សង្ខិត្តន័យ—Abstract

អត្ថបទទី២៖ ការបណ្ដុះបណ្ដាលគ្រូសិស្សជាអ្នកស្រាវជ្រាវ នៅតាមមជ្ឈមណ្ឌលគរុកោសល្យភូមិភាគក្នុងប្រទេសកម្ពុជា៖ ទស្សនៈរបស់គ្រូសិស្ស

សង្ខិត្តន័យ

បង្រៀនជាអ្នកស្រាវជ្រាវ គឺជាទស្សនាទានមួយដែលស្វ្ងៀឲ្យមានការដាក់បញ្ចូលការអនុវត្តសកម្មភាពស្រាវជ្រាវទៅក្នុងវិជ្ជាជីវៈគ្រូបង្រៀន ដើម្បីលើកកម្ពស់គុណភាពនៃការបង្រៀន។ នៅក្នុងបរិបទនៃប្រទេសកម្ពុជា ការជើងអំពីការអនុវត្តសកម្មភាពស្រាវជ្រាវនៅមានតិចតួច ទាំងនៅក្នុងបរិបទការបណ្ដុះបណ្ដាលគ្រូបង្រៀន និងការអនុវត្តវិជ្ជាជីវៈប្រចាំថ្ងៃរបស់គ្រូបង្រៀន។ ដូចនេះ ករណីសិក្សាបែបគុណវិស័យមួយនេះ ត្រូវបានធ្វើឡើងក្នុងគោលបំណងបង្ហាញពីស្ថានភាពបច្ចុប្បន្ននៃការអនុវត្តសកម្មភាពស្រាវជ្រាវនៅក្នុងកម្មវិធីបណ្ដុះបណ្ដាលគ្រូបង្រៀនកម្រិតមូលដ្ឋាននៅប្រទេសកម្ពុជា។ ការសិក្សានេះបានអង្កេតលើទស្សនៈរបស់គ្រូសិស្ស និងដោយផ្ដោតជាសំខាន់លើ សារសំខាន់ និង បញ្ហាប្រឈមនៃសកម្មភាពស្រាវជ្រាវគរុកោសល្យក្នុងគ្នបណ្ដុះបណ្ដាលគ្រូបង្រៀនតាមប្រព័ន្ធពីរឆ្នាំ។ ការប្រមូលទិន្នន័យក្នុងការសិក្សានេះធ្វើឡើងតាមរយៈកិច្ចពិភាក្សាក្រុម ដោយមានការចូលរួមរបស់គ្រូសិស្សចំនួន ២២នាក់ ដែលបានឆ្លងកាត់ការបណ្ដុះបណ្ដាលសកម្មភាពស្រាវជ្រាវគរុកោសល្យនៅតាមមជ្ឈមណ្ឌលគរុកោសល្យចំនួនបួន។ ទិន្នន័យបែបគុណវិស័យដែលប្រមូលបានត្រូវបានត្រូវបានវិភាគដោយប្រើប្រាស់យុទ្ធវិធី បណ្ដុំកូដអត្ថន័យ (Category coding) គួបផ្សំនឹងការវិភាគទំហំខ្លឹមសារ (Content analysis) និង ការវិភាគន័យភាសាបរិបទ (Discourse analysis)។ ការសិក្សានេះរកឃើញថា គ្រូសិស្សមួយភាគធំបានបង្ហាញទស្សនៈថា សកម្មភាពស្រាវជ្រាវគរុកោសល្យជាមធ្យោបាយមួយក្នុងការបង្កើនគុណវឌ្ឍវិជ្ជាជីវៈ។ ប៉ុន្តែ ការអនុវត្តសកម្មភាពស្រាវជ្រាវគរុកោសល្យរបស់ពួកគេត្រូវបានរាំងស្ទះជាចម្បងដោយកង្វះខាតការគាំទ្រការសិក្សាស្រាវជ្រាវ និងឯងផលប៉ះពាល់បន្ទាប់បន្សំដោយបន្ទុកកិច្ចការ បញ្ហាថវិកា និងកង្វះខាតបំណិនភាសាបរទេស និងកុំព្យូទ័រ។ លទ្ធផលនៃការសិក្សានេះអាចប្រើប្រាស់ជាមូលដ្ឋានពិចារណាសម្រាប់អ្នកអនុវត្ត និងអភិវឌ្ឍកម្មវិធីបណ្ដុះបណ្ដាលគ្រូបង្រៀន ពិសេសក្នុងបរិបទនៃការដំឡើញកម្មវិធីបណ្ដុះបណ្ដាលគ្រូបង្រៀនកម្រិតមូលដ្ឋានឲ្យដល់កម្រិតឧត្តមសិក្សា។

ពាក្យគន្លឹះ៖ គ្រូបង្រៀនជាអ្នកស្រាវជ្រាវ ការបណ្ដុះបណ្ដាលគ្រូបង្រៀន គរុសិស្ស ការយល់ឃើញ

Educating Student Teachers as Researchers at Regional Teacher Training Centres in Cambodia: Student Teachers' Perceptions

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Abstract

"Teachers as Researchers" is a concept that suggests integrating research practice into the teaching profession to improve the quality of classroom instruction. Contextually, little is known about research practice in both teacher education and school-based teaching in Cambodia. Aiming to reveal the status quo of research practice in teacher education in Cambodia, this qualitative case study was conducted to investigate student teachers' perceptions of Pedagogical Research Training (PRT) in their two-year pre-service program. The study employed focus group discussions (FGD) with the 22 PRT-experiential student teachers from four Regional Teacher Training Centres (RTTCs) to examine the significance and challenges of the PRT. The qualitative data from the FGD were analyzed using category coding techniques, corroborated with content and discourse analysis. The findings showed that student teachers perceived the PRT as a means to gain professional qualifications. However, their research enthusiasm was significantly hindered by the insufficiency of academic support and slightly affected by workload, financial limitations and limited knowledge of foreign language and ICT. These findings have implications for those involved in the implementation and development of the pre-service curriculum while Cambodian teacher education is making its way to university.

Keywords: Teachers as researchers; Pre-service; Student teachers; Perceptions

1. Introduction

While the quality of education is vital for societal development, the quality of teachers is even more critical because it is a predictor of such quality of education. Developing effective teacher education systems is considered as one of the local and international strategies for improving not only the quality of teachers but also the quality of education as a long-term goal. However, the process of qualifying teachers is context-based. Different educational contexts need different strategies in developing effective teacher education, which in turn depends on the diversity of local recourses, socioeconomic conditions and political motivation (The World Bank, 2013). There are also different models of teacher education for schoolteachers. According to Robinson (2017), a teacher education system might be one or a mixture of the following models: 1) pre-industrial trends, 2) apprenticeship and work-based learning, 3)

specialist normal schools or training college programs, and 4) the university-based teacher education.

