs.

Regarding how they viewed the role in teacher education, the teacher educators were asked to rank as "1 = best describe themselves", "2 = better", "3 = average", "4 = less", and "5 = least describe themselves". When ranks "1" and "2" merged, the ranking order of the Researcher role (75.3%) was slipped out by the Teacher role (95.5%) and the Teacher Educator/Trainer role (94.4%) (See Figure 1 about the perceived roles of the teacher educators below).

As the following qualitative assertions show, another perception of the teacher educators' role could be understood from the interviewees' speech:

> *"…my naive working capacity still makes me think that I am an ordinary teacher despite being officially called a teacher educator. I think that I am an ordinary teacher who understands that my work and role is to train Bachelor holders who come here to study BA + 1. We [I] are still ordinary teachers."* (TE12)

> *"If to be called a teacher educator, I am not qualified enough yet! And if a researcher, I am not."* (TE9)

While identifying themselves as teachers, they also saw themselves as researchers. Another verbatim response illustrated some of these multiple natures of the teacher educators' role:

> *"A teacher educator is required to do research; I always tell my student teachers that a researcher is a skilled person. At the moment, I am writing books…"* (TE3)

Regarding the role of a researcher, this finding suggests that three-fourths of the participants in this current study identify as researchers. It can be implied that teacher educators count research as an integrative part of their profession. Both the survey and interview data indicated that most teacher educators opted to identify themselves

as teachers, closely followed by teacher educators; the interview data also added a sense of thought that research is an interlinked or interrelated aspect of a teacher educator. Furthermore, the questionnaire also involved the extent to which the respondents valued research and rated the degree of agreement on research orientation in daily practices of teacher education. The respondents appreciated the significance of research, which influenced the value placed on engaging with and in research. For instance, almost all the respondents agreed/strongly agreed with the statement: "Research is essential for the teacher education profession", or "Teacher educators should conduct research to investigate their own beliefs and practices about teaching, learning, and education."

Figure 1. Perceived roles of teacher educators
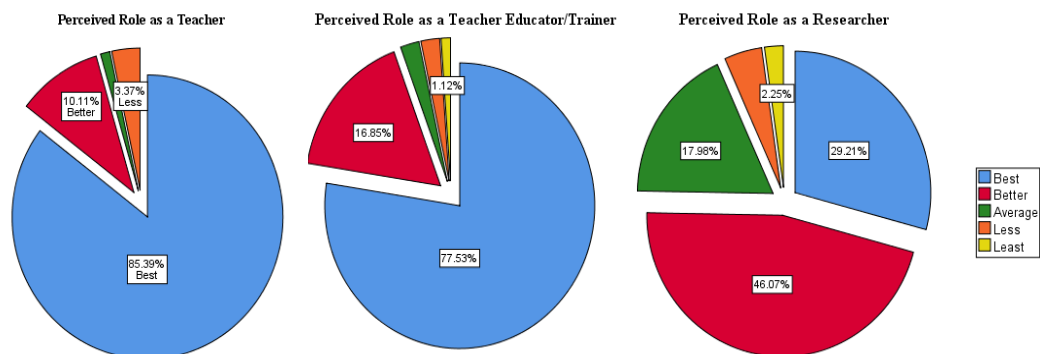
This point is consistent with the qualitative data indicating that research is essential to their daily work. This aspect is reflected in the subsequent quotes of some interviewees:

> *"Research is fundamental. I believe that if research and teacher educators are good, the quality is good. ... If there is no research, there is no development. Good research, good quality."* (TE3)

> *"I think it [research] is important; we can find something new. It is needed in the future because we are teacher educators, which will be [re] appraised and ranked by the Ministry [MoEYS]. We supervise student teachers; we have to align with the NIE's vision and make it realized, which requires us to enhance research capacity considerably."* (TE8)

Similar to how teacher educators perceive their role as researchers, this finding supports a positive perception of research as a necessary characteristic for effective research engagement. It also implies that in the teaching-learning context, research is a pre-requisite for improving the quality of teacher educators and raising the quality and effectiveness of teacher education and overall education.

