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Teacher educators as curriculum developers: a case study of teacher education colleges in Cambodia

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Teacher educators have key roles in the educational system through preparing and implementing teacher education programs. Understanding and acquiring the necessary responsibility for these roles is crucial for their professional development. Practical experiences of teacher educators provide insights into the specific abilities required in their work context. This case study explored the actual practices, challenges, and strategies employed by 25 teacher educators as curriculum developers, based on an analysis of documents and interview data. The research framework was grounded in curriculum innovation, drawing from both literature review and practical insights. The results revealed that teacher educators were highly aware of their roles as curriculum developers, offering specific activities for syllabus development and revision, schemes of work and lesson plans, teaching practice, and assessment. However, challenges persist in terms of curriculum developers' knowledge base, timeframes, and professional development, particularly within the Cambodian context. Professionally, teacher educators overcame these challenges in various ways, most notably through autonomy in improving syllabus content and teaching flexibility, as well as through formal training and informal learning from and with their colleagues and student teachers in the workplace. The study contends that practitioners' innovation and flexibility in using and developing syllabi in practice are more robust than following prescribed curriculum frameworks and instructions. This study addresses a gap in the literature regarding the role of teacher educators in curriculum development and has implications for improving educational practice, research, and policymaking in the field.

KEYWORDS

Cambodia, curriculum, curriculum developer, professional development, syllabus, teacher educators

1 Introduction

Over the past 30 years, there has been worldwide emphasis on educational reform, particularly in the Asia-Pacific Region. This region, known for its rapid development, has received significant support owing to economic globalization, advancements in information technology, global market competition (e.g., Murray et al., 2019), and increasing local sociopolitical needs (Cheng and Townsend, 2000).

Loughran (2014) highlighted that teacher educators, as a professional group, have more autonomy, responsibility, and control over their work than schoolteachers. Meanwhile, Cochran-Smith (2003) pointed out that research on teacher educators have received limited attention, and even when such research is discussed, the focus tends to be on general and demographic aspects, such as analyzing teacher educators' backgrounds, rather than their specific professional abilities.

Although Lunenberg et al. (2014) have addressed general areas of teacher educator development, the literature on the professional roles and responsibilities of teacher educators in the specific professional roles of curriculum development remains insufficiently discussed and does not appear to be clearly defined. Despite this lack of specific interest, Lunenberg et al. (2014) revealed how teacher educators can shape this role in practice and professional development. Three years after Lunenberg's work, Bouckaert and Kools (2017) investigated the role of teacher educators as curriculum developers and their contributions in this role. The researchers further explored in detail how teacher educators perceived their roles and suggested that teacher educators' autonomy and confidence in engaging in socio-political debates regarding curriculum innovation at universities should be improved.

In the Cambodian context, teacher education is crucial for providing teachers with essential qualifications to guide student's learning and foster the development of the knowledge, skills, attitudes, and values outlined in general and technical education curriculum frameworks (Ministry of Education Youth and Sport, 2016b). In this context, Cambodia's MoEYS has implemented the following teacher education reforms: curriculum and teaching methodology and teacher qualification development (Hang, 2018; Ministry of Education Youth and Sport, 2019). These initiatives aim to develop competent teachers and enhance the quality of education. A significant aspect of this reform is the acknowledgment of teacher educators as a distinct group of professionals who play a vital role in shaping human resource development (Ministry of Education Youth and Sport, 2017b; Royal Government of Cambodia (RGC), 2018). Meanwhile, professional standards for teacher educators of teacher education colleges are outlined in the sixth standard called "program development," which indicates that teacher educators have roles and responsibilities as program or curriculum developers (Ministry of Education Youth and Sport, 2022, p. 6). Ren (2021) showed that students' satisfaction with a career in instruction and teacher education is largely influenced by the expertise of teacher educators, particularly in areas of assessment, curriculum development, and resource access. However, many studies suggest that more attention should be given to dual role of high-quality teacher educators as teachers of teachers and curriculum developer in terms of contents and teaching practices (Lunenberg et al., 2014; Bouckaert and Kools, 2017; Ren, 2021).

This study investigates teacher educators' actual practices as curriculum developers, the challenges faced in this professional role, and the strategies used in classrooms and day-to-day work. It investigates how teacher educators overcome the challenges they face in improving student teachers' learning outcomes and educational programs at institutions. The following three research questions were formulated to guide the study. These three research questions served as guides for the investigation.

1. How do teacher educators practice their roles as curriculum developers in their day-to-day work?
2. What challenges do teacher educators face in their role as curriculum developers?
3. What strategies are used to overcome these challenges, and how successful are these strategies?

2 Literature review

2.1 Teacher educators and their responsibilities as curriculum developer

Teacher educators, sometimes known as second-order practitioners, are essential in aiding those aspiring to become teachers (Murray, 2002). According to Lunenberg et al. (2014), teacher educators fulfill five main responsibilities. First, they act as teachers and role models for students. Second, they engaged in research and knowledge production using their teaching practices as the subjects of investigation. Third, teacher educators function as mentors or coaches guiding and supporting the learning processes of future teachers. Fourth, teacher educators act as gatekeepers or evaluators to ensure compliance with professional standards and profiles. Fifth, teacher educators act as brokers in the learning community, facilitating collaboration between prospective teachers and school-based mentors (Lunenberg et al., 2014). Finally, "the role of curriculum developers, which involves curriculum innovation, consideration of teaching methods, and selection of appropriate learning materials," can be considered the sixth position among the professional responsibilities of teacher educators (Lunenberg et al., 2014, p. 51–55).

Melief et al. (2012) emphasized the importance of autonomy and control by recognizing the role of "educational developers" in Dutch educators' professional standards. This finding implies that teacher educators are accountable for their active participation in curriculum creation. Cochran-Smith (2003) also emphasized teachers' significant role as "key players" in various educational reforms, pushing them to participate as *public intellectuals* (Cochran-Smith, 2006) in discussions about national and global curricular revisions and the development of competent teachers. However, according to Lunenberg et al. (2014), Dutch teacher educators often follow rather than lead these dialogues. It remains uncertain whether teacher educators acknowledge and address the increased demands placed on educators as curriculum developers and whether they possess the competence and intention to meet these demands from a broader perspective.

2.2 Curriculum development

In a study overseen by Grave (1996), it was asserted that language teachers assume the role of curriculum developers. The terms *curriculum* is distinct from *syllabus* even though they are often mistakenly used interchangeably. The curriculum refers to a comprehensive framework encompassing the philosophy, purpose, design, and implementation of an educational program Conversely, a syllabus outlines and organizes the content of specific courses (Grave, 1996; Richards, 2017). Put simply, a curriculum is "what to teach," and a syllabus is "how to teach it" (Chung and Kim, 2016; Grave, 2023, p. 198). The course introduction of a curriculum contains specific learning objectives, and the subject matter for each session can be specified. Additionally, the curricular notion extends beyond the classroom and encompasses the entire educational program, including the roles of teacher educators and student teachers' learning experiences (Lewin

and Stuart, 2003). According to Deng (2018), curriculum and teaching are interconnected notions that exist within the broader settings of society, institutions, and instructional practices in schools. The concept of curriculum encompasses societal, policy, programmatic, and classroom curricula; these provide social significance, normative and operational structures, and educational excellence to the act of teaching (Deng, 2018).

