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| Article |

Student Teachers' Challenges Toward Action Research in Teacher Education College

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ABSTRACT

Research activities provide an important aspect of graduate students, and it promotes critical thinking, reasoning and rational decision making among the researchers. However, doing research is not easy for students; especially, students who has never conducted research. This study aimed to highlight challenges of student teachers facing with action research implementation. Cross-sectional descriptive research was conducted using a self-administered questionnaire via google form distributed to 184 student teachers from primary and lower secondary in 12+4 program in Phnom Penh Teacher College (PTEC). The questionnaire consisted of two sections with questions aimed at collecting demographic data and data regarding perspective of student teachers towards difficulties of the student-researchers. Data was analyzed by using SPSS version 22. Descriptive and inferential statistics were calculated. The results show that student teachers had many challenges on research knowledge and skills. These challenges derived from student-related challenges, mentor-student challenges, and institution-related challenges. The study suggested that student teachers should have more training on practical research skills, rather than theory, proposed to conduct other topics beside teaching and learning method, more follow up student teacher's research progress, action research in Khmer language should be promoted through PTEC lecturers, and research written format should be specific and unique, not often be changed.

INTRODUCTION

Action research is a methodological value for improvement education; however, it has a lot of challenges for university students, particularly those who are in the teacher education programs (James & Augustin, 2018). This study background explores the multifaceted difficulties faced by students in conducting action research and suggests potential strategies for overcoming these obstacles. There were some global stresses from stakeholders in higher education level, including external committees and assurance officers of educational quality, on the quality of theses action research report (Leisyte & Westerheijden, 2014).

One important struggle is the limit of adequate preparation and theoretical knowledge. For instance, a study at the Zimbabwe Open University revealed that Post Graduate Diploma

in Education (PGDE) students struggled with understanding the theory behind action research and report writing. The inadequacy was relevant point to the programme itself, where provide insufficient grounding in the theory of action research, and to some mentors who were lacked of knowledge and skills of the research methodology (Ngara & Magwa, 2016).

Correspondingly, project conducting of action research often provided complicated in making good decision and handling of different challenges. A case study highlighted complications in targeting specific group of students, generating experimental groups and control groups, and influencing values of students throughout intervention activities. These issues carefully necessitated planning and reflection to make sure the process of action research works effectively (Greenbank, 2013).

Furthermore, the implementation of action research within teaching practices in the classrooms could be significantly daunting for teaching and learning in 21st century. The procedure stands out to the essential tensions and conflicts between modern universities that could be overpowering by not adequate guidance and support (Smith & Fernie, 2010). There is echoed in the skillful experiences of teachers in science majors who, in spite of their enthusiasm, met significant challenges in rearrangement dynamics classroom and support students' involvement when addressing the issues of socio-scientific throughout action research collaboration (Lee & Yang, 2019). In the contents of learning languages, teachers normally found some problems in design, conduct, and access student learning activities effectively. The action research process about a refugee of adult in English program showed that task-based learning in languages need progressive modification and comprehensive critical reflection to achieve the need of students successfully. This process of iterative plays essential role for enhancing instructional practices and reaching better student learning outcomes (Calvert & Sheen, 2015).

Moreover, action research integration within student teacher program of teacher education sector underscores the crucial of contributing sufficient space and time for conducting reflection. A report from Norway pointed out that while particularly student-teachers got a lot of challenges, the ultimately steps led to play a fundamental role of professional development activities. Ensure that students could connect theory and practice within reflective action research is importance for their professional development as educators (Ulvik & Riese, 2016).

Generally, many university students in bachelor's degree in developing countries faced a lot of challenges. Likewise, there have many studies showed that most research report's quality from students resulted in low quality (Holbrook et al., 2004; Wang & Li, 2008). In most reports, the review of university committee feedback found that the report writing was weak and lack of organizing information (Lessing & Schulze, 2003). The weaknesses have found such as scope of study, significance of study, and structuring of the theses (Bitchener & Basturkmen, 2006).

