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School-university Partnership in Teacher Education in Myanmar

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Abstract

Teacher preparation and qualification have been under criticism, and the need to upgrade and promote teachers' qualifications has been a significant issue in Myanmar. Despite the decline and criticism of teacher education, few researchers and educational experts in the country have investigated the role of school-university partnerships (SUPs) in promoting education. Several global research studies confirm that teacher learning and professional development are optimal when schools and universities collaborate. Besides, research evidence shows that school-university partnerships also generate educational innovations and facilitate educational reform. This study seeks to understand the nature of school-university partnerships and their role in supporting teacher learning and professional development through their multi-functionality. Seven functional areas of school-university partnerships have been identified in this study, and their roles have been analysed through these functional areas. A qualitatively driven mixed-method design has been used in the study. Semi-structured interviews were conducted with 35 participants, while 347 participants took part in the quantitative part. Participants included schoolteachers, mentor teachers, student teachers, university teachers and members of curriculum development teams. In addition, two Hungarian school cases have also been included in this study. These cases have shown how bottom-up innovation and school-university partnerships can develop and survive during ups and downs situations, which gives 'hope' to Myanmar schools to initiate and implement successful school-university partnerships. Identifying seven functional areas of school-university partnerships is one of the outcomes of this study. Another noteworthy contribution of this dissertation is the application of general partnership theory to the analysis of school-university partnerships. A key element is looking at partnerships as entities reaching specific levels of cooperation and placing them on a scale from lower to higher development levels. Based on the research findings, one can state that school-university partnerships in Myanmar, despite their lower level, have active roles in all functional areas, especially in enhancing teacher learning and professional development, supporting national curriculum reform and implementation, and facilitating educational change. This study has also shown that school-university partnerships can be used as a development tool to support educational reforms in developing countries like Myanmar.

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Abbreviations

ASEAN	Association of Southeast Asian Nations
ATEO	Assistant Township Education Officer
B.Ed.	Bachelor of Education
CCA	Child-centred Approach
CEE	Central and Eastern European
CESR	Comprehensive Education Sector Review
CDT	Curriculum Development Team
CI	Complex Instruction
CPD	Continuous Professional Development
DBE	Department of Basic Education
DEO	District Education Officer
DERPT	Department of Educational Research, Planning and Training
DHE	Department of Higher Education
Dip ECCD	Diploma in Early Child Care Development
Dip ELTM	Diploma in English Language Teaching Methodology
DTEd	A two-year Diploma in Teacher Education
EC	Education College
EDiTE	European Doctorate in Teacher Education
EfECT	English for Education College Trainers
IT-INSET	Initial Training- Inservice Education
INSET	In-service Teacher Education and Training
iSTEP	Inquiry into the Stanford Teacher Education Program
ITPR	Introduction, Teaching, Practice, Review
ITE	Initial Teacher Education
JICA	Japan International Cooperation Agency
KIP	Komplex Instrukciós Program
MOE	Ministry of Education
MT	Mentor Teacher
NCC	National Curriculum Committee
NLC	Networked Learning Communities
NESP	National Education Strategic Plan

OECD	Organization for Economic Co-operation and Development
PD	Professional Development
PDS	Professional Development School
PGDMA	Postgraduate Diploma in Multi-media Arts
PGT	Peer Group Teaching
PRESET	Pre-service Education and Training
SchT	School Teacher
SITE	School-based Teacher Education
ST	Student Teacher
STEM	Strengthening Pre-Service Teacher Education in Myanmar
SUP	School-university Partnership
SUPER	SUP in Educational Research
TCSF	Teacher Competency Standards Framework
TE	Teacher Educator
TEO	Township Education Officer
TREE	Towards Results in Education and English
UDNR	University of Development of National Races
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations International Children's Emergency Fund
UOE	University of Education
UT	University Teacher
YUOE	Yangon University of Education

CHAPTER 1: INTRODUCTION

> *The university and the school district are each other's own best resources. Between them, school districts and universities cover virtually the whole range of human learning. That we are interconnected is undeniable. The challenge before us is to realize and build upon the extent, the possibilities, and the necessity of our connection and dependence.* (Hathaway, 1985, p.4)

The reciprocal interdependence between schools and universities itself sets a vital ground for the school-university partnerships (SUPs). In an easy to understand technical-like statement, Thompson (1967) states that '*each organization's outputs become the inputs to the other*'. Both organizations need each other to survive in the demanding education systems of the 21st century. This interdependence and the need for survival between schools and universities is obvious in teacher education. For instance, in initial teacher education, the schools need well-qualified teachers while teacher education universities prepare these teachers for the schools. Vice versa, schools support universities in training student teachers to practice teaching (Krichevsky, 2020).

The mutuality between schools and universities can be seen far beyond teacher education. Crucial roles that SUP play in other areas cannot be denied. Several outstanding examples have already shown the need for partnerships between schools and universities for school improvement projects, university improvement and educational innovations (Armstrong, 2015; McLaughlin, 2006). Besides, research evidence has shown the major roles of SUPs in facilitating curriculum development and reform (Baldry & Foster, 2019; Arani et al., 2007). Hence, this interdependence between schools and universities shows that SUPs are essential to establish and can be used as a multi-functional tool in promoting educational development and innovations.

Bearing in mind the vital role of SUP in education development, this study explores the multifunctionality of SUP in Myanmar in supporting teacher learning and professional development. This study also aims to understand the nature of SUPs such as the influencing factors, major key actors and challenges which can determine their success and quality. Furthermore, this study is informed by educational reforms in the country, particularly by the national basic education curriculum reform and implementation and by the reform of teacher education.

1.1. Problem statement

1.1.1. School-university partnership (SUP): why is it essential?

Several scholars reported the rationale for why schools and universities should collaborate. First of all, Clark (1988) claimed four rationales for the need of SUPs. The need for each other for survival is the first rationale in Clark's explanation of why these two organizations should be in partnership. There are three conditions which alert both organizations to agree to work together: (i) there is a common threat from the outside of each organization, for example, the universities' preparation of pre-service teachers or schoolteachers' qualifications are under criticism, and (ii) there is a common problem that concern both organizations; (iii) there is a combination of threat and the need to solve the common problems (Clark, 1988). These conditions made schools and universities with no choice other than to collaborate for better individual's and common output. The second rationale for SUP is psychological advantages for participants. Partnership fosters a sense of belongingness within organizations, which is vital for workplace effectiveness. Moreover, another rationale for engaging in a partnership is the need for resources, which covers not only money but also human resources, time, materials and so on. Further rationale for establishing a SUP is to promote change. Clark (1988) claimed that partnerships are catalysts for change and educational change was facilitated by them among professional organizations. Last but not least, the potential for research development is another rationale for SUPs in education. Clark (1988) remarked that collaborative research promotes teachers' reflection and brings closer knowledge production and application in practice.

Besides Clark, Halász (2016) also stressed the importance of SUPs by highlighting two major motives behind all the efforts to encourage collaborations between schools and universities. The first motive is related to teacher learning and the nature of teachers' professional knowledge (Cochran-Smith & Lytle, 1999; Gibbons, 1994; Goodlad, 1988; Halász, 2016; Handscomb. et. al., 2014; A. Hargreaves, 1994; D. H. Hargreaves, 1999; Révai & Guerriero, 2017; Tsui & Law, 2007). The acquisition and sharing of teacher knowledge make it necessary that universities and schools actively collaborate in teacher professional development throughout all phases of teacher education (Halász, 2016). This is because a significant portion of teachers' professional knowledge is tacit, procedural, and contextual, and is transferred by working communities. Professional knowledge is invariably collective, and no single member of the teacher community can reproduce,

store, and share the entirety of the knowledge that is required to produce effective practice (Halász, 2016; Révai & Guerriero, 2017). Due to the nature of teacher learning and professional knowledge, schools and universities must collaborate together to acquire, share and innovate effective practices.

Another motive is related to research, development and innovation (Halász, 2016). Many scholars have emphasized the crucial role of SUPs in developing and promoting educational research and innovation (Cochran-Smith & Lytle, 1999; Craig, 2009; Darling-Hammond, 2010; Halász, 2016; D. H. Hargreaves, 1999; McLaughlin, 2006; McLaughlin et al., 2004, 2007; Stenhouse, 1988). This motive is related to the first motive. As teacher learning and professional development cannot be assumed as a linear model (such as universities producing and disseminating professional knowledge while schoolteachers receiving knowledge) (Halász, 2016), the schools and universities need to collaborate to produce professional knowledge which can be directly applicable in teachers' daily practices.

Overall, different scholars have discussed the rationales for establishing SUPs in promoting teacher learning and professional development, research development, and school and university improvement. In addition, SUP has been portrayed as an important tool in facilitating educational reform and change.

1.1.2. School-university partnership: an under-researched area in Myanmar

In Myanmar, the context of this study occurred, two rationales reflect the need for SUPs: the need for promoting teacher education and facilitating change and educational innovations. According to research on the country's education system, Myanmar's education is at risk by standing as one of the poorest education systems in Association of Southeast Asian Nations (ASEAN) countries. Teacher's preparation and qualification have been under criticism for lack of creative teaching and not being able to prepare school children for the 21st century (Borg et al., 2018; Hardman et al., 2014; Hardman, 2013; Haydena et al., 2013; Lall, 2020; Ulla, 2018). The qualification of teachers has been gradually declining from several decades ago till nowadays. The need to upgrade and promote teachers' qualifications and competencies has been a significant issue in the country.

Despite the decline and criticism of teacher education, few researchers and educational experts have investigated the role of SUPs in teacher education. Moreover,

there is a great gap between knowledge production and its application in education in the country. Teachers and universities rarely collaborate for research development and to enhance teachers' capacities in conducting research as well as to investigate the difficulties teachers face in daily practices. Therefore, keeping in mind these issues, this study intends to explore the role of the SUP, a barely touched research area, and how it can enhance teacher learning and professional development as well as research development in the country.

Furthermore, not only teacher education but the whole education system in the country has been ill-prepared since the tragic political situation started several decades ago. However, starting in 2010, the country initiated its reform processes in several areas, especially in education. With the awareness that partnerships are change catalysts and a tool for promoting educational innovations, this study also explores how SUPs can facilitate educational reform processes in the country. In fact, school-university cooperation has already taken its role and contributed through its multi-functions to the country's educational reform processes. As demonstrated in the subsequent chapters, SUP has the potential to become a change catalyst in the county's education system.

1.2. Study purpose

This dissertation is about the role of SUPs in teacher education. More precisely, this qualitatively driven inquiry seeks to understand the nature of SUPs and their roles in supporting teacher learning and professional development. Although this dissertation's title focuses on SUP in teacher education, it also explores the role of SUPs in other areas, such as curriculum development and implementation, research development, and school and university improvement and in supporting the country's educational reforms.

The specific objectives are:

(i) To investigate the current practices of SUPs in Myanmar
(ii) To understand the nature of SUPs: key actors and influencing factors in determining their success and quality
(iii) To understand the challenges of collaboration between schools and universities
(iv) To explore the impact of SUP in promoting teacher learning and professional development

1.3. Research questions

To fulfil the above objectives, the following research questions with their sub-questions have been developed:

(i) What are the current practices of SUPs in Myanmar?

(ii) What are the conditions considered in determining the success and quality of SUPs?

   a. What is participants' perception in determining SUPs' essential goals and purposes?

   b. What is participants' perception in determining the most influencing actors in SUP?

   c. What is participants' perception in determining the key factors to be considered in establishing successful SUP?

(iii) What are the challenges of collaboration between schools and universities?

(iv) In what ways are SUPs supporting and stimulating teacher learning?

Guided by the purposes of the study and the problem statement, the above research questions have been developed to understand the complex nature of SUPs in education.

1.4. Theoretical framework

In order to map the relevant framework, the literature of several research areas related with SUPs has been explored: the partnerships in general definition, innovation perspectives of partnerships, the origins of SUPs, and the different roles of SUPs regarding teacher learning and educational development. Besides, participation in European Doctorate in Teacher Education (EDiTE) SUP project (Baráth et.al., 2020) in 2018-2019 provided the opportunities to conduct several interviews with international participants and observations to different international and Hungarian schools. Following the above activities, theoretical framework has been developed based on two topics: (i) the multi-functionality of SUPs and, (ii) the partnership theory (which is the general principles of partnerships such as models or typologies, the advantages of partnership, key success factors to establish successful partnerships and the potential limitations and impeding factors).

To explore the different functions (goals) of SUPs in the Myanmar context, I use the multi-functionality of SUPs approach by Halász and Thant Sin. Based on a broader literature analysis related with SUPs and development and on the analysis of the data I

collected, we have published the article entitled *'Using school-university partnerships as a development tool in low-income countries: the case of Myanmar'* (Halász & Thant Sin, in press). In this article, seven functional areas of SUPs have been identified: (i) teacher learning and professional development, (ii) education research and research development, (iii) school improvement, (iv) university improvement, (v) curriculum design and reform implementation, (vi) generating and spreading educational innovations, and (vii) enhancing participation and social dialogue. In fact, only five identified areas of SUPs have been involved in my data collection since the last two functional areas of SUPs have been discovered only after the collection and during the analysis of the data.

To analyse the linkage and interdependency among partners as well as between organizations, partnership typologies of Tushnet (1993) and Barnett et al. (1999) are applied. Tushnet (1993) proposed three different types of partnerships based on their linkage: (a) primary partner/limited partnerships, (b) coalition partnerships, and (c) collaborative partnerships. A primary partner/limited partnership is a partnership in which a managing partner gives services to other partners and their staff. Coalition partnership is defined as the case when each partner decides what to do within their partnership framework and has a division of labour among organizations. In collaborative partnership, decision making becomes a shared process among partners and each partner can participate in all decisions. Regarding the level of interdependence, Barnett and his colleagues also constructed a 'conceptual framework of the types of partnerships' (Barnett et al., 1999). In this framework, there are five different types of partnerships extending from the simple to the complex level and ranging from the less intensive to the more complex and multifaceted. The simplest form of partnership is 'independent agencies', where organizations work on their schedules, timeline and resources. In the most complex form of partnership, the 'spin-off model', partners create a new organization when they see and realize past success and new goals emerge throughout their collaboration (Barnett et al., 1999).

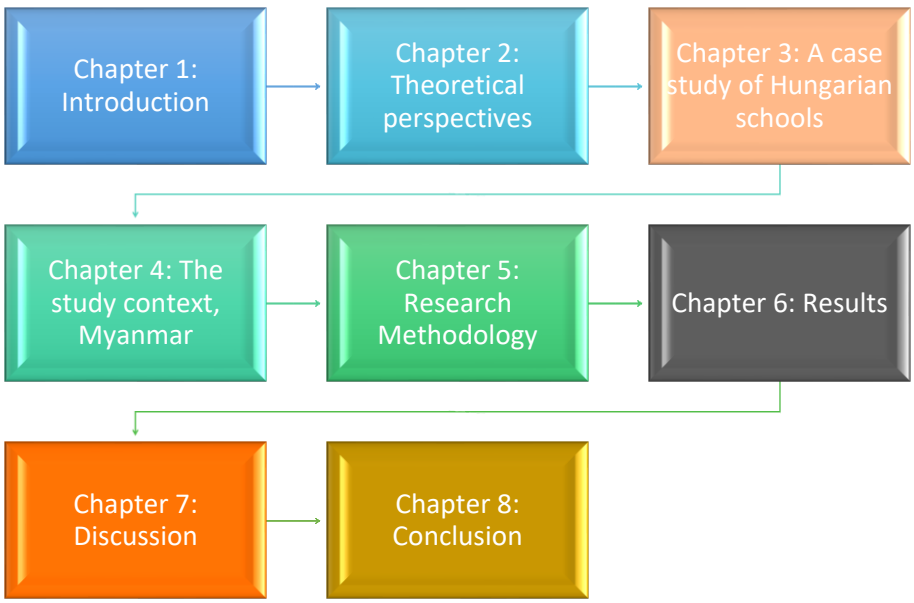
Besides the above, 'continuum of partnership levels' by Intriligator (1992) play a critical role in this dissertation. Intriligator (1992) placed the concepts of cooperation, coordination and collaboration in a continuum to understand the different levels of partnerships. Partnerships appeared at various levels according to their specific contexts, such as ITE, research development or curriculum development and implementation. Intriligator's continuum of partnership is kept in mind throughout the dissertation because

of this complexity and nature of partnerships. A partnership should be seen as a process like any innovation, and they are constantly changing as participants develop mutual trust and understand the content (Grobe, 1990). Therefore, to understand the emerging partnerships in different functional areas, this continuum of partnership levels has been reflected in conceptualizing, analysing, and interpreting the different functions of SUPs in Myanmar.

1.5. A route map of the dissertation

This dissertation is organized into eight chapters (see ***Figure 1***). This chapter, Chapter One, is the introduction to the study. Chapter Two presents the literature review of the partnership theories, histories and origins of SUP, current trends of teacher education. Chapter Three contains a case study of Hungary, in which two schools represent successful SUP stories. Chapter Four is devoted to the country context, Myanmar, where this study is focused. In this chapter, the country is introduced with its educational history, political issues which have had an impact on education, including teacher education, and the existing SUP conditions in the country. In Chapter Five, the research methodology is presented. Chapter Six presents the findings and results of the study according to the research questions. Chapter Seven provides the discussion by reflecting on the study's results and theoretical framework. Finally, Chapter Eight outlines the conclusions of this dissertation's presented parts.

Figure 1: Dissertation route map



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CHAPTER 2: THEORETICAL PERSPECTIVES

This chapter provides a comprehensive overview of relevant literature regarding partnerships. This chapter organizes literature starting from a broader understanding and contexts of partnerships to the specific contexts of SUPs in education. Firstly, this section introduces the definition of partnerships in general, which is followed by the operational definition of partnership in this study. Secondly, partnerships related to innovation and development context will be presented. The aim is to support the understanding of innovative and development perspectives of partnership as a widely utilized and popular term in innovation thinking. Thirdly, a partnership theory will be presented, including its typologies, key success factors, advantages and limitations. Finally, the specific context, the origin of SUP and its multi-functionality will be presented. This part presents how SUPs were born and how they can promote education through their multi-functional areas.

2.1. Definitions

The term ‘partnership’ represents a multi-dimensional continuum of different concepts and practices. It defines several relationships according to their respective circumstances, locations, and areas (McQuaid, 2010). For example, it has been popularly utilized in industrialized countries, particularly in industrial and business sectors. In education, partnership is mostly popular in discourses about cooperation between business partners and education institutions (ELTE/EDiTE,2014; Halász, 2016). In the case of industry, university-industry partnerships are favoured for fostering innovation. In the United States, through the program named 'Adopt-A-School' pioneered in 1981 by Dr Ruth Love, education and business partnerships started, and the term became a 'watchword' in the nineties (Grobe, 1990). The idea behind this program was to stimulate businesses to ‘adopt’ a school to support additional resources and services (Grobe, 1990).