Conway et al. (2009) conducted a comparative study of teacher education across several developed countries including England, Finland, Northern Ireland, Ireland, Poland, Scotland, New Zealand, Singapore, and the United States. This study emphasized several key principles that contribute to the development of a high-quality curriculum. These principles include having a shared and clear vision of what constitutes good schooling, integrating learner knowledge into the curriculum, incorporating foundational concepts, methods, and teaching practices, promoting observation-based internships, and implementing strategies to assess student performance.

From this perspective, teacher educators develop curricula following the three key components described by Lunenberg et al. (2014): curriculum innovation, implementing effective didactic principles (teaching methods), and developing appropriate learning materials.

2.2.1 Curriculum innovation

Curriculum transmitters, developers, and makers are three approaches to curriculum innovation identified by teachers, particularly those in secondary schools, based on research (Shawer et al., 2009; Shawer, 2010). Curriculum transmitters implement the curriculum without making any changes or judgments concerning its shape or textbook content, instead following the textbook and teacher's pedagogic instructions (Shawer, 2017). Conversely, curriculum developers have complete "control" over the curriculum, making decisions on content, learning objectives, and support materials, including, where appropriate, the development of core materials such as teachers' guides and textbooks (Shawer et al., 2009, p. 127). Curriculum development encompasses decision-making regarding curriculum content, such as developing materials, curriculum themes, and revising textbooks (Craig, 2006). Curriculum developers are unlikely to adhere strictly to textbook pages and pedagogical guidelines provided in teachers' guides (Shawer, 2010). Curriculum makers are placed between the two categories of instructors on this continuum, and they have some autonomy over the curriculum's subject matter and presentation (Shawer et al., 2009; Shawer, 2010).

The curriculum development process begins with an assessment approach that serves as a basis for creating a curriculum (Shawer et al., 2009; Shawer, 2010). Teachers and educators make choices; they determine the curriculum for their topics and the academic level of their pupils. This is followed by the structuring and ordering of teaching strategies related to content and creating a syllabus for implementing the curriculum (Shawer et al., 2009; Shawer, 2010, 2017).

This theoretical distinction between the three roles raises several questions, including whether the models proposed by Shawer et al. (2009) encompass all possibilities or whether some instructors and educators do not fit within these descriptions. For instance, some educators may occasionally adjust their existing content but may not consider themselves strictly transmitters. The term *curriculum* also prompts further inquiry. As mentioned earlier, if a curriculum is understood to encompass the philosophy, objectives, design, and execution of a program, it is plausible that teachers can simultaneously transmit certain aspects of the curriculum, such as its philosophy and objectives, while also developing and shaping other elements, such as its design and implementation (Shawer et al., 2009). In essence, it is worth examining the reliability and usefulness of this model for curriculum implementation (Shawer, 2017).

2.2.2 Implementing effective didactic principles

Ping et al. (2018, p. 96) categorized the pedagogy of teacher education into "learning about teaching," which focuses on curriculum instruction and teaching strategies, and "teaching about teaching," which provides role models and addressees challenges through teaching practices. Korthagen et al. (2006) proposed seven key principles to guide program development and change, emphasizing the importance of learning from experience and reflection, which are now central to teachers' professional development. Among the seven principles, two highlight the importance of (1) directing focus from the curriculum to the student teachers themselves and (2) nurturing significant connections between schools, universities, and student teachers. To bridge the gap between theory and practice effectively, Korthagen et al. (2006, p. 1025) proposed the concept of "unrealistic teacher education." Central to this curriculum approach is the development of teachers as reflective practitioners with an emphasis on addressing the challenges, needs, and actions of students. This study emphasizes that teacher educators, in their roles as curriculum developers, should have a well-defined understanding of pertinent knowledge, effective professional development, and meaningful connections between schools, universities, and student teachers. Teacher educators must exemplify the teaching and learning methods advocated in teacher-education programs.

2.2.3 Developing appropriate learning materials

The third curriculum element (Lunenberg et al., 2014) comprises a diverse range of learning resources, including written materials such as textbooks, syllabi, and teacher manuals. Many of these are physical objects such as textbooks, lesson plans, teaching guides, handouts, and lecture notes (Kristanto et al., 2017). Kristanto et al. (2017) also reported that the importance of support materials for the implementation of a curriculum cannot be overstated. In countries or situations where teacher education is limited, or education is delivered based on a strongly centralized mandate, the textbook can become the de facto curriculum, superseding other documents (Shawer, 2010). In the context of curriculum development, for materials to be valued, they have to be fully aligned with the curriculum (Miguel, 2015; Soto, 2015).

Bouckaert and Kools (2017), 3 years after Lunenberg et al.'s (2014) on the curriculum development, re-enforced Lunenberg et al.'s (2014) theory of curriculum development. They highlighted the key findings regarding the perceptions and practices of 75 teacher

educators who identified themselves as curriculum developers adhering to the following the five practices:

- Developing professional vision of their responsibility toward the curriculum
- Focusing on pedagogic principles,
- Striving to create consistency and coherence within the curriculum,
- Applying curriculum innovation by incorporating the latest theoretical and practical insights, and
- Being actively involved in material development.

2.3 Professional development and learning of teacher educators as curriculum developers

Several studies have examined the professional development of teacher educators, focusing on the significance of their concerns, activities, and environment (Van der Klink et al., 2017). Workplace learning has been studied considerably in recent years (Tynjälä, 2008; Billett, 2020), which may be attributable to the recognition that people acquire much of their professional competence in practice and continue learning through their professional activities (Ping et al., 2018). According to Bouckaert and Kools (2017), teacher educators engage in professional preparation regarding curriculum development through informal learning with their colleagues in the role of curriculum developers.

As noted, teacher educators' opportunities for continuous professional development (CPD) may be improved when they intentionally participate in such learning activities. Attending seminars, workshops, and other formal learning activities outside the institution has been argued to be less effective than adopting a more systematic, integrated, and context-based approach toward CPD (Smith, 2003; Srinivasacharlu, 2019).

2.4 Curriculum and syllabus development at TECs in Cambodia

2.4.1 Teacher education program: curriculum framework and syllabus

Currently, there are 26 public teacher education institutions around the Kingdom, namely Pre-school Teacher Center, Provincial Teacher Training Centers, Regional Teacher Training Centers, Teacher Education Colleges, the National Institute of Physical Education and Sport, the National Institute of Education, and the National Institution for Special Education (Ministry of Education Youth and Sport, 2017a, 2018; Royal Government of Cambodia, 2017; Hang, 2018). MoEYS has established these as official public institutions in a variety of forms (from preschool to upper secondary education) via prakas or sub-decrees (Hang, 2018). Within these institutions, MoEYS acknowledges the vital role of teacher education in delivering high-quality education in twenty first-century skills (Ministry of Education Youth and Sport, 2017b). The Battambang Teacher Education College (BTEC) and Phnom Penh Teacher Education College (PTEC) were established by integrating the two campuses of the Regional Teacher Training Center and the Provincial Teacher Training Center in the respective cities (Ministry of Education Youth and Sport, 2017b).

At the undergraduate level, the TEC offers Bachelor of the Art in Education (B.A. Ed.) degree programs in primary and lower secondary education. TEC programs include subjects currently taught in basic education (primary and lower secondary education, grades 1–9) as specified in the national curriculum (Ministry of Education Youth and Sport, 2016a, 2017b).