4.2. Teacher educators' research activity experienced

Given the interrelatedness with the research role of a teacher educator, their research experience was explored with the types of research activities. Regarding the high percentage of research involvement of teacher educators (74.2%), "I am involved in scholarly research (e.g., reading to prepare for the lesson, lectures…)", the qualitative data further provided insight that the teacher educators' teaching was research-informed in improving the quality of daily practices such as preparing lesson plans, drawing lesson learned, as well as enhancing own critical thinking from the research products. These respondents mention this point in the case:

> *"I have experience in doing research at our workplace and other nongovernmental organizations. I have written textbooks."* (TE3)

> *"Research is a way to pursue new knowledge and solve problems. We try to incorporate action research nowadays. Action research is a very practical way to solve problems ... such as in our classroom, what are the problems, what are the effective solutions to the problems, and what can be applied for effective teacher and learning?"* (TE11)

However, particular experience in research data gathering has been exposed by most respondents (no experience = 19.1%), indicating a notable number of them need more experience in another fundamental aspect of con-

ducting research, i.e., analyzing and writing up the research report. This is evident in this statement, *"I just participated with others [NIE teacher educators], doing an interview, doing a survey; helping others like that: ok. But coming to big work such as analyzing, I could not."* (TE4)

This condition suggests that it is essential for teacher educators to provide support and training to cultivate their research knowledge and skills, particularly in data analysis and producing research reports.

This finding indicates that teacher educators engage with and in research activities to inform and improve their teaching practices. For example, they conduct action research to find ineffective teaching factors, successively develop lesson plans, draw lessons learned, and enhance their critical thinking skills. By doing this, teacher educators can improve the quality of education by better supporting their student teachers' learning and growth.

4.2.1. Teacher educators' research consumption

Of the research consumption of the teacher educators, the questionnaire asked about the extent to which the respondents used research. The respondents were asked to rate a degree of agreement, of which "1 = Strongly disagree,"; "2 = Disagree,"; "3 = Not sure,"; "4 = Agree,"; and "5 = Strongly agree".

Table 1. Statements concerning the extent to which teacher educators consume research

Description	[Strongly agree] %	[Agree + Strongly agree] %
1. I am familiar with research concerning the education of future teachers	14.6	74.2
2. My teaching is informed by research	28.1	79.8
3. I often read research articles in educational journals	14.6	68.5
4. I am inclined to use research literature to solve problems in my teaching practice	22.5	735.
5. I know how to use research as a teacher educator	16.9	77.6
6. I attend research conferences and seminars to keep up to date with educational research	14.6	70.8

(MacPhail et al., 2018)

Table 1, about the degree of agreement to which the teacher educators used research, showed that teacher educators commonly know how to use research well. One prominent use of research is to inform teaching. Some interviewees highlighted this point by stating that: *"We try to research to be able to answer with them [student teachers]"* (TE10) and

"For me, I read a lot. Normally, in research, we do a literature review. This means that we can find the best practices in other countries; for example, research has found that there are new techniques in this or that country that are effective or preferred by the students. We can follow the best practices… action research can see the pros and cons of applying that new strategy." (TE11).

Most teacher educators believe that research informs their teaching practices and, thus, value research to apply research evidence-based approaches in their profession. This demonstrated a systematic understanding of the usage of research.

4.2.2. Teacher educators' research conduct

Another set of questions asked about the extent to which the teacher educators think they can research teacher education. They were asked to rate the degree of agreement on the statements of research conduct, of which 1 = 'Strongly disagree'; 2 = 'Disagree'; 3 = 'Not sure'; 4 = 'Agree'; and 5 = 'Strongly agree.'

Table 2. Statements concerning the extent to which the teacher educators conduct research

Description	[Strongly agree] %	[Agree + Strongly agree] %
1. I am capable of presenting and sharing my own research results with other teacher educators (e.g., at conferences, in journals, etc.)	12.4	60.7
2. I conduct research in order to develop knowledge relevant to other teacher educators	14.6	73
3. I see myself as someone who is capable of conducting research	13.5	73.1
4. I have experience with conducting research to improve my own teaching practice	12.4	69.7
5. I present at conferences and seminars to share my own research results	10.1	50.5
6. I conduct research to improve my own practice	22.5	80.9

(MacPhail et al., 2018)

Table 2 indicated that even though almost three-fourths of the respondents thought they could conduct research, about 81% agreed and strongly agreed that they research to advance their practice. That was no contention from the qualitative data, as highlighted by some statements of the interviewees:

"I am writing books on teaching methodologies, and I am writing a research report. I do research by myself even though there is no allowance. I research to publish as a book. This is to develop my profession. I am researching and writing two books on new teaching methodologies, which will be published next year." (TE3)

"I incorporate action research into my teaching." (TE11)

The combined quantitative and qualitative data suggest that most teacher educators value research as a valuable tool for improving their teaching practices and professional development. By conducting research, teacher educators can enhance their ability to assess their teaching effectiveness based on evidence and develop evidence-based interventions, resulting in effective teaching. Most teacher educators feel optimistic about their capacity for conducting research and desire to participate in research activities.