Robinson (2017) elaborates on the roles of university in teacher education as follows:

> In contrast with the key characteristics of the training college model …, the involvement of universities in teacher education has crudely highlighted an almost opposite set of characteristics. These includes: a focus on the preparation of secondary-level teachers; the recruitment of students with higher academic qualifications and often from higher social class backgrounds; and the development of a strong theoretical or scientific basis for teaching, rather than a practical or vocational one. (p. 57)

The trend towards university in teacher education is also considered as a main factor for the inclusion of research practice in the teacher education programs/curriculum. Research practice has had a high reputation in the process of professional education because it generates contextual knowledge (Cochran-Smith & Lytle, 1993). The needs of emancipation of teachers' thinking also emphasize the significant role of research in the teacher education sector because research sets free educationists' practices (Carol & John, 1995). At the same time, research seem to have a powerful influence on educational policies and school reforms.

Apart from academic research practice in higher education, "Teachers as Researchers" is a concept that proposes integrating research practices into teacher education and teaching profession to promote teachers' professional growth. Such a conception encourages school-based teachers to continuously engage in/with research, particularly action research, to develop personally and professionally. Since research practices have long been considered as an effective tool for fostering teachers' competencies and professional development (Bullock, 2016; Carol & John, 1995; Cochran-Smith & Lytle, 1999b; Odhiambo, 2010; Price, 2001), research activities could be found in many initial teacher education programs and school-based practices. There are, however, different research practices in the teaching profession. Basically, teacher research within teacher education and teaching profession stemmed from teachers' work, mainly in forms of "teachers' journals, oral inquiries, classroom/school studies, and essays" (Cochran-Smith & Lytle, 1993). There are also similar catchy phrases (e.g., action research, classroom research, practitioner research, teacher research and *pedagogical research*) used to describe those research practices in various institutional contexts (Cochran-Smith & Lytle, 1993; Feldman et al., 2004; Gurung & Schwartz, 2009; Odhiambo, 2010; Zeichner & Noffke, 2001). Evidence from empirical studies show that research engagement during pre-service teacher education benefits student teachers in terms of professional knowledge, instructional skills, collaboration and professional identities (Corzo & Ram, 2009; Hine, 2013; Kasula, 2015; Lattimer, 2012). Other findings have shown that research practices are effective for professional development and career learning (Beck & Kosnik, 2017, p. 117; Castle, 2006; Hwa, 2014; Willegems et al., 2018).

In Cambodia, teacher education has been developed gradually since the early 1980s. It is moving towards university-based teacher education (TTD, 2015). For example, two out of the six Regional Teacher Training Centres (RTTCs) across the country have considered upgrading their institutional status by piloting a university-based teacher education program since 2018. However, the concept of Teachers as Researchers has been introduced in the pre-service teacher training program since the late 1980s. In fact, there has been a series of research development within this teacher education system. Eventually, research training in the pre-service program was formally introduced in the 12+2 pre-service teacher training program in 2011 under the name "Pedagogical Research Training".

However, little is known about research practice in both teacher education and school-based teaching in Cambodia. In this regard, an empirical study on the pedagogical research training at RTTCs is required as it will help to elucidate the factual position and function of research training and practice as well as to shed light on the future development of research within the teacher education curriculum as RTTCs are preparing to develop into university-based teacher education institutions.

Therefore, this study attempts to fill this knowledge gap and to develop as better understanding of reveal the status quo of research training/practice in the pre-service teacher training program at four Regional Teacher Training Centres in Cambodia. To achieve this aim, perspectives of student teachers who are pedagogical research practitioners are examined through two main research questions:

1. *How do student teachers at RTTCs perceive the roles of research training?*

2. *What do student teachers at RTTCs perceive as challenges during their research practice?*

The diversity of education systems, policy borrowing, and localization have caused ambiguities in terminological usage in the field of teacher education (Beck & Kosnik, 2017, p. 107). While "teacher education" in this study denotes the overall educational systems designed for qualifying teachers (Beck & Kosnik, 2017; Singh & Verma, 2016; TTD, 2013), the context-based term "teacher training" is used to refer to the 2-year-long pre-service programs in Cambodian teacher education systems. This study uses the term "teacher educator" to describe someone who is bound with one or more responsibilities to provide student teachers with in-class lessons, to supervise student teachers during the practicum, and to supervise student teachers during research practices. Likewise, "student teacher" refers to someone who has enrolled in a pre-service program. Meanwhile, the term "research training," or more precisely "Pedagogical Research Training" (PRT), refers to one training activity in the training curriculum for Cambodian pre-service programs for student teachers. Purposively, PRT is selected as a *reduced, focused* case of this study.

2. Literature review

2.1 Competing views on research for the teaching profession

Research, or other popular forms of teacher inquiry such as action research, can now be seen in most teacher education programs. It is observable that research outcomes have emerged as a mandatory requirement for graduation, yet research studies share less attention and shelter under the practicum curriculum during, mainly, the final stage of teacher education programs (Akyel, 2015; Faikhamta & Clarke, 2013; Lovat et al., 1995). Integrating research into teacher education programs, specifically during the practicum, can push student teachers to acquire more knowledge to supplement what they have learned through coursework in class. It is particularly helpful if the coursework within the main curriculum might fail to provide student teachers with knowledge and skills that they need for their teaching career. Moreover, research training has been considered as a useful tool for student teachers' learning beyond the boundary of teacher education programs. Bullock (2016, p. 381) described research within teacher education as "one powerful way to encourage teacher candidates to develop authority over their own experiences." Thus, research activities provide student teachers with opportunities to learn from observations and critiques of their own professional trials during their first-hand teaching practices or internships.

However, it is sometimes argued that research competes with other demands and challenges of the teaching profession such as time constraints, expertise and professional identities. First, most teachers do not have much time because besides teaching, they are supposed to involve in other activities such as official meetings, parental meetings, lesson planning, and administration tasks. Hammersley (1993) raised a concern that the space for research in the lives of teachers today has become less than it used to be (p. 441). During the practicum, teacher trainees who are novice teachers act as schoolteachers, so they must spend a significant amount of time to learn to teach, making them have less time to focus on research. Second, although teachers and teacher trainees may have some research experiences from their general education or teacher education programs, their research competencies are always questionable.

In short, they have been trained in the teacher education program to become teachers rather than researchers. Although teacher research conducted by classroom teachers might be more practical for classroom practice, it cannot totally replace research done by academic researchers (Hammersley, 1993). This is because *teachers* and *researchers* are two different professions, bearing with different public credentials and serving different communities' needs. It is unsophisticated to equate one occupation to another—i.e., to equate teachers with researchers (Cochran-Smith & Lytle, 1993).