The curriculum framework is the overall structure of the Ministry of Education, Youth, and Sport-approved education program (Ministry of Education Youth and Sport, 2017b). For example, B.A. (Ed.) is a four-year program comprising 140 credits for primary education - (grades 1–6) and lower secondary education - (grades 7–9). The programs are divided into two phases: (i) a foundation phase (year 1), which includes no less than 30 credits, and (ii) a main phase of 3 years, which requires more than 90 credits. Each credit corresponds to 45 h of teaching. Additionally, each year of the course featured a practicum (Ministry of Education Youth and Sport, 2017b).

Student teachers enrolled in the B.A.Ed. courses for lower secondary and primary education programs follow a similar curriculum structure for educational studies, curriculum studies, academic subject (for the lower secondary program) and subject knowledge (primary education program), essential course, language enhancement and academic discourse skills and practicum. Academic subject include: Khmer language; mathematics; general sciences (physics, chemistry, biology, earth-environmental science); history-geography; moral and civics-home economic; health education-home economics; art; English- Information and Communication Technology (ICT), and French-ICT. Subject knowledge includes Khmer language, foreign language, mathematics, science, and social studies (Ministry of Education Youth and Sport, 2017b).

In TECs, all courses in the programs are assessed through formative and/or summative assessments. Examinations are conducted every semester after 15 weeks of coursework and classes. All assessments, teaching practices (practicum), educational research, and state examinations were crucial components for determining student–teacher success in each course (Ministry of Education Youth and Sport, 2017b).

2.4.2 Role and responsibilities of curriculum development committees

In 2018, MoEYS established committees to develop syllabi for TEC programs. These committees were formed in two stages: a main committee and subcommittees organized by subject. Official nomination letters were sent out more than six times to appoint committee members for developing the syllabi. The main committee comprised MoEYS leaders, university rectors, the director of the National Institute of Education (NIE), and TEC directors, overseen by the MoEYS managerial board. The subcommittees include academics from institutions such as the Royal University of Phnom Penh (RUPP), the NIE, relevant MoEYS departments, TEC teacher educators, and international

development partners (Ministry of Education Youth and Sport, 2018). Besides this sub-committee, some teacher educators were nominated by MoEYS to develop syllabi (by specialized subjects) in teacher training centers (12 years of basic education plus 2 years of education in primary and lower secondary education) (Ministry of Education Youth and Sport, 2021).

Within the subcommittees, groups of 10–20 members were assigned to develop syllabus content for primary and lower secondary education programs. Each group was led by a head specializing in each subject. The subcommittees were divided into 20 groups, representing the subjects listed previously (Ministry of Education Youth and Sport, 2018).

3 Research methodology

This study utilized a qualitative research method conducted as a case study, following Yin's (2014) framework. This approach is suitable for investigating contemporary phenomena that exceed the scope of conventional historical studies. The study relied on multiple sources of evidence to support its findings, including curriculum frameworks, syllabus content, lesson plans, reports from TECs, and interviews.

3.1 Participants

The study focused on Phnom Penh TEC (PTEC) in Phnom Penh Royal City, and the Battambang TEC (BTEC) in Battambang Province in Cambodia. These TECs offer pre- and in-service teacher training programs for primary and lower secondary school teachers, following the 12 + 4 formula (12 years of basic education plus 4 years of higher education) to obtain a B.A.Ed. in basic education (grades 1–9) (Ministry of Education Youth and Sport, 2017a). The study employed purposeful sampling following Patton's (2014) framework. A total of 25 teacher educators were selected from subcommittee members responsible for developing syllabi and assigned by MoEYS. Teacher educators were selected from both TECs (TEC1: $n = 11$, F = 5; TEC2: $n = 14$, F = 5). All participants are lecturers or associate lecturers (teacher educators) with teaching experience ranging from 3 to 25 years. They are members of curriculum development sub-committees of MoEYS and have been teaching primary and lower secondary education programs. In addition, all 25 participants lectured on educational psychology, pedagogy, mathematics, chemistry, social science, home economic, health education, biology, physics, earth-environmental science, Khmer language, foreign language, Art, educational research, and ICT. To protect participants' identities, the pseudonym "TE," which stands for teacher educators, was used, with a number representing each respondent (Table 1).

3.2 Data collection

The case study was conducted from January to March 2023 (academic year 2022–2023) in two TECs. This study employed a combination of in-depth interviews and document analyses to collect the data.

Semi-structured one-on-one interviews were conducted with participants from both TECs, with each interview lasting ∼50 min. Measures were taken to establish validity and reliability to ensure the data's credibility. Prior to the main interviews, pilot research was undertaken with five teacher educators who had experience in syllabus development and training student teachers but were not part of the study. Their feedback resulted in the addition of new questions and adaptations to the existing ones. Additionally, an ex-technical assistant who previously worked at TECs and was involved in the preparation of TEC documentation also contributed significant insights. Furthermore, as the study's focus evolved, the interview questions were modified in accordance with the principles outlined by Cohen et al. (2017). All 25 participants agreed to and attended the interviews in this study.

In addition to interviews, document analysis was employed to interpret and develop empirical knowledge of the study context and phenomena. This approach, suggested by Yin (2014), involved examining relevant curriculum frameworks, syllabus content, lesson plans, and reports from TECs. By analyzing these documents, a comprehensive understanding of the focus area was established.

3.3 Data analysis

This study employed thematic analysis with a focus on the six phases of analysis (Braun and Clarke, 2022). Firstly, the data were familiarized through reading and understanding data from transcription and documents. Secondly, ideas were generated for identifying, labeling, and coding. Thirdly, patterns, recurring concepts, and themes were identify for and noted. Fourthly, the data were reviewed to evaluate and refine the analysis. Fifthly, the themes were defined and labeled concisely, naming and describing them appropriately. Finally, the final analysis was performed.

Additionally, 10 research articles authored by selected teacher educators (subjects TEs 2, 3, and−5) were scrutinized to supplement the analysis of their role as curriculum developers. This investigation aimed to identify patterns in their practices, the challenges they face, and the strategies they employ for professional development. The focus was on the research theme, purpose, and participants (teacher educators). Through thematic analysis, the study revealed the patterns of their practice and the connection between their challenges and strategies for resolution. Initially, data from interviews and research articles were coded, resulting in 29 codes for experiences. After recoding from open coding, seven categories for practice, three for challenges, and five for learning strategies were generated, which led to three main themes: "teacher educators' practice as curriculum developers," "challenges faced by curriculum developers in practice," and "strategies for overcoming challenges." The findings of the analysis were also validated by sharing them with a fellow researcher in the same field. The detailed results and comparison with previous literature will be discussed in the subsequent section.

TABLE 1 Participants' demographic information.