This current study also analyzes the overall research engagement of the respondents by looking at the research consumption and conduct collectively, i.e., "My teaching is informed by research" (Agree + Strongly Agree: 79.8%), "I research to improve my practice" (Agree + Strongly Agree: 80.9%). The analysis shows that teacher educators moderately engage in and with research yet have a surprisingly high level of signification of research. It can be inferred that while teacher educators highly value research, there is still potential for improvement in their comprehension of the research role in contributing to their job responsibilities. Teacher educators who have a deeper understanding of the significance of the research tend to engage in research activities more and apply the research outcomes to their teaching practices, which, in turn, might improve the teaching performance and quality of student teachers.

5. Discussions

This study explored Cambodian teacher educators' perceived researcher role, research activities experienced, and research engagement. In addition to the multiple roles that teacher educators perceived, this study's findings also demonstrate that teacher educators in higher education institutions in Cambodia possess limited knowledge and skills in effectively consuming and conducting research. At the same time, there is high esteem for research.

5.1. Mixed perception of teacher educator-researcher

Most teacher educators view themselves as researchers and consider them an integral part of their professional role/identity. It implies that these individuals value the research aspect of their job, which may include conducting research, analyzing data, or contributing to research-based policy or practice. This perception of oneself as a researcher could reflect a more profound commitment to the profession, a higher level of engagement with research, or a greater understanding of the importance of research in their field. However, most respondents also have different perceptions toward their roles, namely teacher and teacher educator/trainer. This case corresponds to the results of several studies (Cochran-Smith, 2005; Murray & Male, 2005), which indicated that the teacher educators' primary responsibility is to engage in teaching. They are expected to possess knowledge and skill in their specialized subject and have pedagogy to transmit this knowledge effectively.

Conversely, this case corresponds to a study of teacher educators' professional roles and development by Lunenberg et al. (2014), in which they have other roles, such as mentors, a gatekeeper, and a curriculum developer. Perhaps this is an issue of constructing a role or identity, which is sometimes time-consuming and challenging to transform. Livingston and colleagues (2009) highlighted that not all teacher educators have strong research backgrounds or consider research a fundamental part of their practice. A study on factors hampering the research engagement of teacher educators in Myanmar (Kyaw, 2021) emphasizes that building and advancing teacher educators' research identity is a long-term course and cannot be achieved solely by imparting research skills. Likewise, the teacher educators have been recruited as teacher educators rather than researchers; the job description or institutional guideline relative to the researcher role has not been forward, stated (NIE, 2022). Thus, the lack of research experience and unclear expectations vis-à-vis the role of a teacher educator-researcher might explain why many Cambodian teacher educators strive to develop an identity having a research role.

From another angle, the diverse perceptions emphasize that while teacher educators acknowledge the importance of research, their actual involvement and knowledge production are limited. This mirrors the reality of

research, researchers, and research engagement in a developing context. The study aligns with prior literature (Akerlind, 2008; Heng et al., 2022; Moore, 2011), revealing a gap between the perceived significance of research and the tangible engagement in research activities of teacher educators. A study on Cambodian university faculty highlighted the phenomenon of 'lip service' to research (Heng, 2022), a unique finding resonating with teacher educators in this study. Their lip service may express genuine support for research significance despite limited personal involvement, or it might signify recognition of the research's diversion from their primary role as teacher educators—the Janus-face teacher educator (Smith & Flores, 2019). Cultivating a research mindset demands intentional self-study, knowledge development, and sharing within the teacher education community and broader public contexts, both nationally and internationally (Tack & Vanderlinde, 2014).

Given these different perceptions, Cambodian teacher educators still need to identify and clarify what is required to be teacher educators and researchers, as Lunenberg et al. (2014) suggested. Clarity regarding what is needed to fulfill these multiple roles of teacher educators is necessary.

5.2. Research engagement of teacher educators

This current study revealed that though the research is well-regarded by Cambodian teacher educators, their research engagement is restrained. There are many challenges in explaining this phenomenon. In the scope of the limited research on teacher educators' research involvement in a developing Cambodian context, the discussion relies mainly on the context of the study and on the framework of two main factorial challenges: individual and contextual/institutional, influencing research engagement.