Due to their various uses in different areas, partnerships have been defined in many ways. Brinkerhoff (2002) described the ideal type of partnership in this way:

> *Partnership is a dynamic relationship among diverse actors, based on mutually agreed objectives, pursue through a shared understanding of the most rational division of labour based on the respective comparative advantages of each partner. Partnership encompasses mutual influence, with a careful balance between synergy and respective autonomy, which incorporates mutual respect, equal participation*

> *in decision making, mutual accountability and transparency. (Brinkerhoff, 2002, p.21)*

OECD (1990: p. 18) also provided a broader definition of partnership as follows:

> *Systems of formalized co-operation, grounded in legally binding arrangements or informal understandings, co-operative working relationships, and mutually adopted plans among several institutions. They involve agreements on policy and programme objectives and the sharing of responsibility, resources, risks and benefits over a specified period (OECD, 1990, p.18).*

Some scholars also provide definitions of terms, often used interchangeably with 'partnership'. According to Intriligator (1992) and Karasoff (1998), three terms: cooperation, coordination and collaboration, are used interchangeably and it is important to distinguish among them to fully understand the nature of the partnership. They defined cooperation as joint activities when partners are engaged to achieve individual or mutual goals. It is an informal relationship among partners which involves information sharing and networking. On the other hand, coordination refers to shared activities where partners work together with formal structure and mutual responsibility. Finally, in collaboration, partners share common goals, activities and responsibilities, shared decision-making, and mutually interdependence (Intriligator, 1992; Karasoff, 1998; Islam, 2010).

In this study, the OECD definition of the partnership will be utilized in general. However, in most cases, I followed the continuum of partnership levels proposed by Intrilligator (1992) (see ***Figure 8***) to describe and distinguish the different kinds of partnerships that created in specific contexts, such as initial teacher education, research development or curriculum development and implementation. Further, I accept what Tushnet (1993) had said about the partnership as follows:

> *Partnerships, contrary to popular myth, don't necessarily have similar organizations or require absolute collaboration and levels of equality among partners. In fact, partnerships can be organized in various ways, and collaboration can range from working together on specific activities to shared decision making about all activities (Tushnet, 1993, p.14)*

Therefore, to put it in a simple way, this study conceptualizes partnerships, following the OECD definition, and in some cases in parallel with adjusting, analysing and reflecting

Intrilligator's continuum of partnership level. In the subsequent chapters, different levels of SUP will be seen according to their functional areas such as: teacher learning, research development, curriculum development and implementation, school and university improvement, generation innovation and engaging in social dialogue. The reason for reflecting and applying different partnership definitions is that the roles and collaboration levels of SUPs are changing according to the aforementioned functional areas.

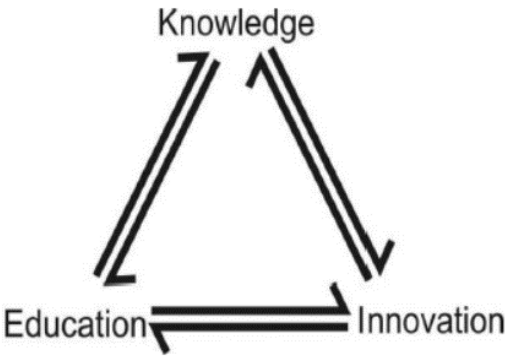
2.2. The broader innovation and development context of partnerships

As the term 'partnership' very often appears relating to innovation, it is essential to understand the innovation and development concepts regarding partnerships. The following section will discuss those concepts and how this conceptual understanding applies in education to promote educational innovations.

2.2.1. Knowledge triangle

The "knowledge triangle" is a critical tool in promoting innovation by connecting the knowledge-based society's key drivers: education, research and innovation (Groumpos, 2013). Sjoer and colleagues (2011) also conceived the "knowledge triangle" as the conceptual tool in which research, education and innovation are linked together (see ***Figure 2***) through intensifying cooperation and the exchange of information among partners. The traditional information sharing method is disseminating knowledge from research to education and from educators to students. In contrast, in the knowledge triangle concept, there is a 'mutual flow of information' between three partners: research, education and innovation (Sjoer et al., 2011).

Figure 2: The first knowledge triangle concept

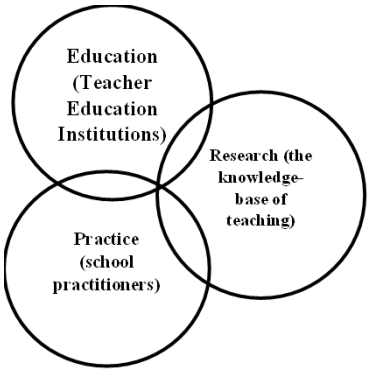


Source: Groumpos (2013)

Regarding the knowledge triangle concept in higher education, the Lisbon Agenda of the European Union used the term to promote the relationship between education,

research and innovation in European universities in the early 2000s (Sjoer et al., 2011). Moreover, the knowledge triangle concept has also been discussed as an important conceptual framework in teacher education. Halász (2016) proposed the 'knowledge triangle of teacher education' model and discussed its application in SUP context. In that model, 'schools' are placed at the 'innovation' pole of the knowledge triangle. The original 'innovation' pole represents 'business or industry players' who apply research outcomes to promote new products and production processes (ELTE/EDiTE, 2014; Halász, 2016). According to Halász (2016), schools and school practices can also be placed at the 'innovation' pole as 'schools' are the places not only where the outcomes of educational research are applied but also the birthplace of innovations (See ***Figure 3***).

Figure 3: Knowledge Triangle of Teacher Education



Source: ELTE/EDiTE (2014)

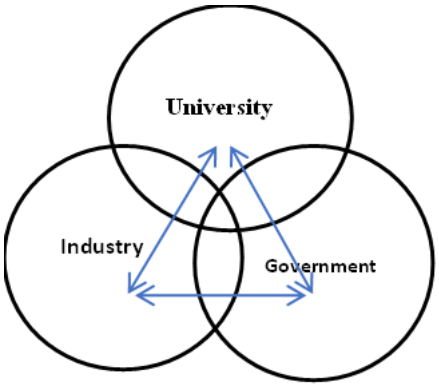
According to the 'knowledge triangle of teacher education' model, teacher education universities and teacher educators represent the education pole. Furthermore, universities also take the role of research centres producing the knowledge base for teaching. Halász (2016) claimed that knowledge and learning could be created effectively when there is collaboration between schools and universities. The concept of the knowledge triangle of teacher education suggests that collaboration between schools and universities should be encouraged and partnerships among these three poles will generate educational innovations.

2.2.2. Triple helix

Another conceptual tool to promote innovation in education related to partnerships is 'the triple helix model'. Like the knowledge triangle, the triple helix model

(Etzkowitz & Leydesdorff, 1995) also emphasizes on partnerships among three poles (universities, industry and government) to promote innovation. However, the government sector is an additional component in the triple helix, which distinguishes it from the knowledge triangle. The triple helix assumes that universities and research agencies should collaborate with schools, and governments should support this collaboration (See ***Figure 4***).

Figure 4: Triple helix field interaction model



Source: Etzkowitz and Leydesdorff (1995)

In the triple helix, the '*university is responsible for research and teaching which are two different poles in the knowledge triangle*' (Halász, 2016). At the same time, schools are considered as 'industries' or 'spaces of innovation'. In addition, government provides an appropriate regulatory environment for their collaboration (Halász, 2016). Applying the triple helix model in teacher education implies that SUPs is essential for innovation, and the government should support the collaboration of schools and universities to promote teacher education quality (Halász, 2016).

The triple helix model can be conceptualized in developing countries like Myanmar, where collaboration between industries and universities rarely happens through bottom-up processes. In this kind of situation, the support of the government is extremely important. The triple helix model suggests that there should be a collaboration among three stakeholders in order to promote educational innovation. The same situation can be interpreted in teacher education in Myanmar, where the collaboration between schools and universities is mostly implemented from the initiation of the government or ministry of education. To promote teacher learning and innovative pedagogical practices, the triple helix model of teacher education (schools, universities, government) should be applied.

2.2.3. Boundary crossing

'*Boundaries are mostly seen as sources of difficulties or communication; however, they can be sources of innovation and renewal*' (Tsui & Law, 2007, p.1290; Akkerman & Bruining, 2016). In other words, boundaries become a primary source of innovation when the '*participants try to take a fresh look at their practices and then observe other practices in different entities by crossing the boundaries'* (Tsui & Law, 2007, p.1290). According to the authors, boundary zones are the places where elements or innovative ideas of both communities are present. Sometimes, a 'boundary zone' is termed as 'a third space' where the learning happens when different ideas from diverse cultures meet and form new places or meanings.

Akkerman and Bakker (2011) identified four learning mechanisms that can happen in boundary crossing conditions. First of all, authors claimed that boundary crossing can foster 'identification'. Secondly, coordination took place when participants try to find a connection among them and then they start to create rules and regulation to rely on. A third learning mechanism is fostering 'reflection'. Boundary crossing enables each partner to reflect on one's own practice and taking up others' perspectives during their reflection. Finally, boundary crossing enables 'transformation' in institutional, interpersonal and intra-personal levels. Transformation means that change in the existing practices, ways of thinking, communication, and so on. (Akkerman & Bakker, 2011).

According to Akkerman and Bruining (2016), professional development school (PDS) is '*an example of a large-scale effort of boundary crossing*' to promote teacher education and research development. PDSs are the 'boundary spaces' in which the 'ivory tower' university and the 'chalkface' of the classroom encounter and learn together (Akkerman & Bruining, 2016). Akkerman and Bakker (2011) defined 'boundary space' as '*a nobody's land, belonging to neither one nor the other world*'. The ideas of PDSs were originally born in the United States where they represent one of the most successful forms of SUPs for teacher education in 1980s. SUPs in PDSs go far beyond initial teacher training: it covers the lifelong learning of teachers including in-service teacher learning, induction, and generation educational innovations and research development through mutual learning.

2.2.4. Communities of practice

When exploring SUPs, it is important to understand the engagement of participants in their communities which optimize learning. The creation of SUPs can lead to the emergence of communities of practice promoting professional learning. Besides promoting professional learning, some authors have argued that pedagogical innovation emerge through engaging in SUPs (Armour & Yelling, 2007; Goodyear & Casey, 2015; Parker et al. 2010).

Writing about 'community of practice', Wenger (1998) defined learning as '*our normal daily life social processes*'. Put it differently, we are always learning through our experiences and engaging in our society or community. Wenger (1998) mentioned this as follows:

> *What if we assumed that learning is as much a part of our human nature as eating or sleeping, that it is both life-sustaining and inevitable, and that — given a chance — we are quite good at it. (Wenger, 1998, p.3)*

The above quote shows that Wenger (1998) saw learning differently from other learning theorists stating that "*learning is a part of our human nature, and it occurs through social participation*", meaning that learning happens unconsciously or consciously to human beings in their daily lives. He also suggested that the conditions and situations for practice-based learning happen without obstacles in our daily lives. He proposed three stages in which learning occurs. Firstly, 'identity building' is an important step. Through participating in community activities, we (the learners) construct our identity in the group we participate in. As a second step, the learners start to have a sense of 'belongingness' after they have built 'whom they are' in their group. Finally, Wenger stressed that this belongingness leads to effective learning and communication with each other (Wenger, 1998).

Wenger (1998) asserted that 'communities of practice' can exist everywhere and anytime. According to him, a family can be assumed as a 'community of practice' as it has its own regulation, practices and rules. Sometimes family members may argue and disagree; however, they still survive together. Wenger (1998) wrote that surviving together is an important enterprise as we are mutually dependent and learning together in our learning communities. Although the term 'community of practice' may be unfamiliar

term to everyone, Wenger (1998) claimed that we have already been together in our community of practice in an informal way.

Regarding generating innovations and promoting teacher learning, communities of practice is a critical tool within the contexts of SUP. Specifically, when the university and schools collaborate to promote teacher learning or educational innovation, the two entities establish a 'community of practice'. For example, when the university is helping a school to develop school-based curriculum, university teacher educators establish the professional learning community through creating professional development opportunities in parallel with curriculum development (Parker et al. 2010). This is using community of practice in one-sided form of SUP (in which university is leading or providing training to school), however, the community of practice can also appear when university and schools are collaborating with equal power status. When the community of practice is established between the two organizations, produced innovations are sustainable and teacher learning and professional development reach to optimal (Goodyear & Casey, 2015; Parker et al. 2010).

2.3. Current trends and changing works of teachers

As one of the major goals of SUP is improving teacher learning and teacher education, there is a need in this study to consider the key trends in teacher education. SUP is a complex phenomenon; hence, to understand its nature, it is also vital to understand the key stakeholders within its contexts, such as teachers and teacher education institutions. Therefore, current trends and challenges regarding teacher education and teachers' work from a global perspective will be briefly presented in this section.

Current trends and issues of teacher education have been discussed by different scholars in global teacher education networks. When it comes to teacher education, many leading teacher education and policy experts highlighted the importance of teacher education programs and the preparation of teachers for teaching school children in the challenging 21st century (Cochran-Smith, 1991; Darling-Hammond, 2010; Martin & Mulvihill, 2017; Zeichner, 1990, 2010). Besides, the big divide between practice and teacher education policy, and the gap between research, policy and professional ready teachers for teaching students with diverse needs and equity issues are also discussed (Cochran-Smith, 2005; Cochran-Smith & Lytle, 1999; Craig, 2009; Martin & Mulvihill, 2017; McLaughlin et al., 2004; Stenhouse, 1988). After reviewing teacher education

papers in European Journal of Teacher Education over 40 years (between 1978 and 2016), Livingston and Flores (2017) identified trends in teacher education. They found that the most recent trends in teacher education covers teacher professional learning and research, the importance of partnerships in teacher education, the need to link research and practice, inclusive, diversity and cultural issues in education, teacher retention, well-being and motivation (Livingston & Flores, 2017, p. 554).

Major global trends and difficulties pertaining to teacher education and teacher policy were also noted by Halász and his colleagues in 2022 (Halász et al., 2022). The authors identified twelve current global trends and challenges which needs to be considered in promoting the quality of teacher labour force including: teacher preparation and lifelong learning, creating standards for teacher performance, promoting teacher status, teacher as researcher, teacher education policy and striking a balance between equality and diversity and so on (Halász et al., 2022).

From these current issues and challenges, four major areas of teacher education can be categorized as being directly related to the current study on 'SUP'; (i) teacher education continuum: a lifelong learning career, (ii) creating standards and competence frameworks, (iii) teachers' professional knowledge and (iv) the changing work of teachers.

2.3.1. Teacher education continuum

With the recognition that teachers are life-long learners who always needs to learn and boost their knowledge continuously, there has been an interest in the 'continuum of teacher education' in global education.

One of the fundamental concepts of European teacher policies is the 'teacher education continuum' and it refers to a harmonized '*overarching unity of initial teacher education (ITE), induction, and continuous professional development (CPD)'* (Stéger, 2014; p.8). Teachers are expected to develop continuously from beginning to the whole process as a lifelong-learning perspective (Stéger, 2014; Symeonidis, 2019). According to Stéger (2014), the teacher education continuum concept was developed when the Council of the European Union in its Conclusions focused on raising awareness of the requirement of creating the continuum and called the attention of Member States to take further steps towards it. In 2007, a Communication of the European Commission on 'improving the quality of teacher education' paid major attention to teachers as lifelong

learners emphasizing the continuum of teacher education (European Commission, 2007). This document described the policy steps based on the European Principles for Teacher Competencies and Qualifications. One policy step which strongly focuses on the teacher education continuum can be seen as follows:

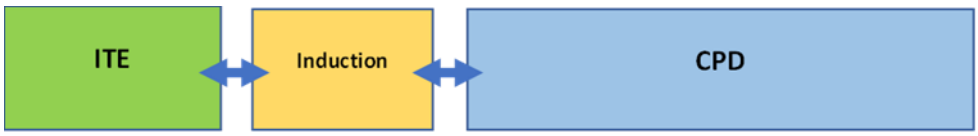
> *Provision for teacher education and development will be more effective if it is coordinated as a coherent system at national level and is adequately funded. The ideal approach would be to set up a seamless continuum of provision embracing initial teacher education, induction into the profession, and career-long continuing professional development that includes formal, informal and non-formal learning opportunities. (European Commission, 2007; p.12)*

As teachers are expected to learn and develop continuously, it is important to have a linkage between the three stages of teacher education. Besides connecting each stage of teacher education for professional development, it is essential that each stage gives feedback to the previous phase to develop quality (Stéger, 2014).

> *The continuum of professional development is achieved by having teachers' shared professional values and expectations throughout the phases, by regulations of the phases, agreeing on basic principles, and by grounding work in all phases on self-reflection. (*Stéger, *2014; p.8)*

The interdependence of teacher education phases is shown in ***Figure 5***.

Figure 5: Phases of the continuum and their relation



Source: Stéger (2014)

According to the author, teachers' self-reflection plays a critical role in the continuum of teacher education. Teachers are recommended to reflect on themselves and questions their performance in every continuum phase and then try to promote their professional development constantly (Stéger, 2014). With self-reflection, teachers become the knowledge creator and generators of their development.

Another policy step that appeared parallel to the teacher education continuum was a collaboration between schools and teacher education institutions. It was mentioned as:

> *More is be done to promote creative partnerships between the institutions in which teachers work, the world of work, higher education and research institutions, and other agencies, in order to support high quality training and effective practice, and to develop networks of innovation at local and regional levels. (European Commission, 2007; p.13)*

Therefore, to support the teacher education continuum, SUPs play a major role in supporting teachers' learning and professional development.

Similar to the term teacher education continuum, which is mainly used in Europe, the same assumption can be found in other parts of the world. For example, the idea of professional development schools, established in the US during the 1980s, is also based on the assumption that the stages of teacher education should be combined and integrated to improve education. In these PDSs, mutual learning, professional development and knowledge creation occurred continuously where pre-service teachers and in-service teachers work together through self-reflection and peer-learning. In Asian contexts, Singapore is one of the best examples which use the concept of teacher education continuum effectively in empowering teachers Goodwin et. al., 2017).

2.3.2. Teacher competence frameworks

In parallel with teacher education continuum, teachers' competencies and professional standards must be defined and established to ensure high-quality teaching and education. According to European Commission (2018), it is necessary to design teacher professional standards and competence frameworks since they serve as the foundation for developing teacher capacity and assessing their career performance (European Commission, 2018; Symeonidis, 2019). Also, they can be used as tools for change, defining standards for entering initial teacher education and certification, introducing expectations for teachers' work or developing skills for research and innovation (Halász & Looney, 2019). Due to its importance, teacher competence frameworks have been developed in several countries in the last decade (Halász & Looney, 2019).

Teacher competency frameworks identify several teacher competencies, including '*knowledge (what they should know), skills (what they should be able to do) and attitudes (what they should share as professional values)'* (Stéger, 2014; p.8). European Commission (2013) illustrated teacher competence frameworks as tools that can be used

to promote professional development of teachers and quality in education (p.25). Besides using these frameworks to support the professional development of teachers, they are useful for a continuum of teacher education, from the development of teacher education programs in initial teacher education and assuring their quality to the assessment of teachers' qualities (Halász & Looney, 2019) (Caena, 2014).

Hungary is one of the example countries using teacher competence frameworks not only for teacher education and career promotion, but also for teachers' professional development and appraisal (Symeonidis, 2019). Halász (2019) also suggested the use of frameworks in developing teacher education policies to improve teacher qualification (Halász, 2019).