Pseudonym	Gender	Teaching experience	Qualification (M.Ed./M. S)	Position of teacher educator	Institute
TE 1	F	5	Biochemistry	Lecturer	TEC1
TE 2	F	6	Education	Lecturer	TEC1
TE 3	M	6	Mathematics	Lecturer	TEC1
TE 4	M	6	ICT	Lecturer	TEC1
TE 5	M	6	English	Lecturer	TEC1
TE 6	M	6	English	Lecturer	TEC1
TE 7	M	9	Physics	Lecturer	TEC1
TE 8	F	13	Home economic	Lecturer	TEC1
TE 9	F	16	Khmer literature	Lecturer	TEC1
TE 10	F	17	Biology	Lecturer	TEC1
TE 11	M	25	Chemistry	Lecturer	TEC1
TE 12	M	3	Curriculum Development	Lecturer	TEC2
TE 13	F	3	Biology	Lecturer	TEC2
TE 14	M	3	Environment	Lecturer	TEC2
TE 15	F	5	Khmer literature	Lecturer	TEC2
TE 16	M	6	Khmer literature	Lecturer	TEC2
TE 17	F	6	Linguistics	Lecturer	TEC2
TE 18	M	6	Economic	Lecturer	TEC2
TE 19	F	7	Mathematics	Lecturer	TEC2
TE 20	M	9	Art Education	Associate lecturer	TEC2
TE 21	M	15	Physics	Lecturer	TEC2
TE 22	M	16	English	Lecturer	TEC2
TE 23	F	18	Biology	Lecturer	TEC2
TE 24	M	24	Psychology	Lecturer	TEC2
TE 25	M	25	Mathematics	Lecturer	TEC2

3.4 Ethical considerations and informed consent

This research received approval from the Graduate School Ethics Committee (no. 000980; May 22, 2023), after presenting and obtaining approval for the research content, data collection, participant sampling, and data protection measures. Prior to the survey, the participants were informed about the study's objectives, sampling process, and data usage permissions. All participants voluntarily provided written informed consent before the interviews and were granted permission for data recording. The interviewer respected the participants' choice to not answer specific questions. Transcribed interviews were shared with participants for validation before analysis. All recordings, transcripts, and personal documents were securely stored with password-protected access limited to the author.

4 Results

4.1 Teacher educators' practice as curriculum developers

4.1.1 Developing professional, meaningful vision and responsibility in the curriculum

All 25 teacher educators recognized themselves as curriculum developers, considering the development of syllabi as a top priority in their day-to-day activities. They take responsibility for developing course syllabi and preparing lesson plans, worksheets, assessments, and tests. For example:

> "I developed the course syllabi myself. I feel confident teaching student teachers. I received comments from student teachers and other teacher educators to improve the content.

> […] Sometimes, I was afraid of including the wrong content might meet the needs of student teachers while they practice in cooperative schools (practicum settings)." (TE 16, 2023)

> "I [the head of the department] am satisfied with my work as a curriculum developer in the professional development of teacher educators. I have the right to decide what student teachers should learn. I am responsible for my involvement in developing the syllabi and teaching materials of the teacher education college." (TE 25, 2023)

4.1.2 Coherence between curriculum of TEC and other training institutions: alignment of theory and practice

Coherence with other training institutions: Nine teacher educators were nominated to develop syllabi for pre-service teachers at Provincial Teacher Training Centers (PTTCs). The content of the TEC syllabi aligns with that of PTTCs because both institutions prepare students for teaching in primary schools using the same textbooks for grades 1–6.

> "Teacher educators from both Battambang and Phnom Penh teacher education colleges actively contributed as syllabus developers with other teacher trainers on the Khmer language syllabus implemented in 16 Provincial Teacher Training Centers. This syllabus was created based on the existing syllabus at the TEC, utilizing the credit system. Additionally, various teaching methods were incorporated into the syllabus to enhance the effectiveness of instruction." (TE 9, 2023)

Alignment of theory and practice: This primarily pertains to establishing connections between the institution and schools. Each participant highlighted the significance of closing the divide between theory and practice through active involvement in prospective teacher practicums and by providing guidance to schoolteachers. Their goal was to ensure that the knowledge and skills acquired by students were applicable in real classrooms. They sought to enhance learning for both student teachers and pupils, promoting a more effective and practical approach to education. One participant highlighted the alignment of this approach with the TEC's work and the MoEYS nationwide policy implementation:

> "I am proud of the collaboration between TEC management and United States Agency for International Development - Research Triangle Institute (USAID-RTI) in providing knowledge of early grade reading to cooperative schools and teacher trainers at Provincial Teacher Training Centers. During the practicum, my student teachers often reported that school mentors did not allow them to use new teaching methods but asked them to stick to the content of the textbooks. Now, we [TEC teacher educators] have trained teachers in grades 1 and 2 in using new teaching methods. This allows student teachers to teach these new methods in their classrooms." (TE 16, 2023)

4.1.3 Developing syllabi and coursebooks for TEC use

According to participants' responses, teacher educators were more likely to align with the MoEYS curriculum, with their core responsibilities including the development and design of syllabi, align with courses and modules, course books, teaching materials, and assessment rubrics. They are also responsible for selecting appropriate teaching methodologies and identifying reference sources. Table 2 outlines the responsibilities of teacher educators in these areas.

All participants reported that the contents of the syllabi were consistent with each other and followed the same format as those prepared by MoEYS. In addition, teacher educators received support, including orientation and assistance from MoEYS, TEC, and development partners.

> "In higher education, we [teacher educators] cannot write student learning outcomes in syllabi at three points: K (knowledge), S(skills), and A(attitude) like the K12 syllabi, but we write five learning outcomes in the TEC syllabi by including knowledge, cognitive skills, interpersonal skills and responsibilities, numerical skills, ICT skills, and psychomotor skills." (TE 12, 2023)

> "I co-wrote a course book related to the subject, and I am teaching with colleagues in the department. I found sources to compile the content of the books. It is easy for student teachers to read and search for syllabic courses. Teaching without a coursebook, I must find a source to prepare the slide presentation material." (TE 14, 2023)

4.1.4 Scheme of work and lesson plans

The work scheme focuses on day-to-day, weekly, or monthly teaching and learning activities, providing a detailed breakdown of the syllabus. The participants took on increased responsibilities for administering their own work and planning schemes in detail. During the development of the course syllabus, a team supported by development partners developed lesson plans. All 25 participants reported receiving the teaching schedule, syllabus, specific content to be covered, teaching methods, resources to be used, and assessment and evaluation methods from their head of department every semester. This helped teacher educators plan their lessons, manage time effectively, and ensure that the syllabus is adequately covered within the allocated time. Teacher educators also prepared a list of student teachers and worksheets to check their attendance, prepared lessons and slide presentations, and added more sources. For example, the syllabi of the sciences included a rubric to assess experimental lessons. One participant stated the following:

> "As a Chemistry teacher educator, I assess the experiment lesson using a rubric based on characteristics such as (i) consistency between core questions; learning objectives, and content; (ii) preparation lesson plans and teaching practices based on student teachers' perspectives and responsiveness; (iii)

TABLE 2 Syllabus and course outline.

Main characteristics	Description
Course description	Main purpose of course, number of credits, and description of activities before, during, and after lecturing student teachers on or off campus
Objectives	After completing this course, student teachers should be able to demonstrate (knowledge, skills, and attitude) in accordance with the national qualification framework, including knowledge, cognitive skills, social skills and responsibilities, numerical skills, ICT skills, and psychomotor skills
Methodology	Teaching methods used by lecturers, such as lectures, role plays, and group discussions
Assessment	Class attendance (10%) Participation in small group work (20%) Reports/essays/ assignments (30%) Final exam (40%) (after course completion)
Course outline	Lesson schedule: weeks 1–15 Learning outcome Key questions Reading lists and resources Group work and homework
Referenced materials	TEC course books Referenced documents

Source: Sample syllabus of TEC (author representation).