Nevertheless, while many studies provide literature that pointed on international and local conditions, there still exists insufficiency empirical evidence regarding how student teachers in teacher training program in Cambodia experience and reflect to the challenges of implementing classroom action research (Bou et al., 2025). This gap emphasizes the need for regional studies that evaluate the certain teaching colleges, supervisory, and pedagogical factors convincing student teachers research ability in Cambodia (MoEYS, 2021).

In the circumstances of teacher education colleges, student teachers performing bachelor degree of education programs are needed to do classroom action research after finishing coursework. The process relevant selecting a topic, conducting a research plan during practicum, and making a final report. Due to the important of action research to foster educational development, Cambodian student teachers have faced some barriers as limitation theoretical preparation, decision-making complication, and inadequate support from supervisor (Vong et al., 2023).

Thus, this research tries to address this study gap by indicating the challenges faced by student teachers in conducting action research at Phnom Penh Teacher Education College. Theoretically, this research helps to insight how classroom action research play as a useful pathway for professional development in teacher college. Practically, it suggests significant evidence-based teaching that can help course design, supervisor practices, and school policies goal to empower research ability and developing the quality of student study output.

This research was timely as the results were envisaged to inform both student teachers and academic staff in Phnom Penh Teacher Education College and also Cambodia higher learning institutions on issues relevant to dissertation and thesis writing. Specifically, the results were proposed to provide as baseline information for sharing recommendations on how best the challenges of thesis and dissertations writing facing by student teachers and students could be overcome in Cambodian higher learning institutions.

LITERATURE REVIEW
1. Definitions of Action Research

Action research is an initiated knowledge that researchers conduct with practitioners. Its aim is not only to study but also desired to change such a way to build knowledge and enhance relevant stakeholders to make it better (Bradbury-Huang, 2010). According to Blum (1955) stated that action research is a diagnosing of learning or teaching problem with providing views helping improvement the situation to be better. It has two steps: a diagnostic step where the issues would be analyzed and hypotheses would be designed, and a therapeutic step where tested hypotheses by a directed consciously alternate experiment, preferably in a classroom environment.

Meyer (2000) mentioned that action research is a kind of self-reflective enquiry initiated by stakeholders in social context to develop the ideas of their own performance and the situations that they are carried out. It focuses on working with people to identify problems in practice, implement solutions, and monitor the process and outcomes of change. Another study stated that action research assists in practical problem-solving and expands scientific knowledge in which it enhances the competencies of the respective actors, being performed collaboratively in an immediate context through information comments or feedback in a process of cyclical that aim to enhance understanding of a provided social situation (Hult & Lennung, 1980).

In the Cambodian education sector, action research is rapidly common as a comprehensive approach for crossing the gap among classroom practice and theory (MoEYS, 2021). In spite of current reforms in teacher college, many teacher educators faced challenges in implementation student learning centered and effectively reflective practices. By engagement teacher educator and student teachers in methodical investigation throughout their teaching so action research enhances a practical development for continuous improved profession and innovation engagement (Kemmis et al., 2014). This research is especially novel due to few empirical research in Cambodia have indicated action research (Sok & Bunlay, 2018).

2. Student-Related Challenges

Students meet many challenges when getting started in action research, primarily they are inadequate knowledge, preparation, and school support. For example, students who studied at Zimbabwe Open University faced with understanding the research theory and report writing of action research, showing a gap in significantly of their preparation in academic courses (Ngara & Magwa, 2016). Likely, students in engineering sustainability of science workshop resulted it is difficult to generate problems of research and interact with relevant stakeholders, identify the need for supporting training in research transdisciplinary and conflicted resolution (Tejedor & Segalas, 2018). Furthermore, students who studied medical in Indonesia struggle challenges as they were lacked of feedback improvement and a curriculum overloaded, that

hindered their capacity to hire effectively in activities of student-centered learning in the classroom (Findyartini et al., 2023). Through these situations, a general pattern reveals that students' difficulties become rooted in inadequate research literacy, limited of supporting from mentorship, and inadequate incorporation of research-oriented workshop in academic programs. These causes generally hinder student confidence and capacity to implement fruitful action research.