In developing countries like Myanmar, the teacher competency standards framework (TCSF) was developed in parallel with all the education reforms and procedures in the country. The main objective of the framework is to establish and define teacher competency standards to support teachers' quality improvement and teaching in Myanmar (Myint & Win, 2016). Furthermore, the framework aims to use in three areas of teacher education:

1. To support teacher quality-related policy design and implementation,
2. to develop teacher education curriculum and teacher training and professional development programs,
3. to guide teachers in self-appraisal and training needs analysis, and to assist education supervisors/managers at different levels of the education system. (Myint & Win, 2016; p.4)

Similar to developed nations, Myanmar also used the competence framework in broad perspectives. The broad perspective of using the 'competence framework' can be seen in the following quote from the draft proposal of teacher competency standard framework by Ministry of Education (MOE) in 2017:

> *TCSF is a guidance document for policy makers and curriculum developers responsible for teacher education (pre- and in-service) and basic education. It is a tool for teachers in their continuing professional development and achievement of quality in their professional practice.* (Ministry of Education, 2017; p.8)

Therefore, globally, establishing teacher competence frameworks has become a key instrument not only for improving the quality of teacher education but also for education and implementing education policies and reforms. According to Caena (2014), the links of teacher competence frameworks to all key policy areas, such as key competencies in school education, quality assurance, effectiveness and transparency in education. Further, the development and effective use of teacher competence frameworks have been remarked as fundamental to policy reforms in education (Caena, 2014).

2.3.3. Teachers' professional knowledge

The third global trend of teacher education is related to a better understanding of teachers' professional knowledge. According to Shulman (1987), the knowledge base sources are far richer and more extensive than the results of research on teaching. Therefore, regarding teachers' knowledge base, instead of asking the question *'how much knowledge base does one needs to know in order to teach'*, we should be wondering *'how the extensive knowledge of teaching can be learned during the allocated period of teacher preparation'* (Shulman, 1987).

The tacit and explicit knowledge had been articulated by Shulman (1987). Shulman assumed teaching as a complex task and described a teacher as a person who performs complex tasks such as '*transforming their understanding, performance skills, desired attitudes and values into pedagogical representations and actions'*. He described 'teaching' as a complex task as it contains *'making students comprehend and discern and unskilled can become adept*' through talking, showing, enacting, and representing ideas of what they have comprehended. With his understanding of 'teaching as a complex task', Shulman (1987) posed the question of *'if teacher knowledge were to be organized into a handbook, what would the category headings look like'*. Following the questions, he identified seven 'categories of the knowledge base' for teachers. These include; *'(i) content knowledge, (ii) general pedagogical knowledge (broad principles and strategies of classroom management, etc.), (iii) curriculum knowledge, (iv) pedagogical content knowledge, (v) knowledge of learners and characteristics, (vi) knowledge of educational contexts (vii) knowledge of educational goals, purposes, values and philosophical and historical grounds'* (Shulman, 1987; p.8).

In addition to categorising the teaching profession's knowledge base, Shulman (1987) also enumerated the four major sources. The first source of knowledge is 'scholarship in content disciplines' which is based on two main tenets: knowledge of historical and

philosophical scholarship pertinent to the nature of knowledge in those topic areas and the literature and research accumulated in those content fields (Shulman, 1987). Shulman argued that sources of content knowledge not only imply an understanding of certain subject contents but also imply a broad liberal education which can serve as a facilitator for new understanding. *'Educational materials and structures*' are another major source of teachers' knowledge base. Shulman suggested that *'curricula with their scopes and sequences, tests and testing materials, institutions with their hierarchies, their explicit and implicit systems of rules and roles, professional teachers*' *organizations'* are the territory of teaching which a teacher must be familiar (Shulman, 1987; p.9). As teachers use and use these elements, they are also a major source of the knowledge base. A third source defined by Shulman is *'formal educational scholarship'*, which is research on education and teaching and learning, etc. The definitive source of the knowledge base is what Shulman called *'the wisdom of practice'*, which is the least codified knowledge source of all.

Regarding this final source, Shulman suggested that the researchers should collaborate with practitioners to develop codified representations of practical pedagogical wisdom of experienced and expert teachers. The same suggestions were told by Hargraves (2000). Compared to the medical profession, technology, and engineering, teacher professional knowledge is left behind, and its contribution to supporting teachers' work is lower (Hargreaves, 2000). Shulman compared to the teaching profession and its knowledge production with fields such as architecture, law, and medicine. Shulman (1987) argued that other fields combined with research and practice while production in teachers' knowledge lacks the connection between research and practice.

> "*Teaching is conducted without an audience of peers. It is devoid of a history of practice*". (Shulman, 1987; p.12)

On the subject of teachers' knowledge, many scholars also discuss tacit and explicit knowledge (Cochran-Smith & Lytle, 1999; Guerriero & Révai, 2017; Nonaka, 1998; Revai & Guerriero, 2017; Shulman, 1987). Among the several conceptualizations of knowledge, the difference between 'tacit and explicit knowledge' and 'declarative and procedure knowledge' is the one that is most often mentioned. Guerriero and Révai (2017) have articulated the distinction between explicit and tacit knowledge. The former refers to codified knowledge that teachers can express in words, while the latter defines

when teachers cannot articulate in words or symbolic ways. Another form of explaining in a more enriched way was done similarly by Cochran-smith's knowledge for practice, knowledge in practice, and knowledge of the practice. Tacit knowledge was also explained by Shulman (1987) as follows:

> *The codifiable knowledge that can be gleaned from the wisdom of practice is extensive. Practitioners simply know a great deal that they have never even tried to articulate.* (Shulman, 1987; p.12)

Apart from trying to understand and upgrade teachers' professional knowledge, several researchers highlighted 'the importance of teachers' professional knowledge' to create 'learning communities' or 'knowledge-creating communities' (Hargreaves, 1999). This perspective gives the academics and scholars to encourage teachers to participate in knowledge creation, such as research in education. As Shulman (1987) mentioned, practitioners and researchers should collaborate to create codified knowledge based on teachers' wisdom of practice. This is relevant for SUPs because if tacit, practice-based knowledge is a key element of the professional knowledge of teachers, learning environments providing opportunities for acquiring this are needed. This can be created in SUPs.

2.3.4. The changing work of teachers

Concurrently with improving teacher education and upgrading their professional knowledge, the work of teachers has changed, adapting to the changes in the other trends. Unlike the old times, teachers are increasingly seen as responsible for teaching and managing the classrooms and broader activities such as knowledge creation, dissemination, and application.

According to Hargreaves (1999), teacher professional knowledge is important in building 'knowledge-creating schools' where teachers collaborate and work together with researchers to produce, disseminate and apply the knowledge they produce. This is what we call the changing work of teachers as teachers are not only responsible for teaching and managing the classrooms but also participating in research and producing knowledge. Hargreaves' knowledge-creating schools have the following characteristics: *'(i) auditing professional working knowledge of teachers, (ii) managing the process of creating new professional knowledge, (iii) validating the professional knowledge created, and finally, (iv) disseminating the created professional knowledge*' (Hargreaves, 1999; p.124). The

changing work of teachers in this knowledge-creating perspective can be seen in successful projects such as SUP in educational research (SUPER) project and networking schools by Mclaughlin and his colleagues. (McLaughlin, 2006; McLaughlin et al., 2004, 2007; McLaughlin & Black-Hawkins, 2004). Collaboration and collegiality are other important cultures of schools followed by changing education trends. According to Hargreaves (1994), collaboration and collegiality were vital bridges between school improvement and teacher development (Hargreaves, 1994). Regarding education reform such as in curriculum reform and development, collaboration and collegiality created productive and supportive relationships among teachers (Hargreaves, 1994).

All these changing perspectives on the work of teachers led to implementing the partnership between schools and universities. Nowadays, highly developed nations created SUPs to motivate teachers to become researchers and produce outcomes directly applied in teachers' daily practices.

2.4. Partnership theory

Before going deeper into the specific SUPs context, it is reasonable to reflect about the general principles of partnerships, such as the partnership models or typologies, the advantages of partnership, key success factors to establish successful partnerships and the potential limitations and impeding factors that can shape the performance and quality of the partnership, to understand its complexity. Therefore, this section is devoted to the partnership theory based on the review of the relevant literature.

2.4.1. Models and typologies of partnership

According to literature, it was found that typologies of partnerships were emerged mainly for two reasons (Callahan & Martin, 2007; Grobe, 1990). First of all, partnerships typologies were formed according to the partners' level of involvement, their linkage or interdependence, and the structures based on these relations. The second reason that differentiated partnership typologies are based on their goals or impact. In the following, different typologies of partnerships were discussed according to (i) linkage or interdependence among partners/organizations, and (ii) goals or impact of partnerships.

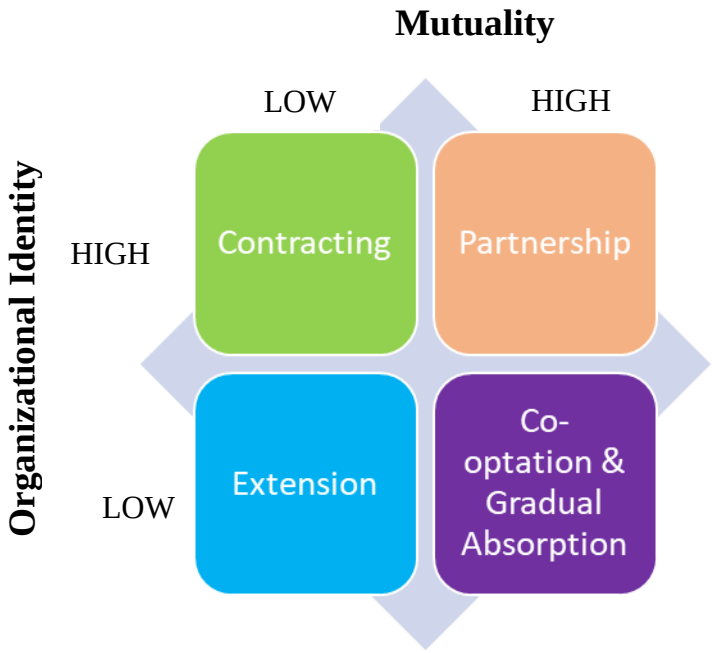
Table 1: Partnership typologies by different authors

Author	Focus of partnership typologies
Brinkerhoff (2022)	Linkage/relation
Hartley and Huddleston (2010)	Linkage/relation
Tushnet (1993)	Linkage/relation
Barnett et al., 1999	Linkage/interdependence
Grobe (1990)	Goal/function
Clark (1999)	Goal/function
Halász & Khin Khin (in press)	Goal/function
Teitel (2001)	Goal/function

Source: Author

Brinkerhoff (2002) proposed four types of partnerships based on two dimensions. According to him, 'mutuality' and 'organization identity and its maintenance' are salient measurements for defining partnership. *Mutuality* refers to interdependence among partners in decision-making and equal opportunity to influence their shared objectives, processes, outcomes and evaluation (Brinkerhoff, 2002). Brinkerhoff defined mutuality as horizontal and distinguished it from hierarchical coordinating and participating. On the other hand, *organization identity* refers to its distinctive mission, values and constituencies. The success of its maintenance is defined by the extent to which organizations remains consistent and committed to their mission, values and constituencies (Brinkerhoff, 2002). Organization's identity and maintenance are very important for fostering the organization's long-term success and collaborating with other organizations. Recognizing that these two dimensions are essential for partnership, Brinkerhoff proposed four types of partnerships. ***Figure 6*** illustrates the partnership model by Brinkerhoff.

Figure 6: Brinkerhoff's partnership model



Source: Brinkerhoff (2002)

According to Brinkerhoff (2002), the collaboration between two organizations can be defined as 'partnership' when they have a high degree of two dimensions: mutuality and organizational identity. In contrast, 'contracting' was defined as partners having a low degree of mutuality although they both maintain their organizational identity. Brinkerhoff mentioned that 'extension' happens when one organization has little or no autonomy and organizational identity. He mentioned one example of 'extension' by indicating a weak partner's side as 'the implementer of other organization's plan', having little autonomy and lacking its own identity. The last quadrant, co-optation and gradual absorption, was defined as when both organizations have a high level of mutuality, such as agreeing on ends and means, while the identity of the weaker organization became fainted and gradually followed by the more dominant organization.

Besides Brinkerhoff (2002), other scholars also provided different definitions of partnership and its level. Hartley and Huddleston (2010) proposed different levels of partnership by placing them in a vertical order. According to them, there are five different levels of partnerships: (i) exchange, (ii) dialogue, (iii) networking, (iv) collaboration, and

(v) partnership (Hartley & Huddleston, 2010). Level 1 was the 'exchange' level of partnership, in which organizations only exchange information or goods. The next level of partnership was the 'dialogue' stage. At this level, partners go beyond exchanging information or materials. They start seeking to understand the motivation and needs of their partners. This dialogue level of partnership may create a 'networks' level of partnership from time to time. Networks become associations of organizations or partnerships that share the same interests or shared practices. When partners or organizations start doing joint projects with shared responsibilities, this partnership level is called 'collaboration'. Finally, Harley and Huddleston (2010) mentioned that level of partnerships reaches the 'partnership' stage when partners engage in important work not only for resolving specific problems but also in fostering collective action to positively shape community life. The following ***Table 2*** (directly quoted from the source) illustrates the partnership level defined by Harley and Huddleston (2010).

Table 2: Levels of partnership

Partnership levels	Activity types	Example
Level 1: Exchange	Sharing information and/or materials	A group of university students approach several local schoolteachers about volunteering to read to children after school.
Level 2: Dialogue	Seeking to understand the interests and needs of each partner	The students invite faculty members who teach and conduct research on literacy to meet with the schoolteachers to learn more about the school and the community.
Level 3: Networking	Formation of associations with shared interests	The teachers, school administrators and faculty begin to devise projects aimed at improving the literacy of the children and providing experiential education opportunities for university students through several service-learning courses.
Level 4: Collaboration	Working together towards a common goal and, ideally, a common purpose	Over time, more teachers and faculty members begin to participate in meetings, and additional projects emerge based on shared interests and goals.
Level 5: Education for democratic citizenship Partnering	Partnerships that address social problems and build democracy	Over time the project widens as other groups (community organizations and parent groups) become involved in defining the agenda of the partnership. Participants begin to raise questions about the larger socio-political causes of literacy problems in the community. The coalition works to gather information about these and begins to engage in collective action designed to amend public policy in this area.

Source: Hartley & Huddleston (2010), pp. 22-23

Based on the '*the commitments they are willing to make, and the reasons people get involved*' (p. 14), the partnerships can be organized in several ways. Regarding this, Tushnet (1993) proposed three different types of partnerships. Partnerships are organized

in different ways ranging from working together on specific tasks to shared decision making about related tasks (Tushnet, 1993). Based on these, three types of partnership appeared: (a) primary partner/limited partnerships, (b) coalition partnerships, and (c) collaborative partnerships. Before establishing partnerships, Tushnet (1993) suggested early efforts should be made between partners by engaging in a conversation. In order to discuss the tasks about what each partner is going to do, what changes they will propose and to determine the content, 'pre-partnership conversations' are needed (Tushnet, 1993). Through this conversation, information on whether partners share a problem or if they are willing to commit time and other resources for solving issues should be revealed. Furthermore, it should also reveal the limits the partners wish to place on their participation and decide the important issue level to their organizational goals (Tushnet, 1993).

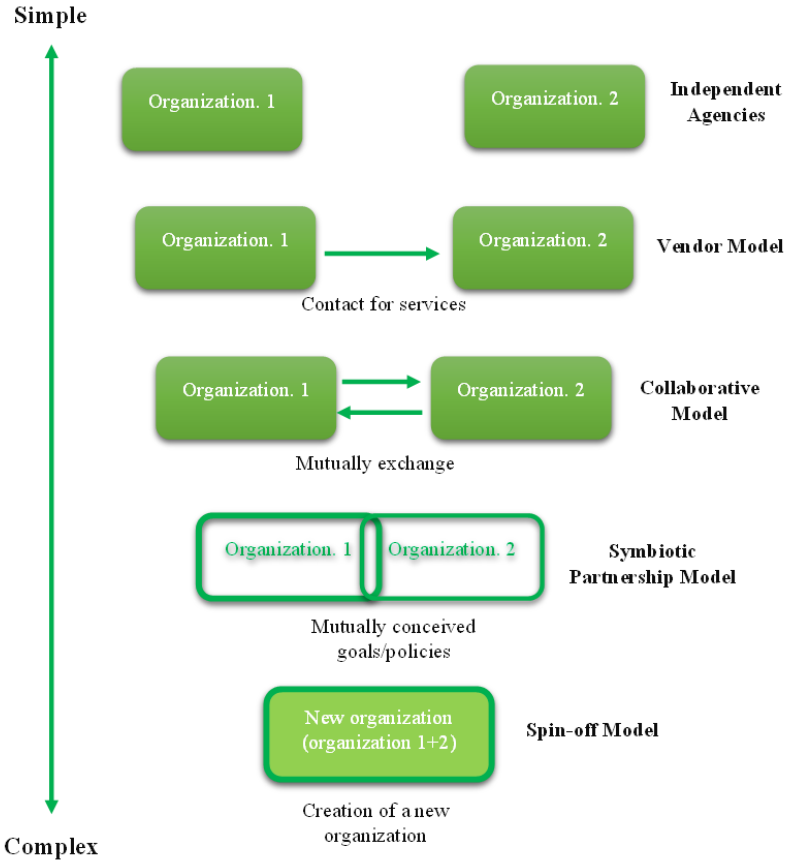
A primary partner/limited partnership is a partnership in which a managing partner gives services, training and materials to other partners or organizations and their staff (Callahan & Martin, 2007; Tushnet, 1993). Tushnet mentioned that this type of partnership is most appropriate when managing partners would like to contribute and when they want to set their participation within clear boundaries and limitations. In addition, he mentioned that this partnership might work for legal or political reasons where one partner takes strong control of the venture. Meanwhile, coalition partnership is defined when each partner decides what to do within their partnership framework and has a division of labour among organizations. In this partnership, each partner agrees to solve a particular problem. The participating organizations may or may not have the same goals. However, they generally believe that working together and solving the problem will help them achieve their respective goals. Tushnet (1993) claimed that this kind of partnership is appropriate for partners who agree about the specific issue in their communities, even though they do not agree about the causes of the issues or have different goals.

On the other hand, collaborative partnerships have a division of labour among organizations like the coalition partnership. In addition, in collaborative partnership, decision making becomes a shared process among partners and each partner or organization can participate in all decisions. This partnership works best when partners recognize their knowledge and expertise limitations and have a shared concern about the

problem. The author mentioned that collaborative partnership is difficult to establish since it needs time for building trust, understanding and solving problems in new ways. The most basic point for making this partnership successful is understanding that the knowledge held in one organization is different from the other. In addition, it is important to keep in mind that the knowledge possessed by one partner is not better than the knowledge held by another. In other words, partners have respect for and value the others' knowledge and expertise in solving issues. According to the author, once that understanding is developed among partners, trust will be built to acknowledge their common problems and use their different skills and expertise to solve them (Tushnet, 1993).

Barnett and his colleagues also constructed a 'conceptual framework of the types of partnerships' to help us organize and develop a partnership based on the level of interdependence (Barnett et al., 1999) (see ***Figure 7*****)**. In this framework, there are five different types of partnerships extending from the simple to the complex level and ranging from the less intensive to the more complex and multifaceted. The simplest form is 'independent agencies', where organizations work on their schedules, timeline and resources, which means there is no linkage between the two organizations. Barnett and his colleagues recommended this partnership when '*the organization already has the necessary resources, capacities, and skills to accomplish desired aims, then for efficiency reasons alone it makes sense to maintain independence and autonomy'* (Barnett et al., 1999, p. 496).