> student teachers' participation in hypothesis and experiment; (iv) accuracy and success of the experiment, (v) student teachers' conclusion through discussion of results; and (vi) coherence between the conclusion, main question, and learning objectives." (TE 1, 2023)

4.1.5 Teaching practice

The participants acted as change agents by demonstrating effective teaching practices in various topics and syllabi, aiming to qualify student teachers with applicable teaching skills. The assumption is that when student teachers observe and learn from these practices, they are more likely to apply them to their own teaching. In this teaching practice, the participants actively engaged in developing teaching and learning materials while incorporating up-to-date theoretical and practical insights into their classroom activities.

> "I delivered the content, lessons, and applied teaching methodologies to the student teachers. In my teaching practice, I taught my students how to learn about teaching and taught teaching in the classroom as a model." (TE 7, 2023)

> "For example, I use inquiry-based learning in class. First, I explain the concept, and then I allow the student teachers to think individually, with peers, and in groups ... I encouraged student teachers to think, discuss, and summarize more than just following my slide presentation." (TE 18, 2023)

4.1.6 Assessment

An essential component of course instruction is assessment. The findings indicate that the teacher educators did not focus solely on student teachers' scores in the final summative course assessment. Instead, they carefully constructed the main checkpoints for evaluating the progress of student teachers, the teaching profession, and syllabus design, given their expanded responsibility for managing their own work schemes and planning.

> "At the end of [the] semester, I reported the grades of the student teachers to the academic office. I did not think only about the grade of student teachers after taking the final examination of the course, but also reported on course evaluation, including subject content and organization, learning resources, subject assessment, and exam relation to the subject objectives, learning outcomes, student contribution and workload, and student teachers' work at the end of the teaching course. [...] After finishing the course and taking a final examination, staff from the internal quality assurance office asked student teachers to evaluate the courses taught by teacher educators. Additionally, I must evaluate the courses I have taught myself." (TE 22, 2023)

> "In addition to the examination, I corrected student teachers' lesson plans in subjects such as content, teaching methodology, classroom management, and assessment. I assessed student teachers' teaching by microteaching the class at TEC and the whole class during practicum and gave feedback to them after class and during reflective conversations. [...] After this, I reflected on my teaching in TEC and student-teacher applications during their practicums for 4 years. My team and I discussed the challenges that did not meet the student teachers' needs and use." (TE 25, 2023)

4.1.7 Improvement and revision of the syllabus

All 25 participants discussed improvements and revisions within the curriculum, syllabi, and teaching materials at annual meetings to meet student needs and improve teacher education programs. In countries that operate in the national language, such

as Cambodia, accessing reliable information (such as academic literature) is challenging, as it is mostly available in other languages. Additionally, collaboration with development partners and foreign experts often requires teacher educators to use a second language, which they must then translate into Khmer for student teachers to access. This *mixed-languages* approach can cause confusion with technical documents and often indicates that *English proficiency* is the limiting factor in teacher educators' ability to review and revise content.

> "Psychology and pedagogy subjects [are accessed] mostly in foreign languages [English]. There are no documents in the national language because neither teacher educators nor student teachers know foreign languages well. There should be documents available in both a foreign language and the national language [Khmer]." (TE 24, 2023)

> "My team and I revise some parts of the syllabus that we teach, such as reference sources, teaching methodology, content, and so on every year. At the end of the year, my Khmer language team always wraps up and holds meetings to discuss the challenges of teaching content and solutions. The problems we encounter include slide presentations of long and short content, time constraints, and application of teaching methodology in teaching student teachers. Moreover, we have revised our courses/modules to meet student teachers' needs and MoEYS goals. Furthermore, we have Khmer syllabi as well as the English version." (TE 25, 2023)

4.2 Challenges of curriculum developers in practice

4.2.1 Integrating appropriate up-to-date pedagogical principles with content knowledge and developing materials

Based on participants' statements, the absence of a prescribed coursebook, textual materials, and teaching methods in syllabi poses challenges for teacher educators during teaching planning and implementation with student teachers in classrooms. Many of the reported areas of concern are related to the hierarchical pressures on teacher educators to produce materials in line with the expectations of their senior leaders. This is particularly relevant to the TEC context, as these institutions are innovations in Cambodia and are expected to "provide a lead," with much of the content being a departure from previous models.

> "When we [the head of the department] look at our syllabus, we see that we are not yet ready; we are constantly improving it, but we do not have enough time. Today, there remain many challenges in building teaching materials, translating documents, and compiling lessons." (TE 5, 2023)

> "I am involved in curriculum development and coursebook writing, but I am not very satisfied because it does not meet the needs of student teachers or align with their desired outcomes. My concern is that when student teachers complete a program, we [all teacher educators] should focus on providing them with the necessary skills, such as specific assessment methods and teaching methodologies, that they can immediately utilize. Instead, we emphasize theoretical knowledge rather than practical applications." (TE 15, 2023)

4.2.2 Lack of willingness to create content and concern over acceptance

Despite welcoming their increased autonomy, many of the teacher educators interviewed were reluctant to commit to curriculum development, asking, "Why can we not have the coursebook to follow?" Additionally, participants were concerned that if they did take responsibility for creating content, higher authorities might not accept this, and they would be "blame" if they did not meet accepted standards. In the context of education in Cambodia, the responsibilities of central departments to mandate curricula are very strong and curricula are perceived as being *fast-changing*.

> "I want MoEYS to develop the curriculum and produce coursebooks for us and student teachers because I think that I could follow them. I did not have knowledge about the curriculum but had experience writing syllabi. MoEYS changes the [curriculum] very quickly, and I am not flexible." (TE 19, 2023)

4.2.3 Time constraints

Participants revealed that time constraints are another challenge in curriculum implementation. Some participants who teach 'common subjects' have high workloads, including a shortage of teacher educators in these subjects. The findings indicate that most participants must also lead teaching practicum and supervise student teachers in their final year of study.

> "I spent a lot of time writing the course syllabus (5 days/syllabus). I wrote either as a group or individually depending on the head of the subcommittee, number of participants, and number of topics." (TE 11, 2023)

4.3 Overcoming challenges

Developing knowledge base through training: All 25 participants stated that they developed their knowledge of syllabus development through training and workshops supported by development partners such as the Capacity Development Partnership Fund (CDPF), the Japan International Cooperation Agency (JICA), and other sponsors. During training, teacher educators learn how to develop syllabi and teach methodology, write lesson plans with their colleagues, and share knowledge.

> "I received training in new teaching methodologies, both in theory and practice, such as inquiry-based learning, problem-based learning, content-based instruction, and other

> methods to improve my professional skills. Teacher educators cannot teach using the same methods; we must change depending on the content and objectives." (TE 23, 2023)

Developing knowledge base through practice and reflection: All 25 participants responded that they gained knowledge through hands-on experience teaching courses and evaluating them afterward. They were involved included preparing lessons, teaching activities, conducting experiments in science classes, and practical work in a specific subject with student teachers. Most participants emphasized that reflection was a crucial component of their teaching and career. This involved critically analyzing and examining experiences, identifying what was taught and learned, and considering how to improve these activities for the next semester and year. The participants noted challenges and good experiences to share with colleagues and held wrap up meetings at the end of the academic year.