2.2 Conceptualization of research for teachers

According to Cochran-Smith and Lytle (1993), teacher research could be identified by three main criteria. First, teacher research should be systematic. The term "systematic" in Cochran-Smith and Lytle's description was confined to the fact that teachers conduct research in a logical flow, from setting up researchable questions, to gathering and recording information, to analysing and reporting by some means and/or in some form. Second, teacher research

should be intentional. The term "intentional" here referred to a sense of clear objectives in conducting research. This means that teacher research should be led by a planned and deliberate activity. Finally, teacher research should be designed as a form of inquiry. The term "inquiry" in in this context means that "teacher research stems from or generates questions and reflects teachers' desires to make sense of their own experiences" (Cochran-Smith & Lytle, 1993, p. 24).

From the conventional perspectives, there are always questions about how teacher research makes any academic contributions to the literature because teacher research is usually considered small-scale research. However, it should be viewed that all pieces of knowledge should be counted as worthy for teachers' professional improvement and that the contribution might be seen later when all bits of knowledge from teacher research have been compiled. Similarly, the validity and reliability criteria of teacher research should be review differently from research conducted by academic researchers.

2.3 The role of research in teacher education programs

2.3.1 Research in the pre-service program

The role of research within teaching profession has become more and more fundamental because both conducting and consuming research are believed to benefit teachers' knowledge, skills, and beliefs in their profession (Cochran-Smith & Lytle, 1999a). Regarding the significance of research engagement, different versions of practitioner research have been integrated into most of today's teacher education programs in the form of final research projects or coursework assignments for pre-service teachers (Cochran-Smith & Lytle, 1999b). In most cases, student teachers were (and still are) required to conduct small-scale, school-based research during the practicum or internship programs because it is believed to be the most appropriate period when student teachers can have chances to learn about the teaching profession in a real-world context. The teaching practicum is not only a platform where student teachers experienced their teaching career first-hand (White & Forgasz, 2017) but it is also the time for cultivating positive attitudes towards teacher research. The new educational environment of practice schools and pedagogical theories that student teachers had learnt from their teacher education coursework might function as "critical incidents" (Carol & John, 1995) which led *teacher trainees* to have many research questions. By looking from another angle, if the practicum was a space for professional learning, then teacher trainees' research stance was even more important. In fact, without research stance or research attitudes, teacher trainees might fail to observe, reflect on themselves, or learn from the best practices of others to improve their skills. In short, a clear research stance provides meanings to the practicum.

The significance of integrating research into the pre-service program has been widely discussed. Medwell and Wray (2014) developed a project which involved research collaboration of eight student teachers during their pre-service education programs to examine the importance of research undertaking for pre-service teachers. It was found that by engaging in authentic research projects, student teachers benefited in terms of reflective and inquiry skills

through their exposure to and analysis of problems related to teaching and learning in the real school contexts. Studies of student teachers' thinking on research showed that engaging with research during pre-service teacher education programs helped student teachers to form professional identities through self-reflection (see Gitlin et al., 1999; Lattimer, 2012; Martine & Nogués, 2015). These studies also found that both reading and producing research helped student teachers to improve not only their knowledge of schooling but also their positive thinking about research. Some researchers also found that research engagement during the pre-service program raised student teachers' awareness of professional development as they asked educational questions about classroom dynamics and framed their own instruction based on their understanding (see Akyel, 2015; Lattimer, 2012).

Castle (2006) suggested that if teacher education programs wanted to promote autonomy or teachers' rationales for teaching, then research should be included as an inquiry component of the programs. In the same field of professional knowledge, other studies on research programs within the pre-service teacher education found that conducting research during the practicum helped student teachers to improve their awareness of teachers' roles, increase their reflective skills, enhance their research skills, and raise the effectiveness of curriculum implementation (e.g., Corzo & Ram, 2009; Lattimer, 2012; Martine & Nogués, 2015; Price, 2001). Furthermore, student teachers themselves had reported that research practice benefited them in the aspects of professional knowledge and curriculum, confidence, and teamwork (see Lattimer, 2012; Niemi, 2012).

Research activities within the undergraduate program complied with efforts of enhancing student-centred learning and teaching because by engaging in research, participants gained not only knowledge but also critical thinking and reflective skills. Research involvement also improved learning strategies and self-directed learning. Bower (2010, p. 50) pointed out that research was a learner-centred practice which fostered enquiry, problem-solving, academic performance, and confidence. According to Bower (2010), integrating research into the undergraduate curriculum helped improve research knowledge and skills and motivated students to engage in research. In the same way as in other disciplines at university levels, research should be included in the teacher education curriculum to benefit student teachers in getting insights into teaching theories and practice during their teacher education programs. Medwell and Wray (2014) showed that student teachers who cooperated in classroom research during their pre-service program developed their research knowledge, improved their reflective thinking, and built their identities as school-based teacher-researchers.

Akyel (2015) studied 22 student teachers' perceptions of the extent to which research helped them in terms of professional development. The study showed that student teachers benefited from engaging in research during the teacher education program and that they gained insights into teaching and learning from their own research project (Akyel, 2015). Research also provided student teachers with the opportunity to "learn in and from their own practice" and to reflect on their own practice. However, in their role as novice teachers and as novice researchers, student teachers needed fundamental help and support in terms of comprehensive induction course and practical guidance from experienced researchers (Akyel, 2015).

2.3.2 Research after the pre-service program

So far, different models of teacher education programs have been provided to novice teachers. However, no single model has been proved to provide student teachers with the complete professional knowledge and skills needed for their future career. Meanwhile, a new trend of teacher education suggests an interest in building novice teachers' capacity to develop their own professional competency by themselves (Beck & Kosnik, 2017). It is important to note that one strategy to bring about quality in teacher education is to equip student teachers with skills that enable them to trace the development of knowledge within their contextual teaching practice. As such, including research skills into teacher education curriculum has been widely supported by recent research findings as the most appropriate means of preparing teachers to face teaching challenges in the contemporary educational contexts as well as in their future career (e.g., Barócsi, 2015; Jantarakantee et al., 2012; Lovat et al., 1995).

2.4 Challenges of research in teacher education

Support and facilitation were important for student teachers during their research undertaking because they faced challenges such as time constraints and overwhelming teaching workloads during their practicum (Akyel, 2015; Barócsi, 2015; Jantarakantee et al., 2012). Barócsi (2015) indicated that student teachers also lacked basic knowledge of research methodology, especially in terms of framing research problems and defining research design. It was found that student teachers reported four key elements that helped them succeed in their research projects: 1) initial lessons of research, 2) hard work, 3) patience and commitment, and 4) support from schools.

In some cases, student teachers misunderstood the concept and goals of research practice during their teaching practicum, which resulted in "negative attitude" toward teacher research because the research introduced to them was sometimes viewed as additional workloads for teachers as well as for student teachers (see Faikhamta & Clarke, 2013, p. 1). In another study on pre-service teachers' research, Gitlin et al. (1999) found that research engagement of mentors/supervisors had a significant impact on pre-service teachers' thinking on research and their own research practice.