3. Mentor-Related Challenges

Mentors or supervisors also experience significant challenges in supporting their students throughout action research implementation. Some supervisors at Zimbabwe Open University have insufficient ample of action research knowledge, which restrained supervisor's ability to support guidance with effectiveness ways (Ngara & Magwa, 2016). In research conducted with medical students in Indonesia, mentors met a dilemma within supervisor's commitments to patient care and education program, which impacted mentor's ability to provide effectively supervised students (Findyartini et al., 2023). Moreover, the identity profession of supervisors can be challenged, as found in a report where both beginning teachers and experienced teachers' trouble with their help in developing pedagogical content knowledge of student teachers (Burn, 2007). The effectiveness mentorship needs existing knowledge of acknowledging and acknowledging expertise while as well as raising an environmental learning where supervisors can create new professional knowledge (Sanyal, 2017).

4. Institute-Related Challenges

Institutional challenges also play an essential role in the difficulties found by supervisors and students in doing action research. For example, the program of Postgraduate Diploma in Education (PGDE) at Zimbabwe Open University was criticized that action research not just providing adequate preparation in action research theory and writing, but it also provided skillful of practical and lifelong learning (Ngara & Magwa, 2016). In the context of program of medical education in Indonesia, the supported research process and system of summative-based assessment have been notified as initial barriers to implementing action research of students and there were insufficient documentation and materials (Findyartini et al., 2023). Furthermore, the environmental changes of institution and the changes of research report format in university also played an important role in challenges in conducting action research process (Lykes et al., 2018). These institutional struggles necessitate more comprehensive planning policy innovation and support systems to advance effectively action research implementation. These institutional constraints indicate that the success of action research depends not only on individual competencies but also on systemic support, including curriculum design and research infrastructure.

In conclusion, the challenges have been faced toward action research for university students found multifaceted, such as student-related, supervisor/mentor-related, and institute-related challenges. Addressing these issues needs a good holistic method that suggested better preparation of research plan and provide more training for students during research implantation (Albareda-Tiana et al., 2018). There would have effectiveness mentorship programs in the areas of research phase (Diggs-Andrews et al., 2021) and strong policies support in the institution both practice knowledge and skills of research and enhance mother tongue language in writing research report (Swing & Ross, 2016; Creaser, 2010). By tackling these challenges, the forthcoming of action research implementation which it works as a powerful educational tool could be fully fulfilled. Yet, research is just actually gotten involve in the academic study in a few decades in Cambodia and new in teacher training program. Hence, there is not any studies about challenges about action research implementation in schools; particularly, action research in teacher training center.

METHODS

This study was employed quantitative research designed (Creswell, 2009) through cross-sectional descriptive research (Dzomeku et al., 2024) and using a self-administered questionnaire online survey via Google Forms and used a simple random sampling method (Heng et al., 2023). Cross-sectional descriptive study is employed to gather a comprehensive information regarding the challenges that student teachers in Phnom Penh Teacher Education College had met when they conducted action research and support next practice without changing the learning environment.

The study took place at Phnom Penh Teacher Education College in the academic year 2022-2023 which was selected regarding the reasons of accessibility and convenience because all the researchers worked there. According to Bonner and Tolhurst (2002) stated that one of the benefits of begin an investigating insider-researcher experienced environment was an accepted intimacy which encourages both the judging and telling of truth. To avoid potential bias reporting from this positionality, however, the researchers applied reflexivity concept throughout the research (Cope, 2014).

The sample size of this study was employed by the formula of Yamane in 1967 by calculated with 3.69% of the level of precision (sampling error that range of the true value of the population is predicted to be). The sampling design was adapted from the formula:

$$n = \frac{N}{1 + N(e)^2} = \frac{250}{1 + 250(0.0369)^2} \approx 184$$

where n is the sample size, N is the total population size, e is the level of precision/or standard error

The respondents in this study were the student teachers in year 4 from academic year 2022-2023 in Phnom Penh Teacher Education College. Based on the result of the calculation, there were about 184 student teachers from primary and lower secondary 12+4 program in the institute were selected by simple random and Table 1 shows the demographic information of the respondents.