5.2.1. Individual factorial challenges

First of all, age has been found to have a significant relationship with research engagement and productivity, particularly middle age (approximately 35-55); however, many studies have found a curvilinear relationship, meaning the older, the less output of the research seems to be (Heng et al., 2020). In this current study, despite many teacher educators being in middle age (37-46), their research engagement was reasonably active. This unique finding does not support the previous study, suggesting that age might not be the noteworthy determinant influencing teacher educators' research engagement.

Additionally, educational qualifications have been reported to differentiate the research products between teacher educators. For instance, Alhija & Majdob (2017) reported that Ph.D.-holding-teacher educators demonstrated higher research production than their counterparts with a Master's degree. In this current study, the number of teacher educators holding Ph.D. degrees accounted for about 6.7%; unsurprisingly, the teacher educators in this current study tended to be less experienced in engaging in and with research. Therefore, the limited activeness of the teacher educators' research might be attributable to their lack of qualifications.

Another aspect of the personal factors is the rank or promotion of teacher educators. Hesli & Lee (2011) suggested a link between higher academic ranks and greater research productivity. However, this aspect did not appear to reflect the reality of the studied teacher educators. Moreover, though there has been an announcement of academic ranking in higher education, the announcement might only directly apply to and influence teacher educators later. Similarly, there has been no clear assessment or appraisal guideline or policy besides the internal and overall form long-used by the MoEYS, which does not require research product to be the evaluation criterion or for rank promotion. Consequently, even though teacher educators value the research's essence, they are less likely to engage and research productively. The above condition might be explained.

Furthermore, foreign language proficiency, mainly English, partially takes a big pie in consuming and conducting research. For instance, given that English is a high-status language in science and the world, many non-English language researchers have faced many obstacles in writing and publishing research in English (Heng et al., 2020). The challenges, such as technical problems with the language and more time to write and edit the paper, tend to prevent teacher educators' research production. The foreign language level of the studied teacher educators is as low as un-practicable in doing research, as reported by the study of the National Institute of Education International (NIE International, 2017). From this point, it becomes evident that one of the leading contributing causes to the teacher educators' low degree of research engagement is their low proficiency in foreign languages, mainly English. In brief, age, and rank or promotion factors did not seem to enhance the highly valued teacher educators' research engagement. Other factors explaining further complications for the teacher educators' research engagement could be educational qualification and proficiency level of a foreign language in research.

5.2.2. Contextual/institutional factorial challenges

In addition to those above individual factorial challenges, contextual/institutional factors are critical in fostering the engagement of teacher educators in research. Firstly, one key institutional factor is the research policy, as found in the Vietnamese context, in examining the factors influencing the research productivity of Vietnamese academic (Nguyen, 2015). In the studied context, there has been no institutional research policy for teacher educators, meaning there are no guidelines for doing research and no time allocation for research activities. The institute has not established, clarified, or reached a consensus on institutional research performance indicators and incentives and rewards among teacher educators. Likewise, the research center at the institute is designed to allow only the center staff to be responsible for the whole research function of the institute. In other words, the teacher educators of different departments, such as the Department of Education, do not have or take the role of research. Therefore, teacher educators are not officially obliged to do research. Moreover, teachers are recruited to be teacher educators rather than researchers in this studied context of teacher education. Similarly, the traditional role of the institute is still teaching, though research is deemed necessary to transform the institute to research-based teacher education. Thus, the teacher educators might face challenges in establishing a research culture, as this similar condition has been found in a similar Israeli teacher education context (Alhija & Majdob, 2017).

Similarly, teacher educators are not expected to be engaged with and in research due to the lack of a clear research policy to which they can adhere. The teacher educators' unfavorable working conditions regarding teaching versus research responsibility coincide with previous research (Alhija & Majdob, 2017). The underlying obstruction in teacher educators' research engagement, such as writing and publishing output, is the limited time for research. There has not been any clear guideline on time allocation for researching teacher educators; administrative responsibilities of teacher educators might take most of the time available for research. The teacher educators' primary responsibility is to teach the student teachers. Therefore, time is one determinant that promotes and hampers research engagement among teacher educators.