In a case study conducted with a pre-service Teaching English as a Foreign Language (TEFL) teacher, Barócsi (2015) found that teacher trainees faced numerous difficulties in conducting research. The difficulties could be classified into four major categories:

> The challenges of the process were related to five (sic) major points: (a) finding the nature and the field of research, (b), choosing the title of the study, (c) working hard along various commitments, and (d) involving the group of students in the study. *(p. 241)*

Barócsi (2015) suggested improving the connections between engagement in research and the actual teaching practice (p. 242). There should be further training and lessons on research methodology to make sure that student teachers were clear about the rigorous concept of research in teacher education (Barócsi, 2015). Psychologically, having firm knowledge and

hands-on experience might reduce anxiety in a future confrontation. Thus, it is necessary that the teacher education program should provide student teachers with prior knowledge and skills needed to conduct research in their field of interest.

One of the key challenges for student teachers while conducting research during teaching practice was time management. A study by Akyel (2015) showed that student teachers encountered time constraints because they had to deal with teaching workloads. The lack of time was not only the challenge during their research practice in the teacher education program, but it was also viewed as a future challenge for novice teachers' research engagement when they started their teaching career. Of course, at the beginning of every job, there would be many new things to learn about. That is why student teachers also reported their worries about their research engagement in the future as they wished to be effective teachers and researchers (Akyel, 2015).

3. Methodology

This study adapts "*revelatory*" (italic in original) case study research design as it attempts to describe a "previously inaccessible" phenomenon (Yin, 2018, p. 50). This was because the case of this study was preliminarily known as a marginalized fact or had never been explored before. With the revelatory case study research method, the researcher had an "opportunity to observe and analyze a phenomenon previously inaccessible to social science inquiry" (Yin, 2018, p. 50). According to Creswell (2013), the purpose of a case study research is to explore a real-life phenomenon within a bounded system of *time* and *place* in order to develop an in-depth understanding of a particular social condition. In this study, pedagogical research training (PRT) is the reduced, focused case which is bound by 1) the four-semester pre-service programs, 2) the context of non-university-based teacher training of RTTCs, and 3) one training cohort (2018-2020).

Since the case is revelatory in characteristics, multiple sampling methods were used, purposively aiming to reach the right participants who had good knowledge and practical experience of the case. The core justification for the sampling method was to reach the information-rich participants for the focus group discussion (FGD) and in this regard, the sampling methods included 1) random purposeful: participants are student teachers who experienced PRT at RTTCs, 2) snowballing: the directors of RTTCs would facilitate the rapport between the researcher and the groups of student teachers, and 3) maximum variation: the size of sample would be decided on information saturation and/or time (Creswell, 2013, p. 158).

Furthermore, the interest of selecting FGD as a method of data collection was not only to save time and money, but it was the researcher's interest to see how the participants negotiate the meanings of the topic under discussion. For the data collection, the researcher visited the sites two times. First, the researcher observed the process of PRT and the preparation when student teachers were about to start practicing pedagogical research in Semester-2 of the program. The second visit was conducted at the end of Semester-3 of the pre-service program. Student

Table 1

The demographics of student-teacher participants in the focus group discussion

Participants (Pseudonyms)	Last education	Teaching hours/week	Teaching days/week	Foreign language	Own Personal Computer	Being on tertiary education
ICT1	UPS	8-12	6	English (3/5)*	Yes	N.
Math1	UPS	4-6	6	En (2/5)	Yes.	Yes.**
History1	B	4-8	6	En (1/5)	Yes.	No.
Biology1	UPS	4	6	En (1/5)	Yes.	No.
Engish11	B	4	6	En (4/5) French (1/5)	Yes.	No.
English12	UPS	9	6	En (5/5) Fr (1/5)	Yes.	Yes.
English2	B	4-6	3	En	No.	No.
History2	UPS	3-6	3	En	Yes.	No.
Biology2	UPS	2-4	4	En (3/5)	Yes.	No.
Math2	UPS	2-6	4	En (3/5)	Yes.	Yes.
Khmer2	B	8-12	5	En (3/5)	Yes.	No.
Physic2	UPS	3-6	3	En (3/5)	Yes.	No.
ICT2	UPS	3-4	3	En (4/5)	Yes.	Yes.
Biology3	UPS	8-12	3	En (2/5) Fr (1/5)	No.	Yes.
ICT3	UPS	12-14	3	En	Yes.	Yes.
Math3	UPS	8-12	3	En (3/5)	No.	No.
History3	B	2-4	2	En (2/5)	Yes.	No.
English3	UPS	8-12	4	En (4/5)	Yes.	Yes.
Khmer3	UPS	6-12	3	En (3/5)	Yes.	Yes.
Biology4	UPS	6-12	5	En	No.	No.
Physic4	UPS	7-14	6	En	Yes.	No.
History4	B	6-12	5	En (3/5)	No.	No.
Total = 22						

Note: - UPS = Upper Secondary School Certificate (BacII), B = Graduation of bachelor's degree
           - En = Knowledge of English language, Fr = Knowledge of French language
           - * The self-rated qualification of foreign language competency based on a 5-scale ratio.
           - ** The participant was pursuing higher education in the form of a weekend/Sat-Sun programme while being on the pre-service programme at RTTC.

teachers were close to the end of their pedagogical research project and were preparing for a final report. At this stage, the directors of RTTCs helped organize the groups of student-teacher participants (or ST-participants), and the researcher facilitated the focus group discussion.

In this study, 22 student teachers from the four RTTCs, who are homogeneous in terms of the training cohort, took part in the focus group discussion (FGD). The qualitative data from FGD were transcribed and then analyzed using a "*category*" (italic in origin) method, supported by discourse and content analysis. According to Merriam and Tisdell (2016, p. 203), category data analysis happens when the bulk data are reduced to be "*answers*" (italic in original) to the research questions and that the key answers are generally reported in the forms of "*categories*" or "*themes*" or "*findings*" (italic in original). Thus, all significant information related to 1) the significant roles and 2) the challenges of PRT were accumulated and condensed into deep insights of the case under study (Merriam & Tisdell, 2016, p. 204). Meanwhile, discourse analysis was used to assure the understanding and interpretation based on language-in-use.

Finally, content analysis was used to extend the answers beyond the qualitative category analysis, which helped to form a better understanding in the form of quantitative interpretations. For ethical consideration, each student teacher was mentioned by his or her specialized subject and a coding number. For example, "English9" would mean a ST-participant who was specializing in teaching English subject. Table shows the participants' background.