The research conducted an online administered questionnaire throughout Google Forms to gather data from the student teacher participants. The questionnaire was written in Khmer to ensure the accurately understanding language and it was adapted from Ifeoma (2019) and the researchers have adjusted regarding the information from the literature review and institutional contexts. The survey had opened for participants for approximately one and a half months, from 10th June to 25th July 2023. The questionnaire survey obtained two main parts. Part 1 gathered demographic information of the respondents, including their gender, age, majors, and classes. Part 2, using a four-point Likert scale, sought to explore the difficulties of the student researchers faced in implementing action research. In this part 2, researchers had divided into 4 sub types such as student-related challenges, mentor-student challenges, institution-related challenges and recommendation.

The link of online Google Forms survey was shared to targeted student teachers enrolled in Phnom Penh Teacher Education College and it was sent through several Telegram channels and groups to ensure to reach potential respondents. To analyze the data, the researchers used the Statistical Package for the Social Sciences (SPSS) version 22. After importing responses data from Google Forms into Microsoft Excel Office, the data were well examined and cleaned up before those data were imported into SPSS software for coding and analysis according to the research objectives (Heng et al., 2023). An internal analysis of reliability was employed, resulting a Cronbach's alpha of 0.89, which demonstrates good internal consistency across Likert scale questionnaire items.

The descriptive and inferential statistics were then used to analyze the quantitative data to response the questions of the study. The data was summarized using descriptive statistics such as counts, percentages, and averages (Dzomeku et al., 2024; Seng et al., 2025). To

examine if participants' educational backgrounds influenced their opinions about action research challenges, the authors compared different education levels to participants' ratings using a weight average index (WIA) analysis in t test (Chet et al., 2023).

This study was conducted in accordance with guideline processes of research ethic (Voeng et al., 2025). Needed permissions form to collect data have obtained from involvement authorities. Personal information which could identify respondents, such as participation names and contact information, were not gathered. Respondents provided anonymous within the research, and data collection would be stored securely for three to five years before making disposal. Respondents were voluntary, and respondents were provided free time to stop from the research at any time without repercussions (Reth et al., 2024).

RESULTS AND DISCUSSION
1.Demography information of participants

This research had been involved by primary student teachers and lower secondary student teachers in year 4 academic year 2022-2023 of the program 12+4. All participants were in Phnom Penh Teacher Education College (PTEC) in batch 2.

Table 1. Demographic Information of Participants

Attributes	n	Male	Female
Classes (%)			
Primary Classes	133	26.3	73.7
Lower Secondary Classes	51	31.4	68.6
Total	**184**	**27.7**	**72.3**

Regarding the table above, there were 184 respondents for this study and the authors put into 2 main groups. There were totally 72.3% female and 27.7% male from the two groups. The first group was collected from student teachers in primary classes (n=133) where 26.3 % was male and 73.7% was female. Another group was collected from student teachers in lower secondary classes (n=51) where 31.4 % was male and 68.6 % was female. In this group, lower secondary group, had been dominated by 3 subjects of student teachers such as chemistry, physics, and biology. All of participants had to conduct research in order to graduate the course programs. However, there were challenges faced during research progress.

### 2. Challenges faced by undergraduate research students in writing research projects
2.1 Student-Related Challenges

As mentioned in the introductory section of the article, this research wanted to explore the nature of challenges that student teachers faced in writing their theses. According to the study, there were many challenges have found from student teachers when they conducted research. Figure 1 showed challenges among primary and lower secondary 12+4 program from the 4th year student teachers in Phnom Penh Teacher Education College (PTEC) in the academic year 2022-2023. In overall, both primary and lower secondary student teachers agreed that they were having problems and challenges in doing research.