Figure 7: Conceptual Framework of the Types of Partnerships



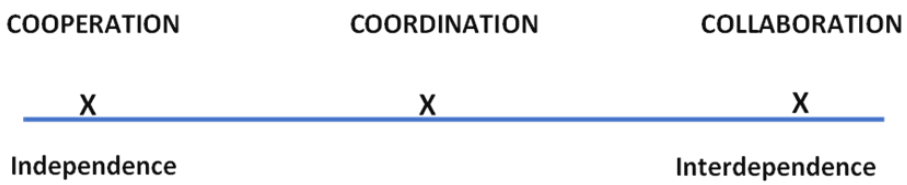
Source: Barnett et al., 1999

The next level of partnership (the vendor model) represents when one organization contacts another if it requires specialized resources such as training, advice or materials from another organization. This is a one-way partnership model, and it fits in the situation when partners have a clear agreement on a specific service or resource that is relatively narrow in scope within a short period. In the collaborative model, both organizations or partners have mutual exchange and benefits. This model is more complex, and the relationships between two organizations are more intertwined. According to Barnett and his colleagues, developing this collaborative model takes more time, and it is recommended to have initial dialogue among partners to discuss mutually agreeable structures and outcomes. In the symbiotic partnership model, partners go beyond mutual benefits and exchange to joint efforts as mutually conceived activities and goals can only be obtained through the combined effort of each organization (Barnett et al., 1999). Finally, the most complex form of partnership happens when two or more established

organizations combine into one, creating a new independent organization. The authors named this kind of partnership the 'spin-off model'. Barnett. et al. (1999) mentioned that this spin-off partnership model developed when partners see and realize past success and new goals emerge throughout their collaboration. This spin-off model of creating a new organization is a major milestone in the life of a partnership (Barnett et al., 1999).

The level of interdependency between organizations also identifies partnerships. Intriligator (1992) also proposed to check the degree of organizational interdependence before establishing a partnership. He placed the concepts of cooperation, coordination and collaboration in a continuum to understand the increasing amount of interdependence among organizations (See ***Figure 8***).

Figure 8: Continuum of Partnership Levels



Source: Intriligator (1992)

In a continuum, ‘cooperation’ stands at one end, representing the 'lowest interdependent level of partnership' where each organization remains autonomous and works together only on some collective activities within a short timeline. Intriligator (1992) mentioned that this kind of partnership among organizations aims to work together only for a short time, and it ends immediately when the collective activities are finished. In the middle of the continuum, 'coordination' exists. Coordination represents, to some extent, interdependence among organizations. This stage of partnership happens when partners officially agree on and determine the following: (i) how they will relate to each other, (ii) how collective activities will be accomplished, and (iii) what procedures and strategies will be used to solve conflicts and disagreements, and (iv) what procedures and strategies will be set to establish a common understanding about their goals, operations and outcomes (Intriligator, 1992).

On the other hand, when organizations work together by using a collective effort to achieve common goals, this kind of partnership represents 'collaboration'. Collaboration stands at the other end of the continuum portraying the most complex and highest level

of interdependence among organizations (Barnett et al., 1999; Intriligator, 1992). ***Table 3*** illustrates Barnett and his colleagues' characteristics of each partnership level (1999).

Table 3: Characteristics of Partnership levels

COOPERATION	**COORDINATION**	**COLLABORATION**
Tasks or activities are conducted only for a short period of time	Tasks or activities are conducted in a longer term than a cooperative partnership	Tasks or activities tend to be complex and are conducted for a longer period
There is no formal structure, and infrequent contact happens	Interaction among organizations is informal and not frequently	Having equal authority and responsibility
Activities or tasks appeared in mutually agreement but not necessarily for mutual benefits	Specific tasks for each organization and their responsibilities were formed	Each partner or organization possesses strengths and resources that the other does not possess
Previously existing budget funds are used, instead of creating new financial accounts		Providing mutual support and assistance between partners
		Displaying mutual care and concern for one another

Source: Barnett, et al. (1999)

Regarding the goal or functions of SUP, several scholars also developed the different partnership typologies. Grobe (1990) argued that partnerships could be differentiated in six categories according to their impacts: (i) partners in special services, (ii) partners in the classroom, (iii) partners in teacher training and development, (iv) partners in management, (v) partners in systemic educational improvement, and (vi) partners in policy (p.10). The partnership for special services aims to *'provide short-term, project-or student-specific activities or resources to help with a specific problem or need*' (Grobe, 1990, p.12). According to Grobe (1990), this partnership is good for the partners who wants to start their collaboration. Since, the tasks are not complex and straight-forward, and the achievement is very easy or quick to measure. Partners in the classroom intends to improve the learning environment for both students and teachers through applying their occupational expertise. Likewise, the teacher training and development partnerships aims to update and upgrade teachers learning and professional development. Another goal of partnerships are management assistance partnerships which provide the school staff and officials with management in several areas such as strategic planning, teacher autonomy and flexible personnel and incentive systems, etc (Grobe, 1990, p.19). Partnership for systemic educational improvement focuses on identifying the need for educational reform and improvement. This partnership is a long-term partnership in

which partners work together to implement the reform or change. The last typologies 'partners in policy' means the macro level collaborative partnerships among the business, schools and government in order to change or make an impact for the overall educational system in a state or country (Grobe, 1990).

Clark (1999) also claimed that SUPs (especially in the case of PDS), serve four purposes: '*(i) improving pre-service teacher education, (ii) promoting professional development of in-service teachers, (iii) research development, dissemination and application, and (iv) school renewal'* which includes curriculum development, assessment and teaching methodology issues and so on. Teitel (2001) also analysed PDSs to explore the impact of SUPs in promoting education. Similar to Clark (1999), Teitel (2001) had identified four goals of PDS, (i) '*the impacts on student learning, (ii) impacts on the preparation of pre-service teachers, administrators, and other educators, and (iii) impact on the continuing professional development* (p. 61). In addition, he added the 'research development to improve practices' as one of the goals of PDS within the context of SUP.

Overall, due to the complexity of the nature of partnerships, it has been said that no single model is entirely adequate or fits to explain the processes (Grobe, 1990; Tushnet, 1993). Rather than seeing partnership as a 'distinct event', it should be seen as a process like any innovation (Grobe, 1990; Barnett et al., 1999). According to Grobe (1990), partnerships constantly change as participants develop mutual trust, understand the structure and content, and know more about teaching others. This process is gradually changing and evolving since the relationship has shaped partnerships among humans (Grobe, 1990). Therefore, to understand the complex nature of partnerships, different models and typologies should be reflected and applied in accordance with the circumstances and locations.

2.4.2. Advantages of partnerships

Several decades ago, partnerships were seen as 'the ultimate cure' for all the ills of education and its related sectors (Barnett. et al., 1999). With the increase in belief about the benefits of establishing partnerships, they were used as the lever to bring about reform within organizations, institutions, individuals, and groups (Barnett. et al., 1999). Hence, it is worth mentioning the benefits of partnership to understand its value and usefulness for applying partnerships in different education systems.

According to the literature analysis by McQuaid (2010), nine advantages associated with interagency cooperation emerged. First of all, he argued that partnership enables to have '*flexible and responsive policy solutions'*. Due to the multi-dimensional and complex nature of the problems, such as urban regeneration and employment, the policy solutions aimed at one factor or part of the system are not enough to tackle these issues. Therefore, a partnership among agencies or organizations is necessary to explore the various cause and symptoms of these problems. Secondly, partnership '*facilitates innovation and evaluation*'. According to McQuaid (2010), stakeholders come together from different areas producing greater dynamism by sharing ideas, their expertise and practice and discussing risks they encounter. Therefore, the third benefit of establishing a partnership is sharing knowledge, expertise and resources from different stakeholders. In addition, he also described '*pooling of resources*', '*developing a coherent service*', '*improving efficiency and accountability*', '*capacity building*' and '*gaining legitimization and buy-in*' as different advantages of engaging and having partnerships (McQuaid, 2010).

Hutchinson and Campbell (1998) also described some advantages of partnerships. They believe partnership can *maximize the impact of partners' efforts* since it focuses on commitment among partners and their resources. In addition, partnerships can also increase flexibility and credibility by increasing their options and understanding across sectors. Moreover, a successful partnership can foster long-term confidence in delivery by enhancing the stability of the working environment. Furthermore, they also mentioned that partnerships not only promote policy synergy, but also promote resource synergy. Finally, they said that partnerships facilitate and solve complex, multi-dimensional, and multi-agency problems by integrating different approaches and strategies (Hutchinson, J. & Campbell, M.,1998).

2.4.3. Key success factors

In order to understand how partnerships work and which factors play major roles in partnership working, it is essential to explore the key success factors that can influence the quality and success of partnerships. For that reason, this section will discuss some key success factors from exploring literature and research on partnerships.

Several scholars have identified key features of a successful partnership and its influencing factors. McQuaid (2010) listed several key success factors such as *'(i) clear*

strategic focus, (ii) strategic leadership and support, (iii) the importance of trust, organizations, and people in partnerships, (iv) capacity for cooperation and mutualism, (v) organizational complementarity, co-location and coterminosity, (vi) incentives for partners and "symbiotic interdependency", and (vii) the value of action and outcome-oriented procedures' (p. 138). Intriligator (1992) proposed seven factors that discriminate between effective and dysfunctional partnerships: (i) interagency objective; (ii) interagency policies; *'(iii) interagency Structure; (iv) personnel roles; (v) resource allocation; (vi) power and influence; and (vii) interagency relationships*'. Intrilligator (1992) argued that we could define the level of the interdependency of partnership by looking at these seven concepts.

According to Karasoff (1998), *a shared vision* among partners is a fundamental feature of a successful partnership. According her, shared vision is particularly important as it fosters a common language among partners for articulating the entire group's mission. Besides this, common vision and mission provide a framework for future actions and activities (Karasoff,1998). Having *clarification of the role each member* also plays is another critical feature of a successful partnership. The author mentioned that this factor facilitates partners to reach common mission, vision and goals. In addition, she also mentioned the prominence of *shared responsibility and authority and shared decision-making* in a successful partnership. Finally, she mentioned *sharing resources* as a critical factor in fostering the quality of partnerships. Melaville and Blank (1991) also reported five factors that strongly influence all joint activities. These include: (i) climate, (ii) processes, (iii) people, (iv) policies and (v) resources. According to the authors, a *highly supportive and favourable climate* is essential for all types of partnerships. They defined a highly supportive and favourable environment as follows:

> *The most supportive climate is one in which the solution to a problem with multiple causes and consequences is a top priority of the community, key decision makers, and service providers, exist among potential partners.* (Melaville, A., & Blank, M., 1991, p. 20)

The second factor, called *'processes', represents communication and problem-solving*. Partners use these processes to establish goals, make decisions and solve conflicts. *People: the human dimension* is the third variable that affects partnership growth and development. According to the authors, people's vision, commitment, and

competencies are essential for establishing a successful partnership. Under this third factor, Melaville and Blank (1991) illustrate the importance of leadership and power and the position of participants as critical features. Finally, '*policies' and 'resources'* appeared as another critical feature of a successful partnership.

Likewise, Grobe (1990) also described some crucial factors for implementing and sustaining successful partnerships. Some of his identified crucial factors are as follows: (i) involving top-level leadership in decisions, (ii) establishing clear roles and responsibilities, (iii) utilizing effective management and structures of staff, (iv) having shared decision making, (v) recognition and giving rewards and credit for all participants involved, (vi) resources management, (vii) providing technical assistance, (viii) having formal written agreements (Barnett et al., 1999; Grobe, 1990).

2.4.4. Limitations or impeding factors

After the presentation of key success factors of a successful partnership, this section focuses on factors impeding the quality and success of partnerships. It is important to understand these factors to solve potential challenges within partnership processes.

According to Islam (2010), the obstacles to partnerships are related to three categories. These include (i) structure and function areas, (ii) cultural and language areas, and (iii) individuals representing within partnerships (Islam, 2010). Structural and functional obstacles mean that partnerships have ambiguous and complex structures. It leads to barriers when participants do not understand their roles and responsibilities and are unclear and inflexible in the implementation and planning of the partnership processes (Islam, 2010). In addition, many partnerships have cultural and language barriers as each organization has different working styles and cultures. Finally, when each individual plays a major role in establishing partnerships, their attitudes and behaviours may also create obstacles to partnership activities.

McQuaid (2010) mentioned eight factors which can impede the success and quality of partnership as follows: *'(i) a lack of clear and consistent goals and objectives, (ii) lack and cost of resources, (iii) accountability, and (iv) impacts on other services, (v) organization difficulties, (vi) capacity-building and gaps, (vii) differences in philosophy among partners, (vii) power relation, and (viii) community participation'*. Huxham and Vangen (2000) also mentioned managing 'language and culture' and 'trust and power' issues. According to them, participants' perceptions about the power differences play a

very prominent role in trust building. They mentioned that behaviours of 'lead' participants showing of hold the power makes weaker partners express extreme frustration over feelings of disempowerment when working with 'lead' partners (Huxham, C., & Vangen, S., 2000). In this case, it is important to remember that weaker partners also provide essential resources, such as expertise or access to the community, which other partners could not substitute. This kind of overcoming 'trust and power obstacles' were noted as a 'threat of exit' by Huxham and Vangen (2000).

Karasoff (1998) also analysed the barriers most commonly associated with partnerships at the individual and structural levels. At the individual level, attitude takes a leading role in the early stages of partnership development. Due to the paradigm shift from working independently to jointly, partners often feel fear, apathy and cynicism when trying to adapt to the partnership framework. Karasoff (1998) claimed that structuring time to find out each partner's mission, plan, philosophy, culture, and limitations is the only way to overcome this issue. In addition, the author also described that 'this structuring of time' itself is also an obstacle to building a partnership. At the structural level, the barriers include bureaucratic structures of organizations, funding and lack or cost of resources. Furthermore, she also described other obstacles such as '*poor planning, lack of information, lack of leadership, unequal involvement of members, and lack of commitment'*, which can also appear at this structural level of partnership barriers.

Other scholars, such as Barnett and his colleagues (1999), also mentioned identifying three barriers: cultural, regulatory, and personal, in order to conceptualize the roadblocks to the partnership. Likewise, Botha and Beets (2015) described power relation and authority, resources, lack of clarification of roles and responsibilities, lack of clear policy and guidelines, and ambiguous structures as obstacles in his study (Botha & Beets, 2015). Sirotnik (1991) also noted that every SUP is hard work, and time is crucial to consider. He reported some factors to consider such as '*cultural differences, leadership and commitment, providing resources and authentic interaction*' and so forth (Sirotnik, 1991, p. 19).

2.5. The origin of school-university partnerships (SUPs)

Calls for SUP started with the criticism of teacher education during the 1980s. In developed countries, there was a major concern relating to the quality of teachers due to the lack of producing well-qualified teachers and the decline in the professional

development of schoolteachers (Holmes Group, 1986, 1990; Tsui et al., 2009). In the United States, concern with the quality of education and teacher education created a group of academic professors from universities across the US to work together (Tsui et al., 2009, p. 5). This association is called ‘Holmes Group’ (Tsui et al., 2009, p. 5). The Holmes Group initiated the critical analysis of teacher education in 1983. The report of The Holmes Group on ‘Tomorrow’s Teachers’ described five goals for the reform of teacher education. These five goals included:

i. To strengthen the intellectual foundation of teachers' education.
ii. To acknowledge variations in instructors' knowledge, ability, and dedication as well as in their training, certification, and employment.
iii. To establish educational standards for admission to professional tests that are both intellectually sound and professionally relevant.
iv. To link our education institutions with schools.
v. Improving the working and learning environments for teachers in schools. (Holmes Group, 1986)

The birth of SUPs started with the implementation of two goals: ‘to link education institutions to schools’ and ‘improving the working and learning environments for teachers in schools’. These two goals created the establishment of professional development schools (PDS) in the US to improve the quality of teacher education. Furthermore, these PDS aimed to promote teacher education from pre-service to induction in a continuum way and also for research development. Therefore, PDS, the analogue of medical education's teaching hospitals, aimed to bring practising teachers, teacher educators, researchers and administrators together with university faculty in collaboration with schools (Holmes Group, 1986; p. 67). The PDS would provide the teaching and learning of pre-service teachers and schoolteachers as well as beneficial for university faculty to improve their professional development in four ways: (i) mutual deliberation on issues with student learning and their possible solutions, (2) shared teaching between two communities, (3) collaborative research on the problems of education practice, and (4) joint supervision of pre-service teachers and administrators (Holmes Group, 1986; p.56). Apart from all those purposes, PDS aimed to create an 'innovative environment or spaces' for schools and faculty and maintain an open-minded and experimental attitude at schools. In other words, PDS is assumed to be 'knowledge

creation and distribution places' to develop, codify, and implement professional knowledge (Holmes Group, 1986). The report of the Holmes Group illustrated the image of PDS as these schools will serve as settings for teaching professionals to test different instructional arrangements or for novice teachers and researchers to work, for the exchange of professional knowledge between university faculty and practitioners, and for the development of new structures designed around the demand of a new profession (Holmes Group, 1986).

Meanwhile, the SUP became a major priority and was seriously considered by UK governments during the 1980s and 1990s. The massive and major reform which established the strong relationship between schools and universities started with the requirement:

> *All university-led courses had to be run in formal partnership with schools and a number of routes to Qualified Teacher Status were introduced, including some led by schools rather than universities. (Whitty, 2014, p.470)*

This meant that all the traditional teacher education which universities led moved to schools where practice occurs entirely.

However, before putting 'SUP' as a mandatory requirement for all teacher training institutions, there has been a collaboration between schools and universities to improve the quality of teacher education since the 1970s (Tsui et al., 2009). For example, the Initial Training- Inservice Education (IT- INSET) was a significant collaboration between schools and universities for initial and in-service teacher training (Straker, 1986). This IT-INSET was the UK's first and foremost SUP for teacher education. It was adopted by 27 teacher training institutions working with 285 schools in 36 Local Education Authorities and 418 university teacher educators in 1987 (Tsui et al., 2009). Like in other industrialized countries, Australia also adopted SUPs by transferring the major responsibilities for the quality of teacher education and training from the university to schools (Tsui et al., 2009).

The growing attention to SUPs can also be found elsewhere in Europe. One of the examples can be found in the issue paper written by Halász (2016), mentioning SUPs are important places for 'knowledge production and distribution':

> *School-university cooperation usually cannot be described by linear and simplistic models in which universities are seen as the holders of professional knowledge transmitting it to teachers seen as simple receivers. (*Halász, *2016, p.7)*

According to him, SUPs are increasingly raising into a higher level where collaborative creation and sense-making are pursued in a knowledge triangle framework (Halász, 2016).

The global education reform movement influenced industrialized countries and led to the implementation of SUPs in Asia. In Asian countries such as Hong Kong, SUPs appeared with education reform, especially in new curriculum development. The whole new curriculum reform in basic education created the collaboration between schools and universities to help schools develop their curriculum. This reform movement also related to decentralization in the education sector, giving the schools autonomy to develop their structure and curriculum. At the beginning of the decentralization and autonomy process, the universities helped the schools build their professional development and train staff to have skills for the new era of education. Nowadays, Singapore's 'tripartite partnership model' where the partnership between the Singapore Ministry of Education, National Institute of Education and schools is famous and has much influence in developing Asian countries. The tripartite or enhanced partnership model not only focuses on initial teacher training but also provides continuous professional development of schoolteachers to research development and university improvement through alternative teaching programs at universities and schools (Liu, 2021).