Among others, the availability of resources such as facilities and finances is one of the institutional factors influencing research engagement (CICP, 2016). The present facility condition is not favorable for the teacher educators conducting research. The physical infrastructure neither supports the development of research knowledge and skills nor promotes research activities among different departments and teacher educators, as stated in the strategic plan of the studied institute (NIE, 2022). Overall, the current context of the studied subject reveals that the institutional factors seem not to positively contribute to the willingness, commitment, or motivation to promote research policy, culture, or environment for the teacher educators' research engagement.

6. Conclusion

6.1. Overall conclusion

In general, many Cambodian teacher educators' diversified perceptions toward their roles generally stem from their knowledge of teaching and research, not from their involvement in research. This comparative lack of research engagement prevented them from perceiving themselves as researchers. Teacher educators highly value research and are committed to using it to improve teaching practices and stay updated on teacher education trends.

This study offers insights for practitioners and policymakers in developing research in teacher education. It emphasizes the significance of promoting positive awareness, recognition, and the ability to engage with and in research effectively. Smith (2021) signifies the link between teacher educators' expectations to breed and publish research and the need for supportive actions at both institutional and national levels. These supportive actions should be visible to all educational stakeholders.

6.2. Theoretical implications

This study contributes to some theoretical implications of the professional roles and research engagement of teacher educators in Cambodia by emphasizing the complexity of their identities, encompassing teaching and research responsibilities. Firstly, the findings align with existing theories, such as those proposed by Murray and Male (2005) and by Lunenberg et al. (2014), highlighting the multifaceted roles of teacher educators as not only instructors but also researchers, mentors, and curriculum developers. Their mixed perceptions of professional roles suggest a need for self-directed learning, which aligns with the adult learning theory. Secondly, many participants in this study view research as an integral part of their professional identity, yet they face challenges in fully embracing the role of a researcher. This underscores the complexity of professional identity construction (Richter et

al., 2021; Swennen et al., 2017), aligning with the existing professional identity development theory. Despite a strong recognition of the value of research, the study reveals significant challenges in engaging with research due to individual and institutional barriers, including limited research experience, lack of clear institutional policies, and inadequate resources. These insights resonate with prior research in developing contexts, where institutional support is crucial for fostering research engagement (Alhija & Majdob, 2017; Kyaw, 2022; Nguyen, 2015). Lastly, the study presents the concept of "lip service" to research (Heng, 2022), which teacher educators signify but are unable to engage it in their professional practice actively, reflecting the theoretical tension between valuing research and the practical realities of engaging in it (Smith & Flores, 2019). In brief, this study enriches the discussion on teacher educators' professional learning and development, particularly in contexts where research culture is still emerging, and highlights the need for continuous institutional support to balance teaching and research roles effectively.

6.3. Practical implications

This study provides an empirical understanding of teacher educators' research engagement in Cambodia and the challenges that need support for teacher educators. Notably, within the institutional context, to make a difference, this finding has important implications for management in creating a clear strategy, goal, or vision for the future of research at the institute. The implication is straightforward: to improve the institute's capacity for research, Cambodian NIE should reexamine the professional roles and academic professionalization of teacher educators, considering their crucial role as (teacher educator) researchers, who matter significantly in improving the research capacity of the institute. For them, not engaging with and in research is essentially not having a developing profession.

Likewise, the institute needs to develop suitable training sessions and programs to acquaint teacher educators with beneficial research consumption and conduct skills necessary for effective active engagement in research. To ensure the sustainability of these efforts, the institute should consider the teacher educators' research experience and skills during recruitment and promotion processes. Accordingly, support is unavoidably required from collegial, institutional, and national collaborations to develop and maintain teacher educators' research capacity.

The Cambodian MoEYS can benefit from teacher educators' contextual factors and challenges, which this research highlighted while restructuring and improving other teacher education institutions. This study will help make comprehensively informed and enlightened decisions about practices and policy implications for improving the quality of teacher educators' research and enhancing teacher educators' professional learning.

6.4. Limitations and future research directions

Although this current study adds to the knowledge of teacher educators' perception and engagement of research, more areas and aspects still require further inquiry. These include the true causes of this limited research engagement and the correlation between research and teaching across various disciplines. Furthermore, few studies examine the broad factors—such as national-level components like politics, governmental support, culture, industry, and funding agencies—that influence teacher educators' involvement in research. Therefore, further research will investigate how best to establish and promote the research culture for and of teacher educators. By doing so, we can better understand the characteristics, determinants, and various contributions of the relevant factors to the teacher educators' research engagement.

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Author contribution statements

Sokchea Ly: Conceptualization, Data curation, Methodology, Writing—original draft.

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