Regarding the result below, student teachers had faced challenges since selecting a good topic or research tittle. By the study, in overall, most of them agreed that they were lack of knowledge on choosing a good topic to conduct research. They also proved that there was difficulty in making good research problem due to lacking knowledge on these criteria. Another important thing was research objectives. Most student teachers agreed that they had challenge in generating good research objectives. These results consist with the research literacy concept in teacher education, where addresses that novice researchers sometimes need explicit modeling and instruction to improve skills in creaing researchable problems (Cochran-Smith & Lytle, 2009).

Likewise, the factor that causing the challenge in conducting research was about they had not enough time; especially, there was insufficient time to do report writing. After student teachers finished pedagogical practicum, they had to study some course work in their school in order to complete the credits. So, they had not enough time in report writing. Regarding the

Kolb's (2014) experiential studying theory, time and feedback are important for critical learning. Inadequate time shortens opportunities for feedback and improvement, convincing to surface-level comprehension of the research procedure.
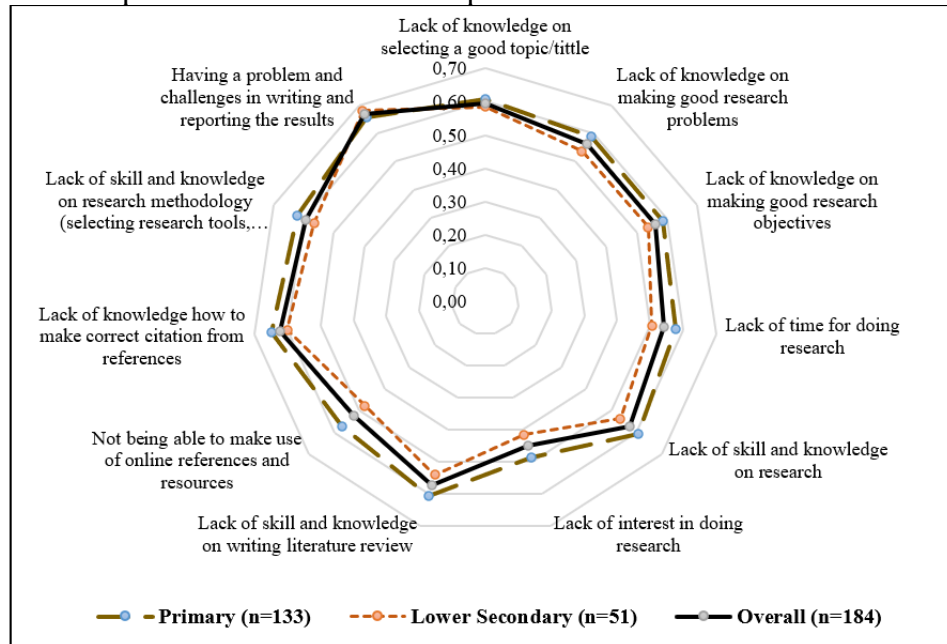
Notes: WAI = Weight Average Index measured on a four-point scale [Strongly Disagree (SD) = 0.00-0.25, Disagree (D) = 0.26-0.50, Agree (A) = 0.51-0.75, Strongly Agree (SA) = 0.76-1.00]; OA = Overall Assessment

Figure 1. Student-Related Challenges During Research Implementation in PTEC in 2022-2023

Generally, most of student teachers agreed that they lacked of skill and knowledge on research. Conducting research was the first time for them which mad them challenged almost steps. The study also revealed that student teachers lacked of skill and knowledge on writing literature review. They got more difficulties in writing literature and most of them were wrong citation. Most of them did not know how to use in-text citation and reference as well. Student teachers were not being able to access online reference and resources effectively. This reviews Bandura's (1997) concept of self-efficacy that having low confidence in research knowledge would hinder independent investigation and determination.

WIA analysis also confirmed that participants commonly lack of skills and knowledge on research methodology (i.e. struggle to create research design, research tool, data analyses so on). Moreover, report writing process was the struggle steps as well. By t test, the challenges among the two groups (primary and lower secondary student teachers) were not significant different (p value > 0.05). The results confirm that challenges of research are systematically connecting phase rather than particular program, considering a wide require to build up research ability in teacher education (Kemmis et al., 2014).