2.6. The multi-functionality of SUPs[1]

This section will discuss the multi-functionality of SUPs by exploring the relevant literature. Research on school-university cooperation shows that SUPs can perform different functions. In a recent analysis of the literature, we have identified seven functional areas that can be observed: (i) teacher learning and professional development, (ii) education research and research development, (iii) generating and spreading educational innovations, (iv) school improvement, (v) university improvement, (vi) curriculum design and reform implementation, and (vii) enhancing participation and

[1] Some parts of this section have been presented in the forthcoming publication of Halász & Thant Sin (in press).

social dialogue (Halász, 2022; Halász & Thant sin, in press)[2]. In the following, these functional areas will be presented.

(i) Teacher learning and professional development

This is the major functional area of SUP which has been mostly observed by several scholars. SUPs played a major role and became an important tool for promoting teachers' learning and professional development during the 1980s and 1990s. As stated above in the origin of SUPs section, SUPs were noticed among academics and researchers with the need for reforms in teacher education. Saying 'the need to promote teacher education' did not mean only about initial teacher preparation. SUPs also played a major role in promoting continuous professional development from transforming traditional forms of in-service training to establishing SUPs where schoolteachers and university teachers have equal power of knowledge, responsibilities and shared decision. This is what successful SUPs do for the professional development of teachers.

In parallel with recognition of the need for reform in initial teacher preparation (Darling-Hammond, 2006; Goodlad, 1993; Zeichner, 2010), academics in the fields of education noticed the need for improvement in teachers' professional development and practice (Cochran-Smith, 1991; Cochran-Smith & Lytle, 1999; Hargreaves, 1999; L. Shulman, 1987; Shulman, 1986) as well as in practitioners' research (Cochran-Smith, 2005; Cochran-Smith & Lytle, 1999; Darling-Hammond, 2006.; Stenhouse, 1981). This discussion and arguments became one reason for establishing SUPs in teacher education and other functional areas such as educational research development and school improvement.

(ii) Education research and research development

In recognition of teachers' professional knowledge creation, bridging the gap between research and educational practices became a major issue in teacher education (Hillage et al., 1998; OECD, 2000). Moreover, the gap between academic knowledge and practice has been a concern in teacher education, especially in training student teachers (Zeichner, 2010) (Cochran-Smith, 2001). Halász (2010) also highlighted that it is essential to bridge the gap between higher education institutions and schools to generate educational

[2] The presentation of the seven functional areas is based on a forthcoming publication of the author and her supervisor: Halász & Thant Sin (in press). Using school-university partnerships as a development tool in low-income countries: the case of Myanmar. Journal of International Development.

innovations and promote the quality of research and its usefulness in education. Hargreaves (1999) also argued that SUP is needed to produce knowledge, disseminate it and apply it in a real setting, which is school. On the other hand, Stenhouse (1988) claimed that teachers are the major players in the development of educational research so that the knowledge produced can be applied and tested by teachers in their practices. According to Stenhouse, the research is useful and effective only if it develops a theory which can be testable and usable by teachers in their real classrooms. In the past, the university was the only knowledge-production entity in education. However, it changed when the focus was on integrating university-based and school-based research. As the result of many attempts and arguments to bridge the gap between research and practice, the need and establishment of SUPs have been proposed.

(iii) Generating and spreading educational innovations

Like university-business partnerships in the industry, SUPs are major sources of educational innovations. Compared to the business sector, schools are in a similar position to companies in education. To promote educational innovations and to make the system more dynamic and responsive to social-economic needs, the US federal government has initiated 'the creation of education innovation clusters' (Hodas, 2015). This is also strongly connected to 'third mission' of universities and their roles in promoting local-regional development (Compagnucci & Spigarelli, 2020; Varga et al., 2021). SUPs are also 'breeding grounds' for bringing solutions to unsolved problems through intensive collaboration (Engeström, 1999; Engeström, 2001). In addition, these can encourage innovation through the creation of 'third spaces' (Arhar et al., 2013) which supports '*innovative solutions, horizontal learning, and sharing of best practices*' within the partnerships (Halász & Thant Sin, in press).

(iv) School improvement

SUPs functioning for school improvement can be seen in parallel with promoting teacher learning, professional development, and research development functions. However, the role of SUPs in this 'school improvement function is not explicit like other areas of SUPs, such as teacher learning and professional development. The school improvement function of SUPs can be seen implicitly in the development and networking activities such as school networking, school restructuring and teacher development programs (Stoll & Louis, 2008; Swanson, 1995; Waddle & Conway, 2005).

For the school improvement function, SUP focuses on learning since the learning community is critical in outstanding and innovative schools. Therefore, it is logical to consider the quality of teachers' learning and their performance for establishing successful schools. Therefore, some SUPs for school improvement focus on staff development by providing and encouraging the teachers' learning and skill development. Another activity in which SUPs support school improvement is networking with schools. Networks of schools are a kind of partnership among schools, sometimes with universities, to upgrade the quality of schools. In England, these SUPs for networking schools are very popular, and official agencies promote them through Networked Learning Communities (NLC) to promote the teachers' learning and school improvement (Armstrong, 2015; McLaughlin et al., 2007).

(v) University improvement

When schools and universities collaborate, there is no doubt that the university is also improving in several areas—for instance, the professional development of its staff, research areas, and its communication with partners. Moreover, in these rapidly changing communities, staying and learning within our communities is no longer enough (Tsui & Law, 2007).

Cochran-Smith (2005) identified some responsibilities of teacher educators to promote teacher education. According to her, the teacher educator's major responsibilities are engaging and working continuously on different projects. This notion comprises three main components; firstly, teacher educators must support the student teachers' learning process to learn as well as to teach. Secondly, teacher educators must assess their knowledge and reflect on their practices regularly to produce valuable knowledge for societies. Finally, teacher educators should interrogate all policies that can impact teacher education and professional development (Cochran-Smith, 2005). These three components indirectly mentioned that universities (teacher educators) cannot stay alone, and they need to collaborate with schools to support student teachers, test and apply their knowledge, produce usable knowledge in cooperation with schools, and keep alert of teacher education policies.

Regarding teaching and learning, the differences in opinion, experiences and approaches between universities and schools are also key points for the need to establish partnerships. If educators are from the same organization and work together in the daily

routine, there will be less opportunity to generate innovations, to create and learn new things. Therefore, universities can also explore different opinions and experiences from schools through SUPs. There was one example of using SUP for university improvement. This is called 'European Doctorate in Teacher Education (EDiTE) SUP' project, which is a five-country European project, aimed to develop a doctoral program for teacher education research where universities established partnerships with non-academic organisations such as schools to promote doctoral education (Baráth et al., 2020).

(vi) Curriculum development and implementation

Another function where the use of SUPs appeared is when developing or implementing the new curriculum. Together with the global education reform movement (GERM) during the 1980s and 1990s, several developed countries started to reflect on their education systems. During these movements, reflecting and reformulating the school education curriculum was one of the most popular reforms among other educational reform areas. Schools were given autonomy to develop their school-based curriculum following local needs in the curriculum reform movement. The role of universities in this reform agenda was to collaborate with schools to support and train the capacities of schoolteachers in designing school-based curricula (Chun, 1999; Leong et al., 2011). Besides this role, in some cases, universities collaborate with schools intensively in developing new curricula together. In this study, the use of SUPs can be seen in Myanmar in developing and implementing a national basic education curriculum.

(vii) Enhancing participation and social dialogue

This area is the least explicit and hidden function of SUPs. Like the school improvement areas, the SUPs do not have separate agenda to implement it. However, it appears together with supporting or implementing other functional areas. For example, when SUPs support teacher professional development programs or curriculum reform agenda, schoolteachers and university teachers need to be in intensive communication with each other. Participants are engaging and participating in those SUP programs and engaging in social dialogue, an implicit key component of establishing SUP. According to Halász (2014), in this 'deliberative dialogue', SUPs can also create bridges among partners of different backgrounds, experiences and knowledge to find solutions in communities.

Beyond the seven functional areas presented above, others can also be identified. For example, SUPs can be used also to improve the transition between secondary and

higher education, or they can widen the career promotion opportunities of secondary school teachers. As we shall see, all the functional areas presented in this section are relevant in the Myanmar context and reference to them will appear as a key element of this study.

CHAPTER 3: LEARNING FROM HUNGARY: A CASE STUDY

In this study, I included two Hungarian school cases. There are several reasons why the Hungarian cases have been included in this study. I have been exploring the Hungarian case since the beginning of my studies in Hungary in 2018. Finally, I made a systematic data collection (school level case studies) when I had collected Myanmar data and while analysing those data. Therefore, Hungarian case has provided valuable input to prepare the analysis and interpret Myanmar SUP cases. In the following, the rationales for including Hungarian school cases will be explained.

During my studies in Hungary, I discovered that the history and transformation of Hungary's education and teacher education system is one of the most interesting cases to explore. Due to its several waves of reforms in education and their consequences, especially in teacher education, Hungary has become a unique case to study, as one of the education experts in workshop mentioned:

> *"Hungary is a living laboratory if you want to study education, teacher education, innovation and transformation".*

Besides the country itself, there are extraordinary SUP cases in Hungary regarding teacher education, teacher learning and bottom-up school innovation. Therefore, I think I should bring in these SUP cases so that developing countries like Myanmar can learn how SUP is established and became a major tool for promoting teacher education and school innovation. Another reason is because of the complex nature of SUP itself. As mentioned in the literature section, a partnership should be seen as a process like any innovation (Grobe, 1990). Grobe (1990) confirmed that partnerships are constantly changing as participants develop mutual trust, understand the content, and know more about others; therefore, the relationship among humans has always shaped partnerships. Through the Hungarian case, the complex nature of SUP, especially the stakeholders' experiences and attitudes while implementing and performing, can be understood. Furthermore, the connection between SUP and educational innovations can be seen clearly in the Hungarian case. Although one of the functional areas of SUP is generating innovation, however, an explicit example is needed to imagine how SUP can promote and sustain educational innovations. In my opinion, Hungary will provide a vivid picture of SUP in promoting and sustaining educational innovations and promoting teacher learning. The following section is devoted to the two Hungarian school cases for the above reasons.

3.1. The country context

Hungary, which belongs to the group of Central and Eastern European (CEE) countries, has been experiencing ongoing educational reforms since the end of the socialist system in 1989 (Halász, 2018; Hunya & Szabo, 2016; Symeonidis, 2019). Since thirty years ago at the collapse of the Soviet Bloc, the country had made significant rapid changes to the world of open and globalised economics (Halász, 2018). By the end of 1980s, a decentralised school education had developed, and in the early 1990s, it became one of the most decentralised education systems in the world (Halász, 2018). However, this decentralisation over twenty years ended in 2010 when the new Hungarian government introduced centralisation in education, putting it under the direct government of central authorities (Symeonidis, 2019).

Since Hungary joined the European Union in 2004, the teacher education system has significantly changed due to policy thinking and policy action (Halász, 2018). According to Halász (2010), the accession to the European Union produced four key factors which had a major impact on teacher education changes in Hungary. First of all, the accession to the European Union accelerated the reform in higher education, which affected not only the structure of initial teacher education but also the university-based teaching and training of initial teacher education. Secondly, adopting and accepting the European Union's teacher education continuum approach changed the policy thinking on teacher learning which led to upgrading the value of teacher innovation and blurred the boundaries among stages of teacher education continuum. As a third key factor, developing and applying teacher competence frameworks also produced major changes in teacher education. Finally, the development funds supported by European Union to modernise teacher education created several development interventions in schools promoting educational innovations. These four key factors have influenced dramatic changes in teacher education in Hungary. Although the teaching profession is not yet well-paid (Vötsch, 2020), teachers were satisfied to some extent due to the given autonomy in decentralised systems during those days. However, all of the teacher autonomy and decentralisation have reduced since 2013.

I chose two schools representing innovative and outstanding SUPs for the Hungary case study: Hejőkeresztúr school and Csaba Kesjár Primary School. The choice had been made through discussion with supervisor and through my personal experiences

participated in the European Doctorate in Teacher Education (EDiTE) SUP project. Hejőkeresztúr school started its bottom-up innovation in the early 2000s when the country's most decentralised education systems were operating. Data from the personal experiences of a school principal who initiated the bottom-up innovation and desk research about the school: including the principal's published articles and exchange emails with a schoolteacher, are analysed to explore SUP cases and bottom-up innovations. Csaba Kesjár Primary School initiated its bottom-up innovation in 2011, before the education system was centralised in 2013. Three interviews were carried out including two schoolteachers and an old student, who is now in senior high school. In addition, the schoolteachers' master's thesis and school websites have been included for desk research.

3.2. School 1: Hejőkeresztúr school

3.2.1. Getting to know the school

Hejőkeresztúr Primary School (Béla IV Primary School) is located in Hejőkeresztúr village, the North-East region of Hungary, and situated 160 km from the capital (Hunya, 2018; Rapošová, et.al., 2016). This is a regional state school with 227 children commuting from three villages (Hejőkeresztúr, Hejőszalonta and Szakáld). Hejőkeresztúr is the biggest village among the three villages, and it is located 3 km and 7 km from Hejőszalonta and Szakáld (Hunya, 2018).

The story of this school represents successful bottom-up educational innovations in Hungary. This bottom-up innovation aims to keep disadvantaged school children in the education system and to prepare them for successful secondary learning (Hunya & Szabo, 2016). Besides, the school has 73% of the children from disadvantaged social backgrounds, including 50% of Roman descent (Hunya & Szabo, 2016). Despite this, student achievement in this school is outstanding compared to the same socio-cultural background in the region. The school has become the major centre for teacher training and continuous professional development, and it has created a network of 200 schools in Hungary. In addition, the school becomes the main trainer for their specific pedagogy method called 'Komplex Instrukciós Program (KIP)', for more than 1000 schools in Hungary. Furthermore, the personal and professional development of the school principal is an outstanding example as she started originally as an engineer and physical education teacher to become a nationwide respected teacher and university associate professor with

a higher doctorate (Hunya, 2018). Finally, the school principal's effort to reform teacher education programs in Hungary is worth exploring.

3.2.2. Bottom-up innovation: Komplex Instrukciós Program (KIP)

The Hejőkeresztúr Primary School got its fame for the innovation of the Komplex Instrukciós Program (KIP), which provides an equitable classroom atmosphere for children of different social backgrounds (Rapošová, et.al., 2016; Nagy, 2020). The program is based on Complex Instruction Program of Stanford University developed by Elizabeth G. Cohen and Rachel Lotan in the 1970s. This program allows teachers to use a cooperative instructional approach to teach at a high level in an academically diverse classroom (Nagy, in press).

The inspiration of the school principal to adopt the complex instruction program started in 2000 when she participated in Complex Instruction (CI) training organised by the US Embassy in Pécs (Hunya & Szabo, 2016). This was also the year when she became the principal of the school. Since before this training, the principal had been looking for the answer to promote her school and children's academic achievement. Therefore, based on the Stanford approach, the principal started the implementation and adaptation of the new methodology to the conditions in Hungary and to the reality of high proportion of disadvantaged students in her school (Nagy, in press). The following quote is directly taken from the school principal's publication[3]:

> It took us three years to 'translate' complex instruction into the educational conditions in Hungary which resulted in the development of the Komplex Instrukciós Program (KIP). As the effectiveness of the program was constantly to be proven, I confirmed the positive impact of KIP on students by conducting scientific research. As a result, I also obtained my PhD degree (2007). (Nagy, in press)

Within three years of trying to fit into the Hungarian context, the whole school participated the 'in-house' training by the principal. In 2006, after six years of piloting and applying the KIP in school, every teacher in the school could use the KIP regularly in their lessons.

[3] The quote has been directly taken from the forthcoming publication of the school principal.

We change the program to Hungarian environment and situation, but the basic idea is the same as its frame. And KIP is 100% Hungarian model now. We have a very strict frame as we used KIP in 20 % of the lesson. It is necessary to know that every 10th lesson is enough for children to succeed. (Interview: School principal)

KIP is based on four principles (Hunya & Szabo, 2016). First, it is assumed that education includes a diverse level of non-routine, open-ended activities to motivate students' different competencies. Second, students are responsible for their learning and activities. Third, the student group activities in KIP lessons aim for individual achievement. Student work is evaluated according to set norms and roles. And finally, all students' abilities are explored and praised (Hunya & Szabo, 2016). The details of KIP lessons can be seen in Appendix 4: More details of KIP.

3.2.3. SUP journey towards networks of schools: a school improvement functional area

As the school showed significant improvement in student achievement, many schools became interested in KIP and started visiting to the school and observing the KIP lessons. The very first training started with the two schools in collaborating with Miskolc University, where the school principal currently teaches the KIP methodology to student teachers.

We trained two schools for the KIP for the first time, then increased and nearly a thousand in the last 10 years. Our partner in the training was the University of Miskolc, which also trained 80 schools with our help. The KIP schools, with my leadership, now have a network. We have a website where professional materials and news help you find your way around the KIP. (Interview with school principal)

According to the school principal, the first training with the two schools lasted 60 hours. These 60 hours of training aimed to familiarise teachers with the KIP methodology. The training also intended to use the KIP methodology in diverse groups and create a dynamic learning community where everyone is praised and encouraged (Hunya & Szabo, 2016).

The school's innovation is KIP, nowadays, a network has nearly 200 schools. We organize an annual conference with the primary goal of exchanging professional ideas, exploring strengths and bridging gaps. (Interview with school principal)

At first, only teachers from Hejőkeresztúr school were trainers for applying and disseminating KIP. Teachers from the school mentored the users of the KIP methodology in other schools. The mentoring procedures is as follows. First, the participants started applying the methodology in their daily routines. The new trainee teachers can decide when and with what topic they want to use KIP methodology (Hunya & Szabo, 2016). Then the KIP lessons are prepared with KIP trainer teachers in interactive processes. Mentoring is done in a mutual visit; for example, new trainee teachers can see KIP lessons at Hejőkeresztúr school, and the KIP trainers go and observe the trainees' lessons once a month. At the end of the academic year, the new school decides to apply the KIP methodology when they feel ready to use it. For the time being, the KIP is applied in these networks of schools where 40-45 teachers became the expert trainers of KIP across the country.

Besides this training, the school received support for many projects from the European Union and started cooperating with universities in the country. The most significant SUP was the project where the school was invited to lead the project for the training of KIP methodology for teachers in 1000 schools in Hungary, which is about one-third of the total number of primary schools in the country.

> *We get a lot of projects from EU, and last year, we finished a very huge project in university in Eger, and I was the dean of faculty of pedagogy at that time. And I had to go to university because I led this project about training 1000 schools to apply KIP methodology. (Interview with school principal)*

> *The ministry wanted me to lead a project at the university. So, I needed to collect teachers who know the KIP very well. My teachers are experts, but I needed more teachers for training these 1000 schools. One important thing is that those who are using the KIP methodology in their practice can only teach the KIP methodology. I have a KIP network with 200 schools, every school has an expert teacher who can teach KIP. So, I collected around 40-45 teachers from those schools to train using KIP methodology in these 1000 schools in the project (Interview with school principal)*

Nowadays, it is not anymore that just the school alone is the disseminator of the KIP methodology across the country (Komplex Instrukciós Program, 2017). As a result of networking and active participation in various projects, the KIP has achieved popularity nationwide (Komplex Instrukciós Program, 2017). Furthermore, because of the school's

success with socially disadvantaged children, some major government and business players have been aware of the school and have shown interest in spreading the KIP methodology across the country.

3.2.4. The path to successful SUP for teacher learning and professional development functional area: personal stories of the school principal

The Komplex Instrukciós Program website describes that the involvement of scholars and civic actors promotes the program to become accessible for prospective and in-service teachers through university courses and training. In this sense, the collaboration between the three institutions; the school, the university and the non-governmental organisation is vital. Furthermore, it creates an effective platform that successfully spreads KIP to nationwide (Komplex Instrukciós Program, 2017).