> "[…] Most of the improvements have been in the areas of subject matter, teaching quality, and preparation. I consistently review the specialized content knowledge and teaching methods that I acquired through training provided by the Ministry of Education, Youth and Sport, exchange programs, and school visits abroad. I make a conscious effort to apply this knowledge in my subject area, and I am pleased with the outcomes. Following each lecture, I engage in reflection on my teaching process using the worksheets provided by student teachers and their feedback. This helps me identify any shortcomings and areas for improvement that can be addressed in the next year or next semester." (TE 1, 2023)

Developing knowledge base from student teachers: Five teacher educators reported learning from student teachers' evaluation feedback on their teaching, which served as an internal quality assurance mechanism. In addition, during teaching practice, teacher educators learned from student teachers in areas such as lesson preparation, discussions, role-plays, and assessments.

> "[The] majority of student teachers are well prepared for the assignments that I provided related to the lessons I am teaching. […] Some student teachers are good at teaching […] in class. I sometimes learned from them." (TE 1, 2023)

Developing knowledge base from and with colleagues: All 25 participants report gaining knowledge about the curriculum, syllabi content, teaching methods, and teaching materials from their colleagues within their own and other departments in teacher education colleges. During technical meetings and lesson studies, teacher educators share their knowledge, teaching experiences, and reflections with colleagues. Two participants reported having other teacher educators who taught the same course, and they could share slide presentations and teaching materials.

> "My colleague and I co-taught this semester. I teach for 2 h, and for the remaining 3 h, we teach together. During teaching, we support and learn from each other by exchanging our experiences. We discuss and solve challenging problems together, including whether they are related to the lesson content, in-depth understanding, or assisting students with their questions. This collaboration allowed us to share good practices and provide mutual support." (TE 13, 2023)

Autonomy and flexibility in improving syllabus: The participants discussed the challenges within the curriculum, syllabi, and teaching materials at annual meetings to improve and revise them to meet the needs of student teachers and teacher education programs. The participants' statements provide evidence indicating that the directors of the TECs enable all teacher educators responsible for each specialized subject to overcome the issues arising in the syllabus. In particular, teacher educators with advanced English language capabilities were able to adapt existing materials.

> "When reviewed, the lessons that the team had prepared thus far were inconsistent and showed no flow. I am not a writer of content for the syllabus, but we contribute to the improvement by following the examples of well-known foreign-language books. We adjusted the same number of lessons." (TE 14, 2023)

5 Discussion

The findings indicate that the definitional components of Lunenberg et al.'s (2014) theory of curriculum development were reflected in participants' routine practices. When developing new and current courses, teacher educators focus mostly on curriculum innovation and material creation such as syllabi, teaching materials, and coursebooks, specifically considering pedagogical principles. This includes learning about teaching by transforming knowledge from the curriculum to student teachers and enhancing teaching and learning approaches that are supported and fit the programs. Teacher educators recognize the need to practice their role as curriculum developers in their daily work. As a result, this study incorporated five key components similar to Bouckaert and Kools (2017). However, Cambodian teacher educators recognize the needs and emphasize their role as curriculum developers and practitioners more specifically and in detail based on the day-to-day work of teacher educators in TECs in Cambodia, as follows:

- Implementation of a professional, meaningful vision and responsibility for curriculum
- Consistency and coherence within TEC curricula with other teacher training institutions, and alignment of theory and practice
- Development of syllabi-and coursebooks for TECs
- Creation of schemes of work and lesson plans
- Implementation of teaching practice
- Use of formative and summative assessment
- Improvement and revision of curricula.

Implementation of the TEC curriculum and syllabus necessitates close cooperation between universities and

schools (as with Korthagen et al., 2006). If teacher educators do not have knowledge of the curriculum, they cannot fully apply their experience to improve the syllabi and their teaching skills.

All 25 teacher educators reported that they received support from MoEYS and local and international development partners on many topics related to their specialized subjects, teaching methodologies, and teacher education programs. It cannot be expected that participants will have existing knowledge and skills to update syllabi and content, as these are new requirements in Cambodia. According to Shulman and Shulman (2004), skill growth in developing and adjusting a curriculum or syllabus evolves gradually over time. Considering the limited diversity of experiences in syllabi and the challenging obligation to evaluate, improve, or create new syllabi after participating in workshops, participants initially proceeded with syllabus revision based on their personal experience.

To ensure that students' requirements are satisfied through suitable instructional strategies, training and professional development must focus on teaching students how to understand the curriculum effectively (Jess et al., 2016). Traditionally, teacher education preparation programs at all levels were under MoEYS, such as the curriculum framework for B.A.Ed., syllabi, and teacher guided books. In Provincial Teacher Training Centers, Regional Teacher Training Centers, all teacher educators are curriculum implementers (see example of No, 2015). After pre-service teacher education reform (2014–2018 and 2019–2023) by Ministry of Education Youth and Sport (2013, 2019), TECs are teaching university-based pedagogy in teacher education. In terms of the quality of the curriculum, MoEYS transfers the authority of curriculum development to TECs through directors who have ownership of developing syllabi, content of specialized subjects, and curriculum study (teaching methodologies) by teacher educators but under the curriculum framework. Thus, teacher education colleges still need more expertise and specialized teacher educators to educate future student teachers to become fully competent teachers and to improve teacher education programs (Pich, 2017; Sot et al., 2019; Em et al., 2022). Moreover, the teacher educators are a professional group that can provide a clear vision, the right expertise, and responsibility and contribute to improving teacher quality and teacher education in Cambodia (Sok and Heng, 2024).

Collegial interaction and learning by doing (e.g., developing and playing with materials) were the most chosen options for Continuous Professional Development (CPD) (Ping et al., 2018). These important components are correlated with recent studies on the professional development of Dutch teacher educators (Dengerink et al., 2015; Bouckaert and Kools, 2017). In other words, there is a greater justification for activities that are systematically incorporated and connected to informal workplace learning (Smith, 2003; Tynjälä, 2008; Billett, 2020), and curriculum development in teams of educators could be one of them. This could present opportunities for educators to use "their own learning as a source of knowledge to benefit the learning of others" in their classes with student teachers (Cochran-Smith, 2006, p. 220).

This study found that teacher educators in Cambodia typically play the role of curriculum developers primarily as syllabus developers, following prescriptions from the top-down curriculum development approach (the curriculum framework from the directors of TECs). Teacher educators generally accept the curriculum as a set of rules that has been obeyed and followed as a prescription. In contrast to Miguel (2015) and Kristanto et al. (2017), teacher educators at TECs have ownership and autonomy of syllabi, coursebooks, lesson plans, and teaching materials to align with the national curricula. In pre-service teacher education reform, Cambodia is in the early stages of allowing teacher educators to enjoy greater degrees of autonomy.

Teacher educators strive to understand and conduct critical inquiries to absorb syllabi content and present it uniquely, depending on the established goals within the curriculum framework. Consequently, they adopt personal responsibility and initiative to overcome various obstacles found in the curriculum while facing pressure from senior officials to follow the correct protocols.

Finally, course book guidelines are often not strictly adhered to by curriculum developers, who commonly incorporate additional materials to modify the curriculum for specific circumstances.

In summary, teacher educators play a crucial role as both curriculum developers and implementers, making substantial contributions to the quality of teacher education programs in Cambodia's TECs and other educational institutions. While the quality of teacher educators and teacher education programs is paramount for contributing to the quality of teacher education, it is important to focus on the professional development of teacher education and revamp the novice curriculum and syllabi of teacher education colleges in Cambodia. The empirical practice and autonomy of teacher educators in curriculum development serve as valuable evidence for MoEYS to consider and support. Furthermore, this study adds to the existing literature on teacher education in developing countries, highlighting its significance.