2.2 Mentor-Student Challenges

As what the authors have mentioned above, there were many challenges which student teachers faced during conducting research. The below result of study showed some more struggles which student teachers met through their supervisors. In overall, student teachers seemed not to have any difficulties from their supervisors, but there were some things to investigate among the two teams. Of course, t-test analysis confirmed that the weight average index (WAI) of primary student teachers was higher than lower secondary student teachers. The student teachers from primary program faced some problems from their supervisors. They lacked of supervision from their lecturers to support research while supervisors from lower secondary student teachers had done good supervision to their students. By using independent sample t-test, there was very significant different among two teams (p-value=0.017<0.05).

Table 2. Student Teacher Challenge for Supervisors During Research Implementation

Attributes	Primary (n=133)		Lower Secondary (n=51)		Overall (n=04)		P-value
	WAI	OA	WAI	OA	WAI	OA	
Lack of supervision/mentorship	0.54	A	0.45	D	0.50	D	0.017**
Less time given from supervisors to students	0.53	A	0.37	D	0.45	D	0.000***
Supervisors did not have well-follow up student progress	0.51	A	0.38	D	0.44	D	0.001**

*Note: WAI = Weight Average Index measured on a four-point scale [Strongly Disagree (SD) = 0.00-0.25, Disagree (D) = 0.26-0.50, Agree (A) = 0.51-0.75, Strongly Agree (SA) = 0.76-1.00]; OA = Overall Assessment; *Significance at the 0.05 level; **Significance at the 0.01 level; and *** significant at the 0.000 level.*

The task of mentoring in classroom action research plays an important role such Vygotsky's (1978) signifies that sufficient guidance supports student teachers' progress outside their independent competencies. Inadequate mentoring could therefore restrict student teachers' advancement as autocritical practitioners.

WIA analysis confirmed that most of supervisors who supervised student teachers from primary program had less time to support their students in doing research while most of supervisors from lower secondary program had spent more time for their students in doing the research. Based on the data analyzed by using independent sample t-test, there was perfectly significant different between primary and lower secondary group (p-value=0.000). Moreover, student teachers from primary program agreed that their supervisors did have well followed up student research progress while supervisors from lower secondary program did it. By using independent sample t-test, there was very significant different among two teams (p-value=0.001<0.05). In short, primary student teachers had more challenges about the ways which supported by their supervisors.

2.3 Institution-related challenges

This research also found some challenges that student teachers faced from institute. In overall, both student teacher from primary and lower secondary program agreed that there was lack of references and resources in the surrounding libraries for supporting their research. This meant that there was not existed relevant documents or previous research to their studies. Du to this factor, most of student teachers got difficulties in doing research. Regarding the theory of constructivist learning by Piaget & Inhelder (2008) proposed that insufficient supporting resources for learners would limit opportunities for effective building skill and research motivation.

Moreover, student teachers felt stress with research format. Regarding the study, student teachers strongly agreed that they had faced obstacles in research format. They had challenged about research format because the institute had announced to revise it many times since sharing the first format structure. Through the changing research format, student teachers had to adjust to new guideline format that sometimes it was error the texts had been finished. Therefore, this was also considered to be research challenge as well.

Table 3. Institution-Related Challenges During Research Implementation

Attributes	Primary (n=133)		Lower Secondary (n=51)		Overall (n=04)		P-value
	WAI	OA	WAI	OA	WAI	OA	
Lack of references and resources in the surrounding libraries	0.64	A	0.66	A	0.65	A	0.540
Facing obstacles in research format	0.77	SA	0.82	SA	0.80	SA	0.172

***Note:** WAI = Weight Average Index measured on a four-point scale [Strongly Disagree (SD) = 0.00-0.25, Disagree (D) = 0.26-0.50, Agree (A) = 0.51-0.75, Strongly Agree (SA) = 0.76-1.00]; OA = Overall Assessment.*