As mentioned before, the school principal has two major roles in teacher education in the country. She is not only a school principal of the Hejőkeresztúr school but also a leader of the teacher training institute at the University of Miskolc. All these collaborations started with the desire and motive of the school principal.

> *It is very important for me to connect and create harmony between the schools and teacher education universities. It is true that I am the principal at primary school, but I just realized that doing my job as a school principal was not enough. What I need to do is to conduct research, to put research results into education practice. So, I was thinking how I can help to promote the education. First, it came to public education in mind, later I realized that it is also important to go to university to help them; how they can be more efficient, how they can be more productive. I want to help them in a way that they have to do a lot of research and put the results into public education. (Interview with school principal)*

The above attitude of the school principal created an intensive collaboration with teacher education universities. Besides the school principal, three KIP expert teachers from her school also teach at universities. In addition, there is a regional KIP centre at Miskolc University, where the principal and her teachers teach the KIP methodology to student teachers and provide continuous professional development courses. Besides Miskolc University, the school has a major collaboration with three other universities in Hungary.

> *In contrast, KIP methodology can be taught only by those who apply it regularly in classroom teaching. This is why my schoolteachers became lecturers. Currently, three*

of my school colleagues are lecturers at the University of Miskolc. In addition, we also play a role in in-service teacher training. My colleagues also trained abroad (Romania, Ukraine, Slovakia). (Interview with school principal)

As the mediator between the school and the university, the principal explained her routines in a week. First of all, she teaches physics and mathematics in the school, having approximately six lessons a week. She goes to school every day, leaving at 5.14 am from her home in Budapest to the school, which is 167 km away. She arrives at the school around 7 am. Since then, she manages all the activities such as organizing school management, discussions with deputy principal, checking her emails, and teaching. The school principal goes to universities three times a week. When she goes to the university which is 17 km away, she leaves school and arrives to the teacher training institute at around 10 am. The principal has two university secretaries with different tasks: one organizes program with disabled children while the other manages tasks regarding pedagogy. After discussion with two secretaries, she will have four or six lessons to teach. Moreover, almost every Friday, the school principals meet everybody at the institute and discuss the tasks, projects, and teaching. At the time of interview, Dr. Emese was still active as a school principal. However, in 2022 September, she is retired from the school and only active at the university as an associate professor.

Dr. Nagy Emese (the school principal) also shared her experiences in teaching at the university. At first, the student teachers did not understand why they needed to learn about this specific methodology. Dr. Emese introduced the KIP methodology through a simulated classroom. For the first time being introduced to the KIP methodology, the student teachers realized that this lesson differed from the simple teaching methods they were learning at their university. The principal shared her personal story about one student teachers as below:

There was one student teacher at the university. While I was teaching KIP, I don't know if she did not want to understand, or she did not understand KIP (laughing). Once she told me quite angrily that I was insisting all the time, only about KIP. I told her that she would realize it was important when she became a teacher. And two years later, she wrote an email, she told me that when she was doing practice teaching at the university, it was very easy to teach at the secondary school which belonged to the university, because it was an elite school. That is why it was quite easy to teach, and

> *she did not think that KIP is needed in teaching at schools. But now, she got her post at a school where there were many disadvantaged children, and she could not manage to make children successful. So, she asked me to help her in her email. That is why I met her, and we spoke about KIP deeply and then, I helped her prepare a lesson plan, and after that, she tried the KIP methodology and later wrote to me that it was successful. (Interview with school principal)*

And Dr. Emese continued saying:

> *As you can see, we have a lot of challenges in the disadvantaged schools. We, teachers, look for the way how it can be successful and efficient. And when we used KIP, we realized that there was something special in KIP which is different from other kind of teaching. It worked well and successful. Why it is successful? First of all, we tried to know all the children and their strengths and weaknesses. It is very necessary to give interesting tasks to be motivated. When I create a lesson, I know that she or he will be in the group, and I plan the tasks which each of them can do. This is a secret technique. And we use multiple skills of children so that all children can show their talents. Because they can show their talents, they feel they are successful and useful in the group. That is very important. When they feel that they are successful, then they will be satisfied and happy within the class. (Interview with school principal)*

Currently, the school is also accepting student teachers for their practice teaching in partnership with the University of Miskolc. Besides student teachers, school practitioners are also coming to observe lessons because of the school's outstanding professional reputation. Student teachers arrive in groups as well as individually. The University has a long-term contract with the school. Instructors from the University also visit the school to observe how the school innovation works in practice. Moreover, there are also Foreign Universities (e.g., Selye) that come to the school with groups of students.

3.2.5. School as a birthplace for a major teacher education reform

The idea of practice-oriented teacher education reform in Hungary started when Rachel Lotan invited the principal in 2012 to participate in Inquiry into the Stanford Teacher Education Program (iSTEP). The experiences during the iSTEP prompted the

school principal to start thinking about renewing teacher education in Hungary (Nagy, in press). In her forthcoming article, the principal described her thoughts as follows[4]:

> During a visit to schools in the catchment area of Stanford University, I could see how university lecturers helped students to create effective lesson plans, how candidate teachers spent their internships in schools, how they taught, and how their work was evaluated. I could see the combination of theoretical and practical knowledge (with the cooperation of students, supervisors, staff working in clinical/partner schools, professors), I understood the importance of classroom management, and I became aware of how research contributes to raising academic standards. It strengthened my conviction that it is crucially important to transfer both subject and pedagogical knowledge during university training. (Nagy, in press)

These experiences drew the school principal's attention to the fact that combining theoretical and practical knowledge during university training is one of the major factors to the success of high-quality teacher training. Unfortunately, in Hungary, theoretical training at teacher training institutes is currently sharply separated from practical teaching, which weakens the coherence between theory and practice is weak (Nagy, in press). Due to this fact, most student teachers face challenges when they arrive at schools, such as the inability to implement effective teaching and communicate with children (Nagy, in press). Due to this inadequate teacher preparation, the school principal decided to write proposals to reform teacher education in the country (Nagy, in press).

> *We made a proposal for teacher education reform in Hungary. I worked intensively with one university professor, and he is a very outstanding professor. We prepared the proposal together. First of all, I looked for educational experts in the country and also invited experts from other countries' universities. We collected their information, suggestion and analyzed them together with the professor. We made the proposal, and it was 360 pages. And step by step, we tried to explain the ministry; how Hungarian teacher training institutions could be made more successful. We tried to make them understand why practice teaching is important to be introduced in the first year. And not all universities have different schools for practice teaching, this is why it is necessary to prepare different kinds of schools for practice teaching so that they can*

[4] The quote has been directly taken from the forthcoming publication of the school principal.

motivate young people to choose teacher careers and so on. (Interview with school principal)

In the new teacher education model they proposed, student teachers will start practice teaching activities and educational work (such as lesson observation in schools, solving individual and group tasks, performing teaching-related subtasks, analyzing and reflecting on teaching, etc.) as well as micro-sessions in their first semester. When the student teachers reach in their fourth year of university studies, they will need to organize a full session and complete the 45-minutes teaching lesson. By the end of the fifth year, the practice teaching activities would be carried out in schools as independently as possible. The student teachers' work would be assisted by a university and a school mentor. The school mentor, the university mentor, and the student teachers would have to collaborate together for planning, evaluating, and reflect on the teaching tasks throughout the whole practice teaching period. Before their proposal, the principal also investigated a so-called pilot/trial project in which she chose some student teachers to experience practice teaching in schools and collected their responses.

You know in Hungary, when student teachers are in their fourth year of studies, they go to primary school for practice teaching. But I think it is very important for student teachers to do practice teaching in schools since first year of studies at universities. Therefore, I choose 24 student teachers, they went to practice schools, did their observation and communication with school children and schoolteachers. And I think it is important for student teachers to find out if they want to become a teacher or not in their first year through this school observation. After their observation and communication with schools, I asked their opinion and they responded that it is very good to practice teaching in their first year of studies. So, it was successful. We included these opinions in the proposal. (Interview with school principal)

The new teacher education model, in addition to acquiring theoretical knowledge, also considers expanding student teachers' practical teaching knowledge and experience. The aim of this new model is to prepare student teachers in such a way that they are able to foster the multiple abilities of their students. The ministry has approved the proposal and the new teacher education model is introduced from September 2022.

3.2.6. Obstacles

Regarding the obstacles, the school principal explained that it was very difficult to persuade the schoolteachers to use the KIP methodology in the country. This kind of difficulties happened in the case when the schools jumped into the KIP methodology training following a top-down procedure as the ministry asked them to participate in it. Therefore, in these schools, the training to apply KIP methodology was not successful since the schools did not have any intrinsic motivation.

> *It turned out that it was very difficult to be successful because the schools did not choose this for themselves to apply the KIP program. There was some kind of top-down force towards them. That is why they were not interested in it, and they thought that this KIP was not useful for them. Compared to this, I have a KIP network. In this network, we have 200 schools. These schools are efficient and successful. Why? Because they chose the program by themselves; voluntary. There was a difference between the results; my network is successful but the reforms coming from the education authority were not successful. (Interview with the school principal)*

Besides these collaboration with schools across the country, the principal also mentioned obstacles in collaborating with universities. Currently, her school is collaborating with three universities successfully. When she invited other universities in Hungary to participate, the responses made her disappointed.

> *These universities were not really interested in the project. They told me they had their special teacher training program, that is why they did not want to use this KIP methodology in their university course. It is quite difficult to make lecturers understand why this KIP is necessary in schools, but they did not realize its importance. For specific areas of schools like mine, teaching cannot be successful without KIP. I mean, it can work for a short time, but for a longer time, it won't be successful. (Interview with school principal)*

I also exchanged email with one schoolteacher from Dr. Emese's school. She is now a lecturer at Miskolc University. Because of language difficulties, we cannot communicate in person, however, we got a chance to exchange emails. When I asked her whether she has challenges in teaching at university. I got the following response:

> *It is a great challenge to shape the attitudes of student teachers at university. However, sometimes, it is very difficult to convince students that the current method of education that has dominated for more than 200 years and is outdated and is now ineffective. Student teachers think that someone is a good teacher who stands up and tells them about the events of the French Revolution in 45 minutes. It is very difficult to convince them that the source of knowledge is no longer the teacher. Our task is to develop skills, not to incorporate lexical knowledge. Everyone has their smartphone in their hands. The task of the teacher is to help the acquisition of knowledge, to create the most optimal learning environment and to help a student to find out what he is good at. Because everyone's good at something. (Email exchange with a schoolteacher)*

Although both the principal and the schoolteacher mentioned the obstacles they face, they mentioned that they have more benefits and enjoyments than obstacles.

3.3. School 2: Csaba Kesjár Primary School

3.3.1. Getting to know the school

Csaba Kesjár Primary School was built in 1988 in Budaörs, a city close to Budapest. There are 472 students and 43 schoolteachers in the school. The school's mission statement is: '*Our school is a safe home that welcomes, gives strength and provides the everyday joy of togetherness. We raise children who accept themselves and others and they become PEOPLE who can love and have creative knowledge*'.

Csaba Kesjár Primary School has been chosen in the study because of its famous program and its outstanding teachers. Although this school operates not in a poor rural area like the Hejőkeresztúr Primary School, it also developed remarkable bottom-up innovations. Besides, its teachers are recognised as proficient professionals who train student teachers successfully. Furthermore, the schoolteachers' attitudes towards their profession, and their mentoring of student teachers are worth exploring.

3.3.2. Bottom-up innovation: 'Leader in me' Program

Since 2011, the school has been the reference school of the school development program 'The Leader in me'. This program is based on Anglo-Saxon management culture: its origin is connected with a leadership development approach developed by a well-known American 'management guru' (Covey & Covey, 1991). In 2010, the '7 Habits and Life Management Program' was launched with the support of the local government in order to support teachers' work and life management. Although the

program is implemented for supporting teachers and their work management, it also brought about a significant qualitative change in the school culture.

> *The 7 habits program started in 2010 in our school. It was only for teachers. We got to know everything about the program, and we tried to use it in our private lives. And it worked. It was really very good. (Interview with teacher 1)*

The entire school received a three-day 7 habits and life management training, which supported teachers to look deeply into their personalities and manage their works effectively. The following quote is directly taken from schoolteacher's mater thesis[5]:

> During the first training session, the focus was on our personality development; we got to know the basics habits, made action plans and tested the possibilities in the program. I tried to apply what was said there in my personal life, and day by day, week by week, I felt that interesting changes were happening around me. Instead of reactive thinking, I tried to be proactive. I tried to understand the other person first and then argue for my own ideas. I realized the essence and importance of teamwork. The experiences gained in my personal development slowly immersed into my school practices as well, and I began to use it more and more successfully in my teaching as a class teacher.
>
> (Source: Master thesis of teacher 1)

In 2012, the school took part in further training called 'preparing 7 habits educators for the development of their students' leadership competencies'. In this training, teachers learnt how to transfer the knowledge they have acquired to the students regarding independent life skills. The aim is to make the students understand that each of them can be a leader in their own life, make decision and plans and listen to others. The 7 habits of 'leader in me' are: *'(i) be proactive, (ii) begin with the end in mind, (iii) put first things first, (iv) think win-win, (v) seek first to understand, then to be understood, (vi) synergise and (vii) sharpen the saw*' (Covey & Covey, 1991). The school started to incorporate these seven habits into school subjects and teachers note with surprise that children quickly learnt those habits in their academic work and in their everyday lives.

> *We have a timetable and every day; we have 6 lessons. And for one lesson a week, we have a special 7 habits lesson for the students. You know we are class masters (class teachers). In this 7-habit lesson, we start with the first and second habits, etc. And we*

[5] Original thesis of schoolteacher is in Hungarian. I translated with the help of my supervisor.

did a lot of good practices and games. And the students can try to understand and use 7 habits in their lives. For example, one of the 7 habits is 'put first thing first'. So, it means how I organize and how I can plan my learning: what is the most important? For example, in mathematics, 'we are going to have a practice test tomorrow, so this is the most important and the first, then what is the second. So, they are going to put things in order. Then, another habit: "synergize". They try to teach and learn together: I don't learn alone, I don't work alone, we learn together, we practice together. And for example, when they are writing a test, after the test, they have to write 'self-evaluation'. (Interview with teacher 1)

Nowadays, the spirit of seven habits have spread in the school; they are on the school bulletin board, in the school curriculum, timetable, in the planning and materials of the lessons, most importantly; it has been established in the hearts of the school children and teachers (Interview with old/senior student). School websites clearly describes that voices can be heard in the corridor during the break such as 'be proactive', 'think win-win', 'come, let's sharpen the saw', and so on (see here https://www.kesjarcsabaiskola.hu/index.php/content/7-cikkek).

According to the teachers, the seven habits program led to significant improvement in student achievement during the past years since its adoption in school.

We have used this program for 5 years already. We got some results of improvement. After using the 7 habits program for 5 years, we had improvements in school: you can see this in this presentation. We were in the newspaper. Can you see the number of monitories in the ppt? It is going down. And this is about the education: it has increased. This is the absence in the school: it is going down (showing photos to me). And the enrollment rate increased. Before the 7 habits, the school was less popular. After the 7-habits program, the school became more popular. Before 7 habits, we had less than 400 students enrolled in schools, but now, it is more than 500. (Interview with teacher 2)

According to the teachers I interviewed, the student misbehaviors has reduced. The frequency to report their misbehaviors to parents, and the visit to school principal for the misbehavior have reduced. Besides these, teachers' job satisfaction, collaboration and professional conversation have increased.

3.3.3. An outstanding place for effective teacher training: A glance at teachers' personal stories

Although the school has been receiving student teachers for several years, the attitudes and perception of teaches towards their profession, responsibilities and mentoring student teachers have not yet been highlighted. The aim of this section is to explore how an innovative school can be an outstanding place for teacher training. In addition to that, through the interviews with schoolteachers, it can be demonstrated how teachers in innovative schools work with student teachers and how they perceive their responsibilities and attitudes towards their profession.

Currently, the school is receiving student teachers from three universities as practicing school. The most intensive collaboration is carried out with the Károli Gáspár University of the Reformed Church. In this case, university teachers and school mentor teachers have close relationship and are continuously in contact to support student teachers in their learning and teaching. University teachers and school mentors discuss regularly student teachers' teaching.

> *University teachers from this university came here. They speak to us asking: how we are working, how we are. We have in-person contact. They asked, "what do you think about this mentee or mentor? How do you work together? And they asked us: if we needed any help and how they could help us, etc. (Interview with teacher 1)*

> *Before the student teachers' practice, during the practice and after the practice, we (schoolteachers and university teachers) collaborate together. And we discuss how the students are, how he or she works? etc. (Interview with teacher 2)*

According to the schoolteachers, the university teachers from the Károli Gáspár University of the Reformed Church are intensively collaborating with schoolteachers in training student teachers. The evaluation of student teachers is also performed through the collaboration of schoolteachers and university teachers. Both partners observe student teachers' practice teaching session to evaluate and give feedbacks to them. When I asked how teachers trained student teachers, their answers showed their attitudes towards their profession and towards student teachers.

> *I think the main thing is we have to show them the beauty of teaching. The main role is to help them so that they don't leave the teaching career. So, the first step for us to help them is to show 'this is very good work. You don't have to work alone, etc. Like*

my colleague (teacher 2) said: they have to find their roles, they should not copy us. It is them; it is not me or my colleagues. My first sentence that I told them is, "I don't know how to teach; but I can show you how I teach". (Interview with teacher 1)

And my colleague (the teacher 1) has her favorite sentence: "You can do everything; you can try everything that you want. Patience won't die. So, try, try, try, till you find out what will work and what won't work". So, they have to try; they have to practice this whole reality. A new topic and a new game: just practice and try. It is a kind of freedom. (Interview with teacher 2)

Through the above responses, the schoolteachers' understanding of the teaching profession, the desire to attract student teachers and sustain them in the career, and their persistence and patience overcoming challenges and issues can be observed. Besides that, the respect, trust and understanding towards student teachers can be seen in the following interview responses:

We have to show them feedbacks about their teaching. But it must not be so critical because we have to increase their self-confidence too. Give feedbacks to them but do not hurt their feelings. We need to balance them. (Interview with teacher 2)

For example, the first question when she came out of her lesson is, 'how are you? How do you feel now? Did you like this lesson? What is good for you' etc. So, everything positive should be started with them. Then they would say it was exciting, etc. We say your lesson was okay and well done, positive. Then we ask, 'if you want to change something, what would you like to change, what you did not like? What you want to omit?', like this. These are reflective questions. A lot of students are very afraid of criticism. This is a sandwich approach; you know that? The first one is positive, then negative, and then positive again. (Interview with teacher 1)

Furthermore, the interview responses of schoolteachers told me that they love their profession, they love their colleagues, they love their school, and they are eager to share their ideas with each other and always try to learn everything.