6 Conclusion and implications

Teacher educators in Cambodia play vital roles as curriculum developers and implementers at TECs. They integrate pedagogical approaches and content knowledge, emphasize practical experiences, and continuously evaluate and improve the curriculum. By fulfilling their roles effectively, teacher educators can contribute to the development of a competent and well-prepared teaching workforce capable of addressing the educational challenges and needs of teacher educators at TECs and other teacher-training institutions in Cambodia.

This study aimed to investigate teacher educators' actual practices, obstacles, and strategies as curriculum developers. The significance of this study lies in highlighting practitioners' innovation and flexibility in using and developing syllabi in practice rather than following the prescribed curriculum framework and instruction. This shift may be attributed to recent explicit consideration of this function by institutions, as evidenced by internal policy documents, the national knowledge base for teacher education, and the development of Professional Standards for Teacher Educator (PSTE) (Melief et al., 2012; Ministry of Education Youth and Sport, 2022) that focus on teacher educators' roles in program and curriculum development.

Furthermore, this study addresses a perceived gap in the literature and policy regarding the role of curriculum developers. conducting an empirically supported examination of the teacher educator's role as a curriculum developer, this study aims to fill this gap. It focuses on how teacher educators defined their roles in practice, recognizing that the interpretations and responsibilities may vary due to the novelty of this professional role. The insights derived from the current findings can benefit their practice by providing a deeper understanding of how teacher educators can effectively fulfill their roles as curriculum developers. Teacher educators and colleagues from other institutions in Cambodia can improve their curriculum development processes and implement more effective teaching and learning practices by clarifying their roles and responsibilities in this capacity. Ultimately, the findings may result in enhanced educational practices and better support for student teachers, consequently improving the country's overall educational quality. The implications of the study for policymakers emphasize understanding curriculum development practices can inform decision-making and reforms in teacher education.

In terms of team-based curriculum development, teacher educators address the challenges in their roles as curriculum developers and implementers by engaging in informal learning through reflection and interaction with student teachers and peers, and participation in training workshops. They prioritize continuous professional learning through practical experience and collaborating with colleagues. However, there is a need to support teacher educators in developing their knowledge not only as curriculum developers but also in other aspects of their roles.

Although the present study reveals important findings, it has some limitations. Firstly, as the use of semi-structured interviews and documentaries indicates that the findings may not be generalizable to other contexts. Future studies should triangulate these findings to confirm and extend our conclusions. Second, while thematic analysis is versatile and applicable in this study, it has limitations such as a lack of exploration of hidden steps and issues in the research process, necessitating a systematic approach for more rigorous results.

Despite these limitations, this study contributes to the filling a crucial literature gap and facilitates practical engagement between curriculum frameworks, development, and implementation by highlighting the experiences of teacher educators in interpreting these frameworks to achieve the vision and mission of TECs and enhance the preparation of novice teachers (Ministry of Education Youth and Sport, 2017b). This study also enhances teacher educators' understanding of values and autonomy in public discussions on teacher education curricula and programs. Further research should investigate the influence of teacher educators' professional roles as researchers and curriculum developers on the improvement of teacher education programs.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving humans were approved by the Ethics Committees of institutions of the Graduate School of Humanities and Social Sciences (approval no. 000980; May 22, 2023). The School Committee of Teacher Education Colleges approved a study involving education leaders, teacher educators, informed consent, and access to institutions. Participants' responses were recorded with permission, and anonymity and confidentiality were maintained. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study. Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

Author contributions

VT: Conceptualization, Data curation, Methodology, Writing—original draft.

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Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

References

Billett, S. (2020). *Learning in the Workplace: Strategies for Effective Practice*. New York, NY: Routledge.

Bouckaert, M., and Kools, Q. (2017). Teacher educators as curriculum developer: exploration of a professional role. *Eur. J. Teach. Educ.* 41, 32–49. doi: 10.1080/02619768.2017.1393517

Braun, V., and Clarke, V. (2022). Conceptual and design thinking for thematic analysis. *Qual. Psychol.* 9, 3–26. doi: 10.1037/qup0000196

Cheng, Y. C., and Townsend, T. (2000). "Educational change and development in the Asia-pacific region: trends and issues," in *Educational Change and Development in the Asia-Pacific Region: Challenges for the Future,* eds. T. Townsend and Y.C. Cheng (Lisse: Swets and Zeitlinger), 317–344.

Chung, H., and Kim, J. (2016). An ontological approach for semantic modeling of curriculum and syllabus in higher education. *Int. J. Inf. Educ. Technol.* 6, 365–369. doi: 10.7763/IJIET.2016.V6.715

Cochran-Smith, M. (2003). Learning and unlearning: the education of teacher educators. *Teach. Educ.* 19, 5–28. doi: 10.1016/S0742-051X(02)00091-4

Cochran-Smith, M. (2006). Teacher education and the need for public intellectuals. *The New Educ.* 2, 181–206. doi: 10.1080/15476880600820136

Cohen, L., Manion, L., and Morrison, K. (2017). *Research Methods in Education, 8th Edn*. London: Routledge.

Conway, P., Murphy, R., Rath, A., and Hall, K. (2009). *Learning to Teach and Its Implications for the Continuum of Teacher Education: A Nine-Country Cross-National Study*. Ireland: Report to Teaching Council.

Craig, C. J. (2006). Why is dissemination so difficult? The nature of teacher knowledge and the spread of curriculum reform. *Am. Educ. Res. J.* 43, 257–293. doi: 10.3102/00028312043002257

Deng, Z. (2018). Pedagogical content knowledge reconceived: bringing curriculum thinking into the conversation on teachers' content knowledge. *Teach. Teacher Educ.* 72, 155–164. doi: 10.1016/j.tate.2017.11.021

Dengerink, J., Lunenberg, M., and Kools, Q. (2015). What and how teacher educators prefer to learn. *J. Educ. Teach.* 41, 78–96. doi: 10.1080/02607476.2014.992635

Em, S., Chin, P., Khan, S., and Nun, N. (2022). Teacher education in Cambodia: formulae, challenges, and suggestions for improvement. *J. Salam.* 6, 90–104. doi: 10.37249/assalam.v6i2.401

Grave, K. (1996). *Teachers as Course Developers*. Cambridge: Cambridge University Press.

Grave, K. (2023). Mind the gap: a tale of two curriculum fallacies. *Lang. Teach.* 56, 197–209. doi: 10.1017/S0261444821000148

Hang, C. H. (2018). *Education Reform in Cambodia: Towards a Knowledge-Based Society and Shared Prosperity*. Cambodia: Sipar Publishing.

Jess, M., Carse, N., and Keay, J. (2016). The primary physical education curriculum process: more complex than you might think!! *Education* 44, 502–512. doi: 10.1080/03004279.2016.1169482

Korthagen, F., Loughran, J., and Russell, T. (2006). Developing fundamental principles for teacher education programs and practices. *Teach. Educ.* 22, 1020–1041. doi: 10.1016/j.tate.2006.04.022

Kristanto, A., Mustaji, M., and Mariono, A. (2017). The development of instructional materials E-learning based on blended learning. *Int. Educ. Stud.* 10, 10–17. doi: 10.5539/ies.v10n7p10

Lewin, K. M., and Stuart, J. M. (2003). Insights into the policy and practice of teacher education in low-income countries: The multi-site teacher education research project. *Br. Educ. Res. J.* 29, 691–707. doi: 10.1080/0141192032000133703

Loughran, J. (2014). Professionally developing as a teacher educator. *J. Teach. Educ.* 65, 271–283. doi: 10.1177/0022487114533386

Lunenberg, M., Dengerink, J., and Korthagen, F. (2014). *The Professional Teacher Educator: Roles, Behaviour, and Professional Development of Teacher Educators*. Rotterdam: Sense Publishers.