2.4 Suggestions to promote action research for student teacher in PTEC

As what the authors had mentioned above, there were many challenges which caused student teacher struggle in implementing action research to finish their program. Throughout their experiences, they proposed some potential solution in order to improve and promote action research processes. WIA analysis confirms that student teachers strongly agreed to have more supporting research training and guideline, specially, practical research skills to strengthen their capacity building. This familiar with the study by Stoll et al. (2006) that revealed that professional learning community (PLC) model promotes collaborative analysis and foster research skill. Moreover, student teachers proposed to conduct widely topics or tittles rather than the teaching and learning method topics. They added that there would overwrite topics in doing action research within a few years due to many student teachers.
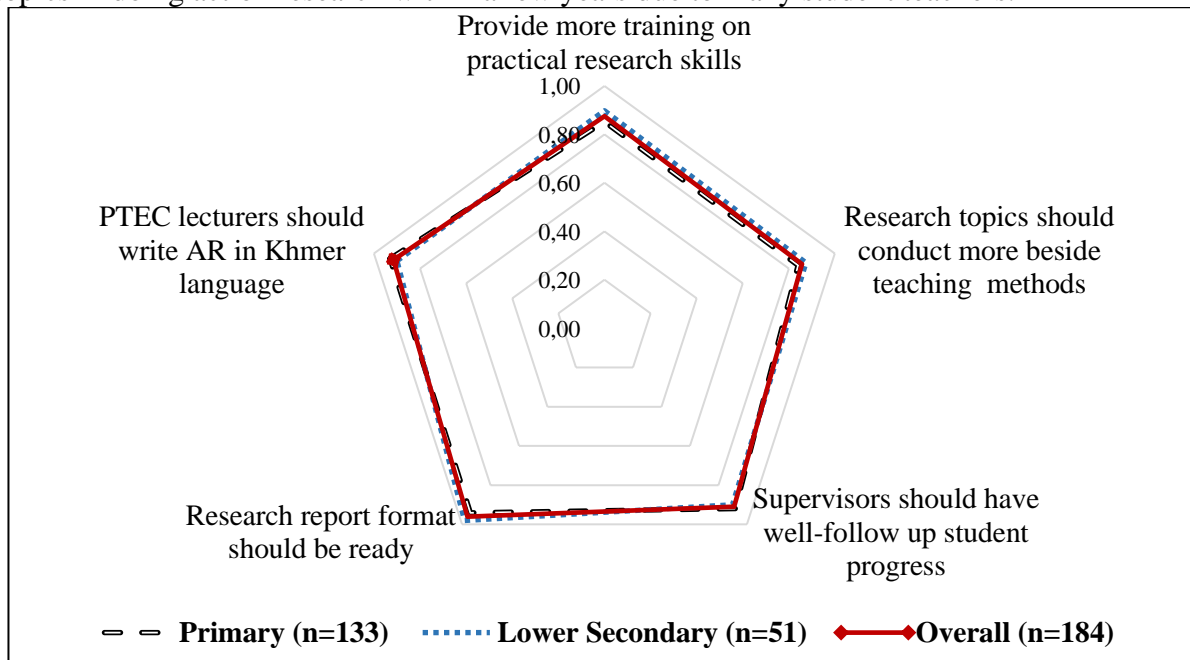
Notes: WAI = Weight Average Index measured on a four-point scale [Strongly Disagree (SD) = 0.00-0.25, Disagree (D) = 0.26-0.50, Agree (A) = 0.51-0.75, Strongly Agree (SA) = 0.76-1.00]; OA = Overall Assessment.