4. Results and discussions

4.1 The significant roles of Pedagogical Research Training (PRT)

4.1.1 PRT as professional knowledge

First of all, student teachers reported that PRT helped improve their *general knowledge.* In fact, there were many references that implied the roles of PRT as a way to improve student teachers' knowledge. As one student teacher majoring in English subject tried to explain such an idea, "I think when we learn in class, we are not clear enough. Therefore, when the teachers [teacher educators] assign us to write pedagogical research, we learn more. It also improves our knowledge" (English3). History3 added, "I think that when we learn the in-class sessions, our knowledge is not clear. Our knowledge is poor. However, when we conduct pedagogical research, we have to *search* from all reliable sources. Our knowledge seems to improve. […] Our knowledge is much wider than it was before".

However, only a few participants elaborated on how PRT influenced their *pedagogical content knowledge.* Among those, one student teacher stated that, "For me, it is the [teaching] methods; [I have learned] new methods" (Math1). Apparently, student teachers could not perceive a clear link between PRT and the improvement of pedagogical content knowledge because they had chosen a wide range of research topics, which were not directly focusing on the pedagogical content knowledge.

During the pedagogical research practice, student teachers read many documents in their field of study. An ICT student teacher pointed out, "We read. And when we read, we read a wide range of materials" (ICT1). In addition, another student teacher added, "Therefore, it adds up to our knowledge that we earn from in-class instructions" (Math2). While the majority of student teachers would choose research topics in their field of study, PRT had a vital role in

improving their *subject content knowledge*. For example, one student teacher confirmed that, "We improve our knowledge of the topic about which we write. It is because we try to find as many documents related to the topic that we write as possible" (Physic4).

With regard to *research knowledge*, there were also some comprehensible comments raised by the participants and that represented their perceptions of PRT as an improvement of research knowledge:
- Research experience (English11)

- Writing with a standardized format (ICT1)

- How to bind a book (ICT1, ICT2, Biology1)

- Experience in writing a book (Bology2, Math3, Physic4)

- Basis of research (Math3)

4.1.2 PRT as professional study

During the focus group discussions, some student teachers also reported having gained *reflective skills*. For example, one student teacher mentioned, "When we study here [at RTTC], we learn the theories. During the practicum, we practice teaching. Therefore, we could add or make changes, or in other words, it [PRT] reflects both theories and hands-on practice" (Bilolgy1). Another student teacher raised a similar idea, "I receive *feedback* from my students [she meant she has learnt from feedbacks as a result of testing a teaching technique in her teaching-practice classes]" (Biology2). An ICT student teacher elaborated on his own practices to highlight the reflective skills, which finally helped him to choose a topic for his pedagogical research project (ICT3). He said,

> For ICT subject, upon the pedagogical research, first, I observe the classroom management when I was in the Practicum-I. When we could not manage the class well, we received **comments** [the participant's own word] from the visiting supervisors. Therefore, this year I finally decided to choose a topic about issues that make students unmotivated to learn ICT lessons.

Related to *self-evaluation*, some student teachers claimed that the pedagogical research practice helped them to think reasonably and creatively (e.g., English11) and that they could make a rational judgment on the pros and cons of, for example, a teaching method (e.g., Biology2). Overall, PRT helped student teachers learn to make evidence-based decisions and evaluation. Therefore, student teachers could justify their own performance regarding teaching practices and professional learning.

Although not much was explicitly said concerning how PRT shaped their abilities to work independently, such a perception could be inferred from some of the student teachers' responses. For instance, some participants provided critical clues regarding their performances that represented their *autonomy and self-regulation* during their research practices. As the data suggested, student teachers were responsible for their own pedagogical research project because:

- They made their own decision on their own research topics and plans.

- They tried their best to search for literature.

- They managed their own budget during their research practices.

- They consolidated their own knowledge and skills learnt from different contexts.

- They relied on their own abilities to overcome challenges during research practices.

4.1.3 PRT as professional practice

Development of teaching methods. One student teacher explained that PRT was a part of teaching practice; therefore, it added a meaning to the teaching practice during the practicum (Biology2). It could be inferred from her statements that in-class training sessions and the practicum were two platforms that linked the theories and the real-world practice. Besides, pedagogical research was another platform for consolidating and embracing the theories and practice, such as the one reported by a participant who said, "It helps us understand the lessons even better. So, it is easier to transfer such knowledge to our students […] the students also acquire the knowledge more easily" (Math3).

4.1.4 PRT as professional ethics

Involvement in development of educational resources. Some participants, (e.g., Enlgish11, English2 and ICT1) provided critical perceptive comments that the results of their pedagogical research practice would be an academic contribution to their peers and their juniors in the context of pre-service programs. Student teachers' perceptions were also aligned with those of teacher educators regarding the development of educational resources for both contexts of the teacher training program and school-based education.

Discussion

The findings of this study reflect two critical insights related to the concept of Teachers as Researchers. First, the significance of pedagogical research within the Cambodian pre-service program reported by the participants were quite similar to that of research practices at university-based teacher education. Pedagogical research here functioned as a tool that student teachers used to grasp and verify their knowledge (Akyel, 2015; Bower, 2010; Cochran-Smith & Lytle, 1999a; Lattimer, 2012; Medwell & Wray, 2014; Niemi, 2012), to improve their study skills (Akyel, 2015; Bower, 2010; Lattimer, 2012; Medwell & Wray, 2014; Niemi, 2012; White & Forgasz, 2017), to advance their instructional performance (Bower, 2010), and to shape their professional ethics (Gitlin et al., 1999; Lattimer, 2012; Martine & Nogués, 2015; Medwell & Wray, 2014). Second, this study also verifies that student teachers in the non-university-based teacher training programs also appreciate the significance of research practice. They have demonstrated their capacity and enthusiasm to conduct research to improve their professional qualification. However, the findings of this study leads to a skeptical view over the statement that "[r]each skills among teacher trainees are merely zero" (Dy et al., 2018).

Although these may not be new findings, they present the contextual lessons-learned for the case of PRT at the quasi-higher teacher education of RTTCs in Cambodia. The most important

message from this study is how student teachers perceive the roles of PRT in the teacher training curriculum. The following chart (Figure 1) highlights that student teachers see PRT as a means to gain professional qualification, especially professional knowledge. It is important to note that the qualitative content analysis below is based on verbal comments of 16 out of the 22 participants who discussed the significant roles of PRT.
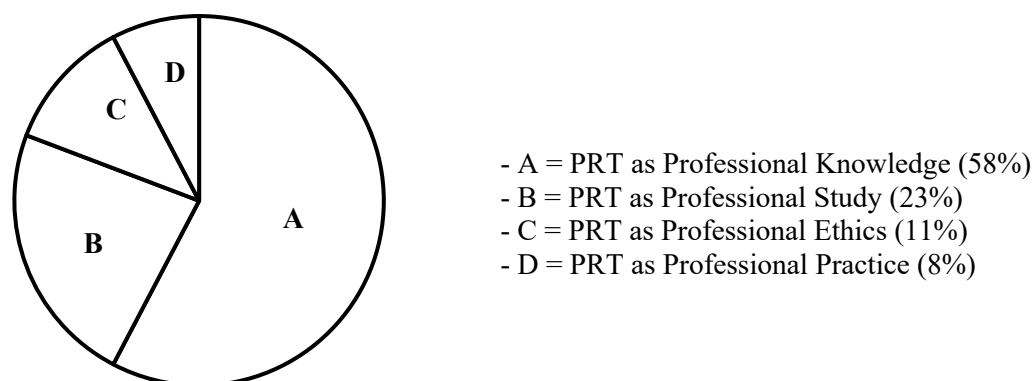