Melief, K., Van Rijswijk, M., and Tigchelaar, A. (2012). *Accounting for the Dutch professional Standard of Teacher Educators. Eindhoven, VELON*. Available online at: http://www.lerarenopleider.nl/velon/wp-content/uploads/2013/09/Dutch-Professional-Standard-of-Teacher-Educators.pdf (accessed April 28, 2023).

Miguel, N. M. (2015). Textbook consumption in the classroom: analyzing a classroom corpus. *Procedia Soc. Behav. Sci.* 198, 309–319. doi: 10.1016/j.sbspro.2015.07.449

Ministry of Education Youth and Sport (2013). *Education Strategic Plan 2014–2018*. Phnom Penh: MoEYS.

Ministry of Education Youth and Sport (2016a). *Curriculum Framework of General Education and Technical Education*. Phnom Penh: MoEYS.

Ministry of Education Youth and Sport (2016b). *Teacher Education Provider Standards* Available online at: https://teachertaskforce.org/sites/default/files/2022-09/2016_MoEYS-Cambodia_Teacher-education-provider-standards_EN.pdf (accessed April 28, 2023).

Ministry of Education Youth and Sport (2017a). *Prakas on the Opening of Physical Education and Sports Teacher Training Program Formula (12 + 4) at the National Institute of Physical Education and Sport (No. 1466)*. Phnom Penh: MoEYS.

Ministry of Education Youth and Sport (2017b). *Curriculum Framework for Bachelor of Education at Teacher Education College*. Phnom Penh: MoEYS.

Ministry of Education Youth and Sport (2018). *Nomination on Curriculum Development Committee for Teacher Education College (No. 4321) (Document)*. Phnom Penh: MoEYS.

Ministry of Education Youth and Sport (2019). *Education Strategic Plan 2019–2023*. Phnom Penh: MoEYS.

Ministry of Education Youth and Sport (2021). *Nomination on Curriculum Development Committee for Lower Secondary Teacher Education Program (No. 72) (document)*. Phnom Penh: MoEYS.

Ministry of Education Youth and Sport (2022). *Professional Standards for Teacher Educators*. Phnom Penh: MoEYS.

Murray, J. (2002). *Between the Chalkface and the Ivory Towers? A Study of the Professionalism of Teacher Educators Working on Primary Initial Teacher Education Courses in the English University Sector (Doctoral Dissertation)*. London: University of London Institute of Education.

Murray, J., Swennen, A., and Kosnik, C. (2019). "International policy perspectives on change in teacher education: Insider perspectives," in *International Research, Policy and Practice in Teacher Education: Insider Perspectives,* eds. J. Murray, A. Swennen, and C. Kosnik (Dordrecht: Springer), 1–14.

No, F. (2015). *Review on Teacher Education and Training: A Case of Cambodia. (Draft article on Academia)*. Available online at https://www.academia.edu/24309433/Reviews_on_teacher_education_and_training (accessed June 27, 2023).

Patton, M. Q. (2014). *Qualitative Research and Evaluation Methods: Integrating Theory and Practice*. Washington, DC: Sage Publications.

Pich, K. (2017). *Challenges Facing the Implementation of Teacher Education Policy and its Impacts on Teacher Quality in Cambodia. UC Occasional Paper Series, 1, 39–59*. Available online at: http://mail.uc.edu.kh/userfiles/image/2017/10.%20UCOPS%20Vol%201_Iss%202.pdf (accessed February 21, 2024).

Ping, C., Shellings, G., and Beijaard, D. (2018). Teacher educators' professional learning: a literature review. *Teach. Teach. Educ.* 75, 93–104. doi: 10.1016/j.tate.2018.06.003

Ren, S. (2021). Factors driving teacher trainees at Phnom Penh teacher education to choose teaching as their profession and their levels of satisfaction with its educational program (12+4). *Cambodia Educ. Rev.* 4, 1–20.

Richards, J. C. (2017). *Curriculum Development in Language Teaching*. Cambridge: Cambridge University Press.

Royal Government of Cambodia (2017). *Sub-Decree on the Organization and Functioning of National Institute for Special Education (No. 117)*. Phnom Penh: Royal Government of Cambodia.

Royal Government of Cambodia (RGC) (2018). *Rectangular Strategy for Growth, Employment Growth, Equity, and Efficiency: Building a Foundation for Achieving Cambodia's Vision 2050*. Phnom Penh. RGC.

Shawer, S., Gilmore, D., and Banks-Joseph, S. (2009). Learner-driven EFL curriculum development at the classroom level. *Int. J. Teach. Learn. High. Educ.* 20, 125–143.

Shawer, S. F. (2010). Classroom-level curriculum development: EFL teachers as curriculum-developers, curriculum-makers and curriculum-transmitters. *Teach. Teach. Educ.* 26, 173–184. doi: 10.1016/j.tate.2009.03.015

Shawer, S. F. (2017). Teacher-driven curriculum development at the classroom level: Implications for curriculum, pedagogy, and teacher training. *Teach. Teach. Educ.* 63, 296–313. doi: 10.1016/j.tate.2016.12.017

Shulman, L. S., and Shulman, J. H. (2004). How and what teachers learn: a shifting perspective. *J. Curric. Stud.* 36, 257–271. doi: 10.1080/0022027032000148298

Smith, K. (2003). So, what about the professional development of teacher educators? *Eur. J. Teach. Educ.* 26, 201–215. doi: 10.1080/0261976032000088738

Sok, S., and Heng, K. (2024). Research on teacher education and implications for improving the quality of teacher education in Cambodia. *Int. J Prof. Dev. Learner Learn.* 6:ep2401. doi: 10.30935/ijpdll/14042

Sot, V., Sok, S., and Dickinson, G. (2019). Four decades of teacher development: teacher preparation and teacher upgrading programs in Cambodia from 1979 to 2018. *Cambodia Educ. Rev*. 3, 115–139.

Soto, S. T. (2015). An analysis of curriculum development. *Theor. Pract. Lang. Stud*. 5, 1129–1139. doi: 10.17507/tpls.0506.02

Srinivasacharlu, A. (2019). Continuing professional development (CPD) of teacher educators in 21st century. *Shanlax Int. J. Educ*. 7, 29–33. doi: 10.34293/education.v7i4.624

Tynjälä, P. (2008). Perspectives into learning at the workplace. *Educ. Res. Rev*. 3, 130–154. doi: 10.1016/j.edurev.2007.12.001

Van der Klink, M., Kools, Q., Avissar, G., White, S., and Sakata, T. (2017). Professional development of teacher educators: What do they do? Findings from an explorative international study. *Prof. Dev. Educ*. 43, 163–178. doi: 10.1080/19415257.2015.1114506

Yin, R. K. (2014). *Case Study Research Design and Methods, 5th Edn.* Thousand Oaks, CA: Sage.