Figure 2. Student Teacher's Suggestions to Promote Action Research in PTEC

Furthermore, T-test analysis confirmed that supervisors, who supervised their supervisees, should pay more attention and time to check and follow up their student teacher's progress. By doing this, it would be great motivated to student teachers and immediately they can revise their report effectiveness. The study also found that student teachers suggested to department of library and research that research written format in Phnom Penh Teacher Education College (PTEC) should be specific and unique, not often be changed. Lastly, student teachers shared the concerns about previous action research documents because those files were written in English. They asked for PTEC lecturers to write action research in Khmer language so that everyone could adaptively use it as samples and references. The respondents continued that action research in Khmer language would begin effectively support and enhance research skill in the institute. According to the t test analysis notified that both primary and lower secondary student teachers responded were not significant different among the two group (p value > 0.05).

DISCUSSION

The challenges toward action research for student teachers were multifaceted, including student-related challenges, mentor-related challenges, and institute-related challenges. The study showed many challenges from student-related challenges such as lack of knowledge on choosing a good topic, lacked of skill and knowledge on research, lacked of skill and knowledge on writing literature review and citation, lack of skill and knowledge on research

methodology (i.e. struggle to create research design, research tool, data analyses so on), struggle in report writing process. Similarly, Ngara and Magwa (2016) found that students face numerous challenges when engaging in action research, primarily due to inadequate preparation and knowledge. They struggled with understanding the theory and writing of action research reports. Additionally, Tejedor and Segalas (2018) revealed that many students lack of knowledge and research skill.

Another research result confirmed mentor-related challenges such as lack of supervision or mentorship, less time given from supervisors to students, and supervisors did not have well-follow up student progress. This study result was similar to Findyartini et al. (2023) and Ngara and Magwa (2016) that showed that some supervisors lacked adequate knowledge of action research, which impeded their ability to provide effective guidance to their supervisees. Another research proofed that some supervisors struggled their time then they could not support the student in agency (Burn, 2007) and lack of effective mentorship to guide students (Sanyal, 2017).

Furthermore, the study found major institution-related challenges such lack of references and resources in the surrounding libraries and facing obstacles in research format. According to Ngara and Magwa (2016) revealed that there was problem when providing adequate preparation in action research theory and writing. There would be challenges when schools lack of documentations to support student work (Findyartini et al., 2023). Similarly, the changes of research format in university provided trouble in employing action research (Lykes et al., 2018).

Lastly, the research result explored some suggestions to improve action research processes. Similar to the result, addressing these challenges requires a holistic approach that includes better research preparation and training for students (Albareda-Tiana et al., 2018), effective mentorship programs in the areas of research (Diggs-Andrews et al., 2021), and supportive institutional policies both research skill practice and promote mother tongue language in writing research (Swing & Ross, 2016; Creaser, 2010).

CONCLUSION

Research activity provides an important aspect to graduate students. Research promotes critical thinking, reasoning and rational decision making among the researchers. However, doing research is not easy for students; especially, students who has never conducted research. The study show that student teachers had many challenges on research knowledge and skills. These issues derived from student-related challenges, mentor-student challenges, and institution-related challenges. Student-related challenges found many issues i.e. lack of knowledge on choosing a good topic, lacked of skill and knowledge on research, lacked of skill and knowledge on writing literature review and citation, lack of skill and knowledge on research methodology (trouble to create research design, research tool, data analyses…), struggle in report writing process.

Mentor-related challenges showed several main issues such as lack of supervision, less time given to students, and unwell-follow up student progress. Institution-related challenges found a few struggles such as lack of references and resources in libraries and facing obstacles in research format. To improve action research, PTEC should has more research training guideline, specially, practical research skills, proposed to conduct other topics or tittles beside teaching and learning method, follow up student teacher's research progress, action research in Khmer language should be promoted, and research written format should be specific and unique, not often be changed.

Action research is a powerful tool for students to investigate and improve their learning environment and develop research skill. However, it also presents unique challenges. Here are some recommendations for future study i) explore authentic problem identification (encourage students to identify problems they genuinely care about rather than teacher-imposed ones), ii)

evaluate student teacher's collaborative research design (foster student involvement in research design and methodology), iii) peer review (implement peer review processes to improve research quality), and iv) conduct assessment on student teacher's research writing. By addressing these challenges, future action research studies can maximize student learning, empowerment, and positive impact on the school community.

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