- A = PRT as Professional Knowledge (58%)
- B = PRT as Professional Study (23%)
- C = PRT as Professional Ethics (11%)
- D = PRT as Professional Practice (8%)

Figure 1. Student teachers' perceptions of PRT

4.2 Challenges of PRT

4.1.1 What challenges

4.1.1.1 The insufficiency of academic support

The *insufficiency of academic resources* was reported repeatedly by the participants. The majority of the student teachers made similar complaints regarding the inadequate services of the campus libraries and the poor quality of the materials in the libraries. One student teacher made a short explanation that "The libraries do not have many documents or books" (Biology1). Such a remark was agreed by all of her peers. It was clear that student teachers could not rely on the local libraries for their pedagogical research projects. As one participant said, "If [it is] for pedagogical research, the documents in the library are nothing; [we] use the internet. In the libraries, there are not many books for research, or if so, only textbooks [for general education]" (History3). Another student teacher majoring in ICT subject added, "For me, the reference documents, for the most, nearly 90 per cent, I rely on the internet sources" (ICT3). It was no doubt that while the services of the local libraries were insufficient, some student teachers tried their best to access academic resources from different sources, including the internet, teacher trainers and school-based teachers, bookstores and local universities. For example, one participant said, "I have some books from the university, and I get some documents from the internet. I then compile them with the national textbooks. [He implies a notion that he could find enough documents for his pedagogical research project.]" (Physic4). Another issue was the *lack of research inputs* for student teachers. In this case, one English major participant stated, "For me, it is related to the writing format because we do not have any specific standards, that is why we are feeling confused about how to write" (English11). Immediately, another participant supported the idea in a suggestive tone that "[I] want [to see] a clearly defined format. Because they [teacher educators] just assign the topics, then let the research to be ours. We do not even know whether [our work is] right or wrong" (English12).

In some other cases, student teachers were forced to start the research processes without a single piece of research inputs. For instance, one student teacher revealed, "When it is time, we start [without any knowledge]. [If we make] any mistakes, the teachers [teacher educators as supervisors] help correct" (English2). Another student teacher who raised a similar situation said, "The challenge for me is that until now [It was two weeks before the due date for the submission of his research report] I have not received any guidance yet" (Math3).

4.1.1.2 The insufficiency of financial support

Student teachers needed a plenty of experimental and office materials during their practice of pedagogical research. They also needed internet access and ICT equipment. However, many participants expressed their unsatisfied feelings in their research experience because they had to rely on their own expense to make their research project work. Student teachers not only relied on the experimental materials used in their research but they also relied on their own budget for other expenditures related to the practice of pedagogical research, such as printing and binding the report book for final submission.. Such a perception was also supported by many participants, such as History1, Biology1, Physic2, History3, ICT3, and Hisotry4.

4.1.1.3 Workloads with time constraints

PRT happened simultaneously with the practicum, where the student teachers were under the supervisions of the teacher training centre and practicum centre. Such conditions created piles of work for student teachers. The following excerpts show that student teachers had encountered heavy workloads and time constraints during the practice of pedagogical research.

> For ICT subject, there is a problem with time. It is because in my subject, ICT, we mainly develop the lesson by ourselves. After that, we need to write a lesson plan. We need time to research on the lesson and to write lesson plans. (ICT3)

> As a request, if we conduct the pedagogical research, make it separated from the practicum. Not to write pedagogical research while having the teaching practice. It is time. Some student teachers have more-relaxed teaching hours; it is fine. Yet, some student teachers have many teaching hours, so they encounter difficulties upon the pedagogical research. (History4)

Though some student teachers seemed to accept the amount of time allocated for PRT during the practicum, they reported that they were constrained by heavy workloads. In most cases, the teaching practices were raised as huge workloads for student teachers; for example, English11 said, "For me, what hinders my pedagogical research writing is related to lesson-plan writing for the teaching practice. It is because I spend time to study the lessons, write the lesson plans, and prepare the teaching materials" (English11). Some other student teachers also provided similar comments.

> For me, History, if we consider the starting point form Month-1 [January] and the end in Month-3 [March], it is suitable if we only focus on pedagogical research writing. Yet, we need to study [at University] on Saturdays and Sundays. We also must teach

two or three days per week, four hours per day. Therefore, we need to write lesson plans. (History3)

Student teachers' ideas about the workloads and time constraints during the PRT and the practicum, however, varied. For example, History1 said, "The school [RTTC] requires about 20 pages. Therefore, the time allocated [for PR] is quite a lot; what to say here is that they [teacher educators] let us write since the early of February." Another participant added, "[I am] not very busy. It is because we can edit the lesson plans and use them for other classes. After the tasks in teaching practice, I take some time for writing the pedagogical research. [He implies a notion that he has no problem with time management. It is not an excessive workload for him.]" (Physic4). However, student teachers of different subject majors seemed to have been affected differently by the workloads and the time constraints.

4.1.1.4 The limitations of foreign language and ICT skills

Some student teachers acknowledged that their abilities to use foreign languages and ICT skills were limited. The limitations of foreign language and ICT skills also affected their research competency. For example, one participant expressed her concerns that "Some documents are in the English language. We need to spend time to translate […] to understand the technical terminology" (Biology1). The following is an extract that revealed the limited abilities in the foreign language and ICT skills among some student teachers.

> For me, the difficulty in pedagogical research writing is that we do not know much English language. Some history documents are in the English language […] and the computer, we are not practical users. History3

> [In the library, there are some books in the English language]. Sometimes, as others have mentioned, our knowledge of the English language is limited. And another [difficulty] is computer usage. If we type, it is difficult. It is difficult to type [in Mathematics]; it is time-consuming. Math3

4.1.2 What caused the challenges

During the FGD, student teachers provided not only the challenges they experienced during the practice of pedagogical research, but also some sources of those challenges. **Error! R eference source not found.** provides a comprehensive understanding of the *challenges* of PRT and their respective *sources* that emerged from the focus group discussion. However, there were no comments that explained why student teachers lack competence in foreign language and ICT skills.