That is why the students came alone. But we helped them; we showed the joy of teaching, the joy of the school. The joy of a teacher's career because this school is a "joy island" or "bird nest". And we love each other. When student teachers come to

school, they admire the school and are astonished by your collaboration, and they admire the school. (Interview with teacher 2)

There is a Hungarian proverb about the hen laid a gold egg. This school is the hen, and we have a very special situation: we like working, we are successful, we are happy, and we help each other. And we love collaboration. Our school is not a typical Hungarian school. (Interview with teacher 1)

Teachers were giving these responses with laughing and smiling and following each other's responses, I could see that these teachers love their schools and their colleagues. In addition, teachers also shared their experiences about collaboration as follows:

There are a few occasions which are internal training in our school. In August, always, there is a training for colleagues, and sometimes, during the school year, there are a few internal pieces of training as well. It is very important that we share knowledge, and there is the transfer of ideas; we have internal networks in the school and other networks, we share many PPT, discussions, everything because the most important message in this school is knowledge sharing. For example, I have an idea, but it is not just me. We need to share it with others. (Interview with teacher 2)

We do this not only with our colleagues. We also do it with student teachers as well. For example, I am a mentor teacher, and student teacher comes to me to observe my lessons. She has access to every class of mine, and she can choose which class or lessons she wants to observe. But he or she can visit other colleagues' classes as well. For example, the same class with different lessons or the same class with different teachers; how it works because, for example, English is very good, they may know everything about English. But they may have difficulties with mathematics, so whatever they want. And our colleagues allow student teacher to observe their lessons, not only observing my lesson. For example, we are the mentor teachers, and our colleagues are not mentor-teachers. But we worked together with our colleagues to help student teachers (Interview with teacher 1)

Besides receiving student teachers in the school, the principal and the teachers also collaborate with universities and other schools also for continuous professional development.

I did the presentation at university because I am an external invited teacher. Just for a few occasions. My school director also did, she gave presentations to novice teachers as well. And in one high school, Europa 2000 high school, I am a trainer and external expert. I saw/observe open lessons in this school because I worked with them, I kept the training of 7 habits to the class teachers. (Interview with teacher 2)

All of the interview responses showed the teachers' advanced-level intellectual understanding of teaching and learning. The school become an important source for training student teachers in the country because of their innovative 'leader in me' program and teachers' proficiency in teaching.

3.3.4. Obstacles

Regarding the obstacles, teachers mentioned the changing conditions of the school. Because of the reduction of the school budget as well as increase in teacher workload, teachers cannot make the 7 habits lessons once a week. Although, they cannot arrange once a week, they are putting the 7 habits concepts in some of their lessons regularly.

Nowadays, 7 habits lesson once a week is not anymore possible. No money and no time. (Interview with teacher 1)

Because of the new regulation. In old times, the owner of the school was municipal, but now, it has become the state and every day is getting worse and worse. So, we don't have this anymore. But we still have 7 habits in the lessons. But not a special lesson in a week. So, we built 7 habits in a mathematics lesson, and so on. So, in every area of discipline, we have seven habit messages. (Interview with teacher 2)

The teachers also did not satisfy with one of the famous universities in Hungary in the collaboration in student teachers' training.

This university has no collaboration culture. They just sent an email to us like "some student teachers will come to you". Just this. Nobody checked the student teachers' final teaching. I made a recording on my phone. It is a famous university, but we have never met a university teacher from that university. Never. Nobody came here. Only student teachers came to our school. (Interview with teacher 1)

In addition, the timetable negotiation between universities and schools seems to be an obstacle among teachers.

The timetable is very difficult to negotiate. We have a timetable, and the university have a timetable. It is very difficult to organize. You know that student teachers also have short teaching practice in schools. During this short teaching, they also have to go to university. So, after school, they have to run at the university. They are always in a hurry. They don't have time to talk before and after the lessons. When they have a long practice teaching, they spend in school for 6 or 7 hours a day. So, we have more time to prepare a lesson, to discuss a lesson and while student teachers doing teaching, I can observe, and after the lesson, we can discuss. (Interview with teacher 1)

3.4. Concluding thoughts: What can we learn about SUP from Hungarian case?

From the two Hungarian school cases, several functional areas of SUP can be observed: SUP for school improvement, SUP for teacher learning and professional development, SUP for generating and spreading innovation and SUP for university improvement. In the case of Hejőkeresztúr school, SUP has played a significant role in spreading and generating educational innovation. The spreading of the innovative pedagogy method called KIP would not be successful nationwide without the collaboration between schools and teacher training universities. Due to the collaboration between schools and universities, KIP is spreading nationwide to support disadvantaged schools and teacher learning and professional development in these schools. Another important factor that can be seen in the Hejőkeresztúr school case is that both partner organizations understand the limitation of their access to academic communities and spreading knowledge to those communities. This awareness of limitation of knowledge and access to reach target communities motivated the partners to collaborate intensively. On the other hand, the university opened a KIP methodology center and asked the school principal and her teachers to be lecturers for the KIP methodology. The awareness of each other's limitations made the SUP in this case successful and sustainable for a longer term.

Another important information what we have learnt from the Hejőkeresztúr school is intrinsic motivation. The SUP for the KIP methodology is a bottom-up partnership initiatives in which the school principal has been eager to promote education and teacher education in the country. This strong desire led her to initiate the collaboration with universities. Since this partnership was built from the inner desires, it became successful. Moreover, the attitudes and perception of the school principal played a major role. As mentioned earlier, her eagerness and passion towards her profession created successful

and sustainable partnership in the country. Besides, the school principal clearly mentioned that the partnerships among schools and with universities cannot be successful if the partners do not feel that it is essential for their improvement. The school principal gave examples of some schools participating in collaboration because of the top-down implementation, not because of their own desire.

In Csaba Kesjár Primary School, the SUP is obvious in supporting teacher learning and professional development. In this case, one can observe how outstanding schoolteachers can become the major trainers of prospective teachers. The professional attitudes and passion of schoolteachers and the way they train student teachers are good examples to learn. The schoolteachers have outstanding professional knowledge and particularly positive attitudes toward their student teachers as well as towards their profession. As the interviews show, they respect their profession, their duties and they are eager to promote the prospective teachers' professional identity. Besides this, the schoolteachers are occasionally invited to universities as external lecturers to train student teachers for innovative pedagogy, especially for the 'leader in me' program. This school showed how the innovative schools can become outstanding places for training prospective teachers through their innovative teaching approach. Teachers proved to be intelligent and proficient in training student teachers to maximise their learning. The intensive collaboration between schoolteachers and university teachers is remarkable in the case, although not with each partner university. The partners discuss issues and challenges regarding student teachers' teaching and learning at schools. They also observe and evaluate the student teachers' teaching together. This kind of partnerships can be observed typically in highly developed education systems and is recognized as 'an advanced level SUP'. Although Hungary is not a highly developed nation, in the case of some innovative schools, advanced partnerships have already been implemented in the country.

Both school cases showed 'alternative teaching' activities in which the schoolteachers are teaching at universities providing lectures for student teachers and in the program of in-service teachers' professional development. On the other hand, they also showed that alternative teaching could be a good idea to implement and to promote teacher education. These two Hungarian school cases suggest that SUPs are sustainable and successful when initiated through bottom-up motivation. Stakeholders' attitudes and

perceptions are extremely important in establishing and implementing partnerships. Both cases also proved that schools could be efficient sources for teacher training and educational innovations. This also highlights the need of SUP for generating and spreading educational innovation. Developing countries like Myanmar can also learn innovative pedagogies like KIP and the 'Leader in me' program. Although both schools face obstacles in collaborating with universities, they have proved they can overcome those obstacles and cope with tough situations.

CHAPTER 4: MYANMAR, THE STUDY CONTEXT

Since the scope of this study focuses on SUPs in Myanmar, it is also worth mentioning the country itself. Therefore, this chapter provides background information about the country and its educational system in the past and present times. The teacher education system will be briefly presented, including learning pathways and how quality teachers are assured, such as teacher licensing. The SUP in teacher education in the country will also be discussed through recent educational reforms and the initial pilot findings.

4.1. A brief introduction to the country: background information

Myanmar is the largest country in mainland Southeast Asia, and it is strategically located between the economic hubs of China, India and ASEAN countries (Ministry of Education, 2016, p. 32). According to the 2014 census, Myanmar has a population of 53.9 million (Ministry of Education, 2016, p. 10) and annual population growth of 0.89 per cent (p. 10).

Myanmar was one of the richest countries in Asia during the 1950s (Hays, 2014; Ulla, 2018). At the end of the colonial period in 1948, Myanmar's education system was one of the tops among many neighbouring countries, with an adult literacy rate of 60%. The government tried to create a literate and educated population, and the country was on its way to becoming the first Asian Tiger (Hays, 2014; Ulla, 2018). However, after the military coup in 1962, the country's education system went on a long-term decline, and the country was isolated from all international relations and impoverished. All the schools were nationalized, and Burmese was replaced as the medium of instruction at universities in 1965, leading to a rapid drop in English proficiency in education. As a result of more than 50 years of military dictatorship, Myanmar has become one of the poorest nations in the world. Its educational system was in extremely poor condition reaching the bottom of the ASEAN countries' league table for educational enrolment, achievement and investment (Borg et al., 2018; Haydena et al., 2013; Ulla, 2018).

This situation changed in 2010 as the first general election happened, and the country transitioned from military rule to civilian democracy, redirecting its situation from decades of international isolation and conflicts (Borg et al., 2018; Hardman et al., 2014; Ulla, 2018). During those days, Myanmar was returning to the global economy and introducing reforms in education with expanding economy and growing trade and investment. This period was the time when the country developed optimally in all sectors,

especially in education. Until February 2021, the country was in the right direction with several reforms and partnerships with other foreign investors. However, the country has been in a tragic situation since the military coup happened again in February 2021. Most of the international projects and foreign educational investors quit from the reform projects during these tragic days. Nowadays, the country is struggling with an unstable economy and education, internal conflicts with ethnic minorities, and protests fighting for democracy.

When the studies of SUP for this dissertation started in 2018, it was the time that the country paid special attention to education and its reforms. The pilot studies and the interview data collection of the main study happened before and at the beginning of the military coup. Therefore, most of the respondents of the data collection explicitly mentioned the country's several educational reforms. Therefore, I decided to include information about educational reforms in a later section of this chapter. It is worth mentioning the educational reforms, especially in the areas of basic education and teacher education, because school-university cooperation frequently appeared in these areas. Although some international projects have stopped and some reform areas are currently in stagnation, the basic education curriculum reform and teacher education reform directly connected to this study are ongoing in the country. Therefore, information and data provided by this study are still relevant in the country.

4.2. Teacher education in Myanmar

Before presenting cooperation and partnerships between schools and universities in Myanmar, the field of teacher education will be presented. In this section, two key elements of the field will be covered in the following order: (i) learning pathways to enter the teaching profession, and (ii) assuring quality teachers: teacher licensing (UNESCO, 2016). The purpose of presenting this is to support a better understanding of the background of the emerging area of SUPs in Myanmar.

4.2.1. Learning pathways to enter the teaching profession

Although there are several pathways to becoming a teacher, one requirement is that all teachers hold degrees and have finished at least a four-year degree program. There are three different types of institutions in Myanmar that offer teacher education: (i) University of Education (UOE), (ii) the University of Development of National Races (UDNR), and (iii) Educational Colleges (ECs) (UNESCO, 2016). Before acceding to the above

education institutions, the requirement is to graduate in the upper secondary matriculation exam. According to Lall (2020), these teacher training institutions produce around 10,000 teachers annually.

1. Two Universities of Education (UOEs) provide a five-year Bachelor of Education (B.Ed.) degree qualifying teachers to teach in high schools. In early 2015, these UOEs were upgraded from Institutes of Education (IOEs) in accordance with global trends. Recently, the fifth year was introduced to accommodate a year of research
2. The University of Development of National Races (UDNR) supports free teacher preparation to ethnic minorities
3. 22 Education Colleges (ECs) give a four-year B.Ed. degree qualifying teacher to teach in primary and middle schools, and these ECs are affiliated with UOEs. (UNESCO, 2016; p.18)

From the three types of institutions above, ECs were upgraded to a four-year degree program in 2019. Before EC became a degree-granting institution, 'a two-year Diploma in Teacher Education (DTEd)' was the primary route into the profession. Although DTEd permitted student teachers to work in middle schools, they were required to begin their careers as primary school teachers. They could be promoted to become junior teachers in middle school after working as primary teachers for five years. Since initial teacher education reforms have been implemented, education colleges have transitioned from two-year to four-year degree programs. Since 2019, a revised curriculum has been used in education colleges.

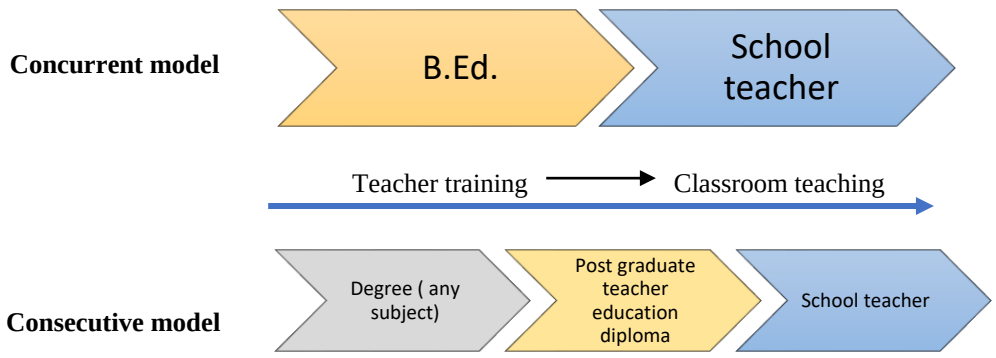
In the case of UOEs, these five-year courses allow student teachers (STs) to become a senior teacher in upper secondary school. To join these UOEs, the students are required to have high scores in their upper secondary matriculation exam. For example, to apply for teacher candidates at UOEs (five-year courses), the students need to get a minimum score of 450 out of 600 in their matriculation exam (UNESCO, 2016). In addition, they must score over 60 out of 100 in English and mathematics subjects. On the other hand, to become a student teacher at ECs, the students need a 400 out of 600 in their matriculation exam. Higher scores attract outstanding students to teaching career (UNESCO, 2016). Moreover, the students must take an entrance exam and interview to

apply to these educational institutions. According to UNESCO (2016), the entrance exam intends to test students' basic knowledge and English proficiency, while the interviews intend to investigate students' commitment to teaching.

The learning pathways are categorized into two models: (i) concurrent model and (ii) consecutive model (UNESCO, 2016; p.19). In a concurrent model, the student teacher gets an education-focused degree (Bachelor of Education, B.Ed.) by studying subject matter and pedagogy simultaneously. In a consecutive model, the student teacher earns a subject-specific degree firstly, then study pedagogy to become a schoolteacher. The overview of these different teacher education learning pathways is shown in ***Figure 9***. While education colleges (ECs) provide the four-year B.A (Education) and the post-graduate diploma, UOEs provide the five-year B.Ed. and further degree qualifications, such as a Master or PhD (UNESCO, 2016). Besides the above courses, two-year B.Ed. in-service correspondence course is also provided in ECs and UOEs.

In addition, Postgraduate Diploma in Multi-media Arts (PGDMA), Diploma in English Language Teaching Methodology (Dip ELTM) and Diploma in Early Child Care Development (Dip ECCD) are also offered by centre for Human Resource Development Programme in UOEs (see http://www.yuoe.edu.mm/?page_id=101).

Figure 9: Overview of teacher education learning pathways



Source: UNESCO (2016)

4.2.2. Assuring quality teachers

Successful graduates from these teacher institutions obtain ‘a degree certificate’ at the conclusion of their studies to begin the teaching profession. According to UNESCO (2016), the first year of teaching is regarded as an ‘induction year of the teaching

profession', which has not been well-recognized yet in Myanmar. However, the policy concerning this induction into the teaching profession has been discussed. After successfully passing this induction year, novice teachers have a license to teach for five years.

To ensure the quality of teachers' qualifications, all teachers must show that they maintain the expected quality every five years (UNESCO, 2016). This is guided by the 'Teacher Competency Standard Framework (TCSF)' developed in 2015-2016 by a group of national experts and UNESCO education specialists. This TCSF will be used not only to assess and train pre-service teachers but also to be the basis of professional development through teaching careers.

4.3. School-university partnerships in the country: how far the country goes?

Unlike other countries where SUPs are strongly encouraged and dominant in teacher education, Myanmar does not have a clear and strong vision about collaboration between schools and universities. Occasionally, there is collaboration between schools and universities to assure the practical part of initial teacher education and also when teacher professional development training is needed to perform according to national or state-level plans. However, intensive and regular collaboration between schools and universities is missing.

Recently, the report published by UNESCO in 2016 showed interest in SUP, declaring that SUP is important in preparing student teachers and promoting their continuous professional development. As stated earlier, the MOE has upgraded and improved Myanmar's education since the country changed to democracy in 2010. To change the education system in the country, MOE implemented the 'National Education Strategic Plan (NESP) for the period 2016-2021' to give a 'roadmap' for sector-wide education reforms. Partnership is mentioned in the NESP report in a statement regarding teacher education and management encouraging it for initial teacher education:

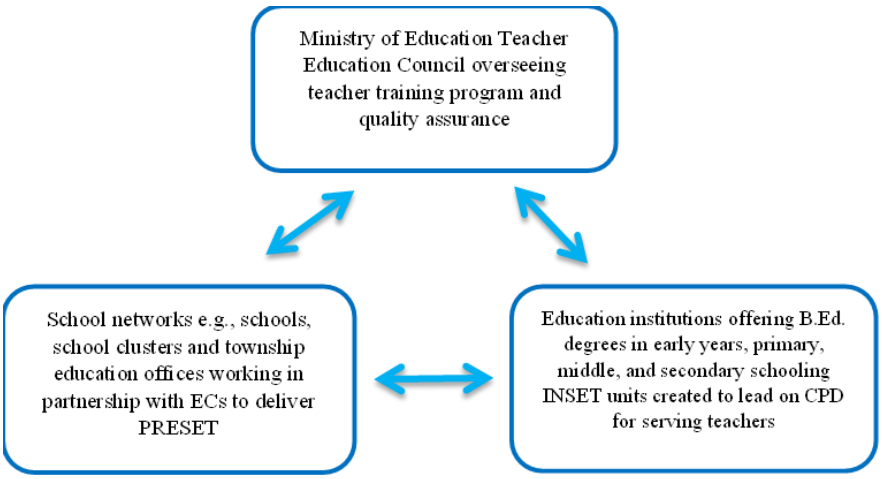
> *School partnerships and reform of block teaching and practicum to ensure that teacher trainees have the opportunity to apply their learning and gain essential feedback and advice as they develop their teaching practice (p.146)*

Besides this, the emerging future of networking and collaboration among schools is stated as follows:

> *To provide professional, long-term in-service professional teacher training and mentoring support to teachers from a designated cluster of schools within each township (p.151)*

The report not only mentioned partnerships but also highlighted that SUP could be considered as a significant element in building the new education system in the country and to support teacher education. According to Hardman (2013), few teacher education universities and colleges had intensive partnerships with schools in the areas of teacher education in Myanmar. Due to this, 'an enhanced partnership model' was proposed connecting the MOE, the Education Colleges and schools (Hardman, 2013). (See ***Figure 10***)

Figure 10: Enhanced Partnership Model



Source: Hardman (2013)

According to this 'Enhanced Partnership Model', the closer collaboration between teacher training institutions and schools to bridge the gap between theory and practice for pre-service education and training of teachers (PRESET) is encouraged. The roles and responsibilities of teacher training institutions and the MOE in implementing the partnerships has also defined in this model (Hardman, 2013). Besides PRESET, in-service teacher education and training (INSET) are also encouraged to be improved through intensive partnerships between the MOE, schools and teacher training institutions (Hardman, 2013).