4.1.3 The impact of the challenges on the quality of PRT

Figure 2 below summarizes a rough comparison among the challenges of PRT based on frequencies of each challenge raised by the participants during the focus group discussion. From the chart, we could understand that the most significant factor that hindered PRT in the

pre-service program was the *insufficiency of academic support*. The term academic support here referred to 1) the lack of academic resources, both in the forms of paper-based and

Table 2

The challenges of PRT and the causes of the challenges

Challenges		Causes of the challenges
Academic support	-	The existing guide for PRT was considered too vague, insufficient, and even inaccessible. As a result, there were ambiguous interpretations of the guideline, and eventually, it was the student teachers who were enduring those ambiguities.
	-	Student teachers did not receive enough research inputs or more specifically, research competences. Therefore, the term "research" meant "go and find answers to the *assigned* questions in the existing printed materials." Unfortunately, the library services were limited due to the lack of resources and the poor facilities.
	-	While the library services were not so satisfactory as expected, both teacher educators and student teachers turned to online resources. Unluckily, there was no free internet access in the RTTCs, which was considered as a lack of academic support. Such condition extended to be a financial burden because of the expenditure on the use of personal internet.
	-	The research inputs/contents for student teachers were poorly designed and unstructured. In most cases, student teaches could hardly recall what exactly they had learnt, beneficially for their pedagogical research practices.
Financial support	-	There were no school budgets allocated to support the process of PRT because such a training activity was considered a part of the practicum. Consequently, the focus was placed on the practicum rather than the PRT.
Workloads and a sense of time constraints	-	The PRT and the practicum were two separate training activities with equal significance, and they were implemented and assessed simultaneously. In real practice, the time allocated for the PRT was eight weeks, which was the duration of the practicum in the second year of the pre-service program. This ambiguity was caused by the unclear PRT guideline.
	-	On the face of it, greater attention would be spent on teaching practices rather than the PRT. As a result, a greater time allocation would be spent on the preparation of teaching practices rather than on the research activities.
Foreign language and ICT skills	-	[No comments from the participants, i.e., there were not any clues that could be drawn from the qualitative data regarding the reasons for this challenge.]

computer-based resources and 2) the lack of research inputs for student teachers before getting them into research practices. Three other factors, such as 1) financial support, 2) workload and time constraints, and 3) Foreign language and ICT skills, were not prevalent since those challenges received fewer mentions, at only 13%, 13%, and 9% respectively.
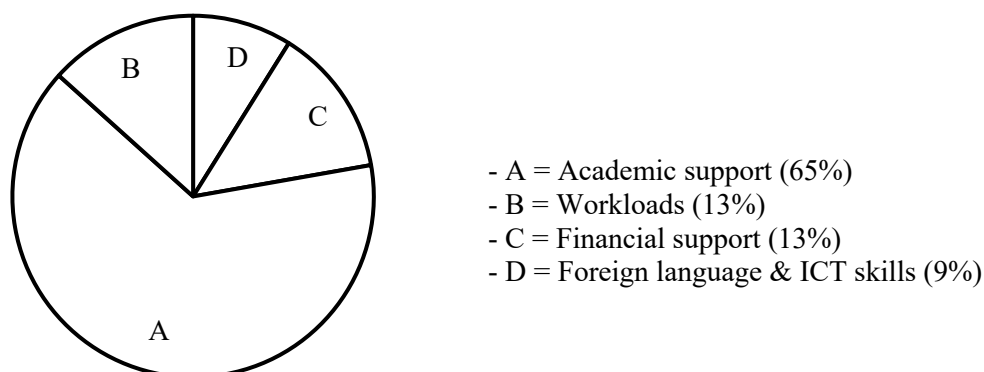

- A = Academic support (65%)
- B = Workloads (13%)
- C = Financial support (13%)
- D = Foreign language & ICT skills (9%)

Figure 2. Student teachers' perceptions of the challenges of PRT

5. Discussion

The challenges reported by the participants fall into the same dimension as those reported in the previous literature. It becomes common that research training practice are confronted by time constraints, financial support, and researchers' capacity (see Akyel, 2015; Faikhamta & Clarke, 2013; Gitlin et al., 1999; Jantarakantee et al., 2012).

Thus, this study brings to the fore the contextual challenges where the non-university-based teacher training/education centres encounters during their attempts to promote the notion of Teachers as Researchers. From this study, it is clear that RTTCs, teacher educators and student teachers are faced with the lack of academic support in terms of well-structured research guidelines and research-friendly resource centres.

6. Conclusions

This qualitative case study set out to scrutinize student teachers' perceptions of research practice and the enduring challenges they face in the context of non-university-based teacher training at RTTCs in Cambodia. The major finding was that in general student teachers had positive perceptions of PRT in terms of the quality of the teacher training program at RTTCs because research practice helped improve their content knowledge, teaching practice, professional engagement, and study skills. Considerably, student teachers at RTTCs held high expectations that research practice is a tool for improving their professional knowledge. The findings also emphasized a triad connection among student teachers' perceptions, local policies for teacher education and the conception of Teachers as Researchers. Another major finding highlighted the insufficiency of academic support as the critical challenges of PRT. Such challenge included a lack of well-structured research inputs for student teachers, a lack of academic resources and a lack of clear research guidelines. In the meantime, financial hardship, heavy workloads, limited ICT and foreign language skills also emerged as subtle challenges for student teachers.

The findings also showed that student teachers perceived the significant roles of pedagogical research training and practice differently, yet positively in terms of professional training and learning. In addition, although a wide range of perceptions and practices are occurring at RTTCs, they serve a convergent training goal of to improve "research stance" (Hammersley, 1993, p. 439) and respond to the diversities of institutional contexts. There might be two possible factors that led to messy conceptions of pedagogical research at RTTCs. First, it was simply the working process when the curriculum developers and the implementers had been trying to re-conceptualize the concept of teacher research as well as the conception of Teachers as Researchers. Another factor was the disconnection or miscommunication between the developers and implementers of the pre-service curriculum.

This study reveals that student teachers are keen to conduct pedagogical research and that they are capable enough to do so. Unfortunately, the pre-service program fails to foster their research enthusiasm. It is perhaps not necessary to standardize the pedagogical research practices at all RTTCs, yet the current research guideline should be restructured to face the future research practices as the pre-service programs are being upgraded to university-based teacher education. The new version of PRT should therefore pay more attention to the fundamental research inputs for student teachers.

This study's findings suggest that there are some possibilities to improve the quality of PRT at RTTCs. On the one hand, a betterment of pedagogical research-environment should be reconsidered with greater attention to three aspects: 1) research-oriented training pedagogy (e.g., embedded research skills into casual training sessions as much as possible), 2) rich-research-resource facilities (e.g., enhancing the availability and reachability of local library services and data sources), and 3) pedagogical research platforms (e.g., establishing research community and regular research events). On the other hand, to respond to challenges of insufficient research inputs and heavy workloads, the current allocation of PRT should be restructured into a wider spread of implementation. More precisely, the longer process of PRT should produce better and more comprehensive research training and practice for student teachers.

References

Akyel, A. (2015). Research engagement in the EFL pre-service practicum. *Language in Focus Journal, 1*(1), 1–14. https://doi.org/10.1515/lifijsal-2015-0001

Barócsi, S. (2015). Student teachers' research within the frame of teaching practice in TEFL. In L. Magdolna, L. Réka, & H. József (Eds.), *UPRT 2015: Empirical studies in English Applied Linguisticstudies in English Applied Linguistics* (pp. 235–247). Lingua Franca Csoport.

Beck, C., & Kosnik, C. (2017). The continuum of pre-service and in-service teacher education. In J. Clark (Ed.), *The SAGE handbook of research in and for teacher education* (pp. 107–122). The SAGE.

Bower, M. (2010). Developing pre-service teachers' research capabilities using LAMS.

Refereed Paper, 50–59.

Bullock, S. M. (2016). Teacher candidates as researchers. In J. Loughran & M. L. Hamilton (Eds.), *International handbook of teacher education: Volume 2* (pp. 379–403). Springer.

Carol, M. S., & John, L. S. (1995). Teacher as researcher. *Journal of Reading Behavior*, *27*(3), 439–451.

Castle, K. (2006). Autonomy through pedagogical research. *Teaching and Teacher Education*, *22*(8), 1094–1103. https://doi.org/10.1016/j.tate.2006.07.001

Cochran-Smith, M., & Lytle, L. S. (1999a). Relationships of knowledge and practice: Teacher learning in communities. *American Educational Research Journal*, *24*(1999), 249–305.

Cochran-Smith, M., & Lytle, S. L. (1999b). The teacher research movement: A decade later. *American Educational Research Journal*, *28*(7), 15–25.

Cochran-Smith, M., & Lytle, S. S. (1993). Learning from teacher research: A working typology. In M. Cochran-Smith & S. S. Lytle (Eds.), *Inside/Outside: Teacher Research and Knowledge* (pp. 23–40). Teachers College Press.

Corzo, Q., & Ram, O. (2009). Conducting action research projects in a teacher preparation program. *Lenguaje*, *37*(2), 415–436.

Creswell, J. W. (2013). *Qualitative inquiry & research design*. SAGE Publications, Inc.

Dy, S. S., Chhinh, N., Seak, R., Sin, N., & Men, S. (2018). *Pre-service teacher training program at provincial teacher training centers in cambodia: Case Study in four provinces*. Education Research Council.

Faikhamta, C., & Clarke, A. (2013). Thai pre-service science teachers engaging action research during their fifth year internship. *Asia Pacific Journal of Education*.

Feldman, A., Paugh, P., & Mills, G. (2004). Self-study through action research. In J. J. Loughran, M. L. Hamilton, V. K. LaBoskey, & T. L. Russell (Eds.), *International handbook of self-study of teaching and teacher education practices* (pp. 943–977). Dordrecht: Kluwer Academic Publishers.

Gitlin, A., Barlow, L., Burbank, M. D., Kauchak, D., & Tracy Stevens. (1999). Pre-service teachers' thinking on research: Implications for inquiry oriented teacher education. *Teaching and Teacher Education*, *15*(7), 753–769. https://doi.org/10.1016/S0742-051X(99)00015-3

Gurung, R. A. R., & Schwartz, B. M. (2009). *Optimizing teaching and learning: Practicing pedagogical research*. Wiley-Blackwell.

Hammersley, M. (1993). On the teacher as researcher. *Educational Action Research*, *1*(3), 425–445. https://doi.org/10.1080/0965079930010308

Hine, G. S. C. (2013). The importance of action research in teacher education programs. *Issues in Educational Research*, *23*(2 SPL), 151–163.

Hwa, C. K. (2014). Promoting collaborative action research among in-service teacher through Lesson Study: A proposed approach. *Jurnal Penyelidikan Tindakan*, *8*(2014), 49–57.

Jantarakantee, E., Roadrangka, V., & Clarke, A. (2012). Pre-service science teachers' understandings of classroom research and the problems in conducting classroom research projects. *US-China Education Review*, *1*(2012), 112–120.

Kasula, A. (2015). Conducting action research in a practicum: A student teacher's perspective. *CATESOL Journal*, *27*(2), 229–237.

Lattimer, H. (2012). Action research in pre-service teacher education: Is there value added?

I.e.: Inquiry in Education, *3*(1), 1–25.

Lovat, T., Davies, M., & Plotnikoff, R. (1995). Integrating research skills development in teacher education. *Australian Journal of Teacher Education*, *20*(1), 30–35.

Martine, P., & Nogués, F. I. P. (2015). Becoming reflective and inquiring teachers: Collaborative action research for in-service chilean teachers. *Revista Electrónica de Investigación Educativa*, *17*(3), 13–27. https://redie.uabc.mx/redie/article/view/661/1294

Medwell, J., & Wray, D. (2014). Pre-service teachers undertaking classroom research: Developing reflection and enquiry skills. *Journal of Education for Teaching*, *40*(1), 65–77. https://doi.org/10.1080/02607476.2013.864018

Merriam, B. S., & Tisdell, J. E. (2016). *Qualitative research: A guide to design and implemenation* (4th ed.). Jossey-Bass.

Niemi, H. (2012). Relationships of teachers' professional competences, active learning and research studies in teacher education in Finland. *Reflecting Education*, *8*(2), 23–44.

Odhiambo, E. (2010). Classroom research: a tool for preparing pre-service teachers to become reflective practitioners. *Journal of Instructional Pedagogies*, *4*(2010), 1–14.

Price, J. N. (2001). Action research, pedagogy and change: The transformative potential of action research in pre-service teacher education. *Journal of Curriculum Studies*, *33*(1), 43–74.

Robinson, W. (2017). Teacher education: A historical overview. In J. Clark (Ed.), *International handbook of research in and for teacher education* (pp. 48–67). SAGE.

Singh, S., & Verma, P. (2016). Teacher, education, and teacher education: An overview of teacher education in Himachal Pradesh. *An International Journal of Humanities and Social Sciences*, *3*(4), 959–972.

The World Bank. (2013). *What matters most for teacher policies: A framework paper* (No. 4).

TTD. (2013). *Quality assurance system for teacher training*. MoEYS.

TTD. (2015). *Teacher policy action plan*. MoEYS.

White, S., & Forgasz, R. (2017). The practicum: The place of experiencec? In J. J. Loughran & M. L. Hamilton (Eds.), *International Handbook of Teacher Education: Volume 2* (pp. 231–266). Springer.

Willegems, V., Consuegra, E., Struyven, K., & Engels, N. (2018). Pre-service teachers as members of a collaborative teacher research team: A steady track to extended professionalism? *Teaching and Teacher Education*, *76*(2018), 126–139.

Yin, K. R. (2018). *Case study research and applications: Design and methods* (6th ed.). SAGE.

Zeichner, M. K., & Noffke, E. S. (2001). Practitioner research. In V. Richardson (Ed.), *Handbook of research on teaching* (pp. 298–330). American Educational Research Association.