4.4. Understanding SUPs in Myanmar from the perspective of basic education reforms

As stated, SUP was neglected in the country and had been noticed only recently by MOE when the reform process was started. This dissertation will be the first study exploring the country's SUP practices. Therefore, to understand the current status of SUPs and their emergence in Myanmar, it is important to understand the education reforms context in the country. Furthermore, I believe that understanding the education reforms in the country will also offer a deeper understanding of the multi-functionality of SUPs in education, especially how SUPs could play a crucial role as a developmental tool in the transformation of education system. Therefore, I decided to include this 'SUPs-related basic education reforms' in this section. First, I will briefly explain basic education reform in general, and then, the two sub-reforms areas of basic education: curriculum and teacher education reform, will be followed.

4.4.1. Basic education reform: a brief introduction

Many educational development plans and reforms had been implemented also under the military rule, although most did not actually lead to significant improvement. Under the military rule, government implemented a 30-year long-term education plan (2001-2030). In 2002, the country also signed UNESCO's 'Education for All strategy which influenced its National Plan for Action (EFA NPA)'. After this commitment, the child-centred approach (CCA) was also implemented as the very first education reform in the country with the aid of international agencies (Lall, 2020).

When Myanmar transitioned from military rule to civilian democracy in 2010, this period was the beginning of many educational reforms. As the country had been isolated from the outside world for several decades, many sectors needed to upgrade and improve. The education sector was one of the priorities for the new government to make rapid improvements and changes for quality education and to produce human capital. The major and first step for such reform can be traced back to the birth of 'The comprehensive education sector review (CESR)'. The CESR was launched in July 2012 through the cooperation between '*the government and development partners after a conference on development policy options with special attention to the health and education sectors*' (Lall, 2020, p. 65). It was the first step of educational reform in Myanmar to investigate the strength and weaknesses of the country's education system. The CESR was conducted in a three-phase process to have a comprehensive understanding of the education status

in Myanmar. It involved the following three phases: *'a rapid sector assessment (Phase 1); in-depth research and analysis of critical sub-sector challenges (Phase 2); and drafting and building of an evidence-based and costed National Education Strategic Plan (NESP) for the period 2016-21 (Phase 3)'* (Ministry of Education, 2016; p.10).

In recognition of education as a critical building block for nation building, and sustainable development, NESP set the nine transformational shifts to the achievement of its goal '*Improved teaching and learning, vocational education and training, research and innovation leading to measurable improvements in student achievement in all schools and educational institutions'* (Ministry of Education, 2016, p. 10). NESP strongly focused on basic education, recognizing that this sector provides education opportunities for more than 9.2 million students across the country (Ministry of Education, 2016). The five sub-reform areas related to basic education included *'(i) preschool and kindergarten education, (ii) access, quality and inclusion, (iii) basic education curriculum reform, (iv) student assessment and examinations, and (v) teacher education and management*' Ministry of Education, 2016; p.87).

Among these sub-reform areas of basic education, 'basic education curriculum reform' and 'teacher education reform' will be presented in detail because this study on SUPs relates particularly to these two reforms areas in the country.

4.4.1.1. Basic education curriculum reform

One of the significant and major reforms in basic education was curriculum reform. Even though Myanmar had revised its national curricula and syllabuses for primary education to high school education during the 1990s, it did not meet the emerging local needs (Lwin, 2019). The first step of curriculum reform was started when the MOE began a thorough evaluation of the basic education curriculum for Grades 1 through 11, following the CESR research and Education Working Group policy review. This first step was to upgrade and improve the basic education curriculum '*to be more relevant to student's lives by emphasizing 21st-century abilities, soft skills and higher-order thinking skills'* (Ministry of Education, 2016, p. 18).

The MOE set the vision statement for the basic education curriculum: *'all school children develop knowledge, skills, attitudes and competencies relevant to their lives, and to the socio-economic development needs of 21st century Myanmar'* (Ministry of Education, 2016, p. 58). In order to achieve the above transformational shift (vision

statement), MOE outlined the strategies to process its reform; '*(i) redesign the basic education curriculum emphasizing 21st-century skills, (ii) build the professional capacity of curriculum development teams (CDTs), (iii) implement the new curriculum'* (Ministry of Education, 2016; p.87).

To support the implementation of the new basic education curriculum, MOE put the curriculum development section under the Department of Educational Research, Planning and Training (DERPT). The curriculum section worked closely with officers from the Department of Basic Education (DBE) and Department of Higher Education (DHE) – Teacher Education Section. This was the beginning of school-university cooperation at the top level, from drafting a 'curriculum scope and sequence' to disseminating it to the whole country. The Japan International Cooperation Agency (JICA) was the development partner responsible for primary level curriculum and textbook content reform under the project titled 'CREATE: Project for Curriculum Reform at Primary Level of Basic Education', initiated in 2014 (Lall, 2020). The project involved 40 Japanese and international curriculum experts as well as over 60 national academics and experts (p. 87). The Asian Development Bank aided the secondary basic education curriculum.

The MOE first drafted a detailed curriculum scope and sequence document covering Kindergarten to Grade 12, focusing on each grade and area of learning. Then, a subject-wise curriculum framework was developed to cover standards, skills and competencies of each subject. After that, the development of syllabuses started. Based on the scope and sequence document, curriculum development teams (CDTs) started to develop textbooks and teachers' guides which were the main references of teachers for the teaching and learning process. The completed '*textbooks were reviewed and approved by the National Curriculum Committee (NCC), which included 15 members to review new curricula in order to meet international standards'* (Lall, 2020, p. 81). These newly developed textbooks and teachers' guides have been piloted in some selected sample of schools to explore if it is relevant and suitable for Myanmar's diversity across the country. The members of CDTs were basic education schoolteachers, university teachers/professors and retired professors, education officers, curriculum specialists and researchers from the Department of Basic Education (DBE) and the Department of Educational Research, Planning and Training (DERPT) and Department of Higher

Education (DHE). In this stage, the communication among university academics and schoolteachers was intensive. Since groups of schoolteachers, university teachers and academics worked together closely, they shared their knowledge, practices and opinions about teaching and learning, which led to intensive communication between schools and universities.

After the textbooks and teachers' guides were ready to apply, the training of teachers to teach new curriculum content and pedagogy listed in teachers' guides and textbooks started. For this, a series of cascade training courses were implemented. First of all, curriculum section staff who were members of CDTs, trained the core trainers. Then, these core trainers rolled out the nationwide training by training schoolteachers in each of the country's township areas. To understand better the role of school-university cooperation, three groups of CDTs members will be identified later in this study, in function of their roles. These three groups are CDT developers, CDT trainers and CDT trainees. Their specific roles and explanation can be found in the research methodology section (See 5.3.2.2. Participants).

4.4.1.2. Teacher education and its reforms

Myanmar has collaborated with development partners since the country changed to democratic in 2010. The country invited foreign experts and development partners to improve the overall teacher education system focusing on teachers' qualifications aligned with the new basic education curriculum and competency framework. After 2010, the Ministry of Education (MOE) started teacher education reform prioritizing teacher education, particularly reducing uncertified in-service teachers and ensuring the quality improvement of schoolteachers throughout the country (Lall, 2020). The MOE has identified the following transformational shift in its vision statement: *'teacher support, develop and apply interactive classroom teaching and learning benefiting all students'* (Ministry of Education, 2016; p.143). In order to achieve this goal, three strategies have been defined; *'(i) strategy 1: strengthen teacher quality assurance and management, (ii) strategy 2: improve the quality of pre-service teacher education, (iii) strategy 3: improve the quality of in-service teacher professional development'* (Ministry of Education, 2016; p. 89).

There were some initiatives to reform the education system in the country before the 2010 political shifts. However, as we mentioned earlier, the first and foremost

program which paid attention to teacher education and improvement of teacher qualifications during this period was the JICA project, 'Strengthening of Child-centred Approach (CCA)'. The project's major aim was to implement and extend CCA practices in Myanmar schools. To fulfil this aim, the project provided training to basic education schoolteachers to be familiar with the CCA concept and practice it in real classroom situations (Wai, 2009).

In the first half of the twentieth century, Yangon University, founded in 1920, was the only university providing a teaching diploma for teachers. Faculty of education was founded in 1922 under Yangon University, and in 1931, the first teacher training college was opened (see http://www.yuoe.edu.mm/?page_id=101). However, due to political conflicts and protests, teacher education in Myanmar remained a neglected area, especially after 1971, when all pre-service teacher training stopped. Moreover, although teacher training colleges were re-opened in 1998, the government has neglected the teacher education sector. According to Lall (2020), the teacher education system has been virtually unchanged for almost 20 years.

Moreover, the country did not have any framework or comprehensive teacher education policy for teachers to follow and check the professional standards they were supposed to meet. Therefore, Teacher Competency Standard Framework (TCSF) was initiated and developed by collaborating with a group of national education experts and UNESCO education specialists in 2015-2016 (Lall, 2020; Myint & Win, 2016). UNESCO's Strengthening Teacher Education in Myanmar (STEM) project gave technical assistance for developing TCSF (Lall, 2020, p.165). According to Myint and Win (2016), the main aim of developing TCSF was:

> *To establish an agreed set of teacher competency standards to support improvement in the quality of teachers and teaching in Myanmar. (Myint & Win, 2016)*

The TCSF framework was the output of 14 members of a working group, specifically teacher educators from the University of Education and representatives from Education Colleges in Myanmar. The pilot testing for the framework started in 2016, involving 76 test sites that collected data from student teachers, teacher educators, schoolteachers, head teachers and principals. According to Ministry of Education (2017), the competency standards are used to assess and train pre-service teachers and to be the basis of professional development through teaching careers.

A school-based teacher education project (SITE) was funded by '*a consortium of British, Australian, Danish and Norwegian aid agencies'* which aimed to develop schoolteachers' '*pedagogical skills and reflective, child-friendly teaching practices'* (Lall, 2020, p. 182). In addition, this project also aimed to improve teachers' collaboration with other teachers in which experienced teachers helped younger and less experienced teachers in inter-school clusters. Local staff such as teacher educators, township education officers (TEOs), provided this capacity building through '*cluster-based, in-service training and monitoring visits'* (Lall, 2020, p. 183). Therefore, local education college teacher educators were collaborating with TEOs, school principals and schoolteachers in this SITE project.

Simultaneously with in-service teacher training through the SITE project, there was training for teacher educators through 'The English for Education College Trainers (EfECT) project'. The Government implemented the project which was co-funded by the British Council and the UK's Department for International Development (DFID) (Borg. et al., 2018). According to Borg. et al. (2018), it had four main objectives: *'(i) improving teacher educators' proficiency in teacher training colleges, (ii) developing classroom teaching skills, (iii) developing their teacher training competence, and (iv) giving them greater access to and having an understanding of how to utilize modern resources and materials*'. The project included 2200 teacher educators from 20 education colleges and two teacher education universities across the country. Besides supporting teacher educators' English proficiency, EfECT provided a teaching methodology course focusing on learner-centred approaches and developing critical thinking skills (Lall, 2020). EfECT has gained significant success among teacher educators, building their capacities. A mid-project review (2015-2016) showed that 97 % of teacher educators had improved their English proficiency, and 77% of teacher educators had improved their teaching competencies (Lall, 2020). As a result, EfECT was replaced by TREE (Towards Results in Education and English 2019-2024), a project aiming to improve teacher educators' teaching qualities and academic oversight of management staff in teacher education institutions (see https://devtracker.fcdo.gov.uk/projects/GB-CHC-000391-GB-CHC-209131-A05670/summary). TREE had four workstreams: *'supporting the continual professional development of teachers and teacher educators; improving English proficiency; strengthening the education system, partnerships for education and teaching practice; and supporting inclusion, especially disability inclusion'* (see

https://devtracker.fcdo.gov.uk/projects/GB-CHC-000391-GB-CHC-209131-A05670/summary).

Meanwhile, parallel with the in-service teacher training and teacher educators' training, the reform also started in initial teacher education. The UNESCO's 'Strengthening Pre-Service Teacher Education in Myanmar' (STEM) project was a five-year project focused on transforming/reforming the teacher education curriculum in education colleges (Lall, 2020). Project Phase I was initiated in 2014 with the help of the Australian Government. Phase II began in 2017 and was funded by the Governments of Australia, Finland and the UK (UNESCO, 2020). Phase III started in 2020 and was planned to go on till 2023. Collaborating with MOE, STEM has focused on four major issues in initial teacher education:

i. developing a policy framework of initial teacher education and providing technical advice on formulating teacher policies and a competency standards framework
ii. improving Education Colleges' systems and operations by restructuring and redesigning the curriculum and building knowledge sharing networks
iii. developing Education Colleges' institutional and human-resource management capacities
iv. promoting inclusion and equity issues in initial teacher education (UNESCO, 2020; p.6)

SUP emerged during the SITE project and the development of teacher competency standard framework. However, the communication between schools and universities was not as intensive as in the framework of the basic education curriculum reform.

4.5. Understanding SUP through the initial findings of the pilot study

Before the main study, I conducted pilot studies in 2019 to explore the country's current practices of SUPs. The pilot study aimed to have an initial understanding of how schools and universities collaborate in improving teacher education and the level of communication among schools and universities. Furthermore, the pilot study intended to support the main study in developing interview questions and drafting the survey questionnaire. Therefore, I conducted three kinds of data collection for pilot studies as follows: (i) observation, (ii) focus group interviews, and (iii) individual interviews. Observation included student teachers' practice teaching at one partner school, teacher

educators' (TEs) demonstration, and student teachers' (STs) peer group teaching (PGT). ***Table 4*** shows the number of data collection for the pilot study.

Table 4: Pilot study data collection

Types of data collection	Role	Number
Observation	Demonstration of TEs	4 sessions
	Peer Group Teaching (PGT) of STs	2 sessions
	Practice teaching of STs	One partner school
Focus group interviews	One group of Student teachers	3 STs
	One group of TEs	3 TEs
Individual interviews	STs	3
	TEs/University teachers (UTs)	3
	Mentor teachers (MTs)/schoolteachers (SchTs)	3

The initial pilot findings helped me to structure the interview questions and draft survey questionnaires. In addition, the pilot study gave me an understanding of current SUP practices in Myanmar, such as how student teachers were trained, what collaboration activities had been established between schools and universities, and the participants' awareness towards SUP. In the following section, I will summarise the initial pilot findings.

4.5.1. Observation

4.5.1.1. A demonstration or simulated teaching

Observation of teacher educators' demonstrations took place in one education college in Yangon Region, Myanmar. Demonstration, also known as simulation, is defined as 'teacher educators teach the school children in the college/university setting by creating a real classroom environment which allows student teachers to observe while teacher educators' teaching children'. In the demonstration, the STs can freely observe and take notes while TEs' are doing the simulated teaching. The main purpose of this activity is to allow STs to observe real classroom teaching and activities before they do their practice teaching during the summer holidays or semester break.

Usually, for the university of education, practicing high school is situated across from the university. At the time of the demonstration, schoolteachers from practicing high school bring their children (fifteen or twelve) to university lecture rooms. Student teachers observe university teachers' (UTs) simulated teaching and can ask questions to the UTs after the demonstration. In education colleges (ECs), practicing schools are usually located within the colleges' compound. Hence, there is no special transportation needed for this whole process. Like the demonstration at the university, schoolteacher brings their

children to the common hall of ECs, and STs observed the teaching there. Unlike universities, most of TEs' demonstrations in ECs can be observed by all the STs from the first to final years. In university, only one cohort (1st year or 2nd year, etc.) can only observe the demonstration due to space difficulties or lack of resources, etc. I observed two days of TEs' demonstration in one EC in the Yangon Region. In total, there were 4 sessions of demonstration, two demonstrations in one day. The purpose of observing this demonstration was to explore how schools and ECs collaborate and how schoolteachers and university teachers prepared lessons togethers to do this simulated teaching for STs.

First of all, I would say that demonstration was very successful in teaching STs. The demonstration of TEs was observed by all STs as well as all TEs from the whole college. After the demonstration, the students got the chance to ask questions to the TEs, and I found that STs enjoyed the demonstration very much. The questions came not only from STs but also from colleagues. The principal of EC was also observing and managing the demonstration. The first part of the demonstration was done on the hall floor; however, the later session was demonstrated at the hall stage due to STs' complaints that they could not see them well. Overall, the demonstrations of TEs were outstanding, using different teaching methods, interactive classroom activities and motivating questions to children and STs. STs eagerly participated in Q & A sessions and shared their experiences. One student teacher mentioned when I approached him informally:

> *This demonstration is very important to us. As a first-year student, I have never been in real classroom teaching as a teacher. But now the teachers are doing this demonstration, and I can see how the interactive teaching should arrange.*

Nevertheless, my observation of exploring SUP did not grasp much information. Informal conversations with schoolteachers who brought their children to EC mentioned that they never prepared lessons with TEs. Regarding the demonstration arrangement, the college informs the schools of the date and time before two or three days of the event. For the subjects, the TEs choose the subjects according to their subject specialization.

> *When TEs wanted to do a demonstration, they gave us the demonstration dates. Then they asked what lessons or chapters we are currently teaching at schools, and they negotiated with us to teach one lesson. We never prepared these lessons together.*

During observation, one schoolteacher was also observing the TEs' demonstration at the back of the hall. When I engaged in informal communication with this schoolteacher, she mentioned:

> *No regulations or rules were saying that we must observe TEs' demonstrations. So, you can observe and see if you want to know what is happening there. I am curious about how they are teaching. So, I am observing here.*

On the other hand, another schoolteacher went outside and talked on her phone while TEs were doing their demonstration. She showed no interest in observing TEs' demonstration during the whole time. During the Q & A session of the demonstration, no schoolteachers participated or asked questions. It was found that the only communication between schoolteachers and ECs was taking the school children to ECs and letting the TEs teach the children. Other than negotiations of lessons to teach and setting a date for demonstration, there were few interactions between schools and ECs.

4.5.1.2. Peer group teaching

Another observation was Education college's Peer Group Teaching (PGT). According to Myanmar Context, Peer Group Teaching (PGT) is simulated teaching where STs teach their peers by simulating a real 'classroom' setting. This PGT is observed and evaluated by the teacher educators (TEs) from several departments such as educational theory, educational methodology and academic department. Therefore, the evaluators or observers of each PGT include a group of TEs from different departments. The reason for assigning diverse TEs for each PGT session is to support the collaboration between teacher educators (from different departments), to give feedback and evaluate the STs collaboratively. Since TEs came from different departments, they have different opinions, ideas and suggestions, which are valuable for STs' teaching and learning. Through this combination of teacher educators from different departments, they can discuss together in giving invaluable feedback and pedagogical suggestions to STs. Moreover, through this collaboration, TEs get the chance to learn other department TEs' opinions and ideas.

While observing, I was aware that there was no direct involvement of SUP in this PGT activity. However, I decided to observe these STs' PGT to get information on how TEs collaborated to prepare STs' practice teaching. This PGT was also a preparation for STs to do their practice teaching during the semester break. Therefore, although there was no direct involvement of SUP in this activity, PGT is indirectly connected as this is the

activity for preparation of practice teaching at schools. Therefore, this observation is worth mentioning as a mirror to explore the SUP as a hidden category.

I observed two PGT sessions: (i) ST's PGT for the geography lesson and (ii) another ST's PGT for the mathematics lesson. The PGT setting happened in the lecture room of EC. In this PGE, ST, who is responsible for teaching a lesson, must wear and dress like a real schoolteacher. The other STs in the class became the role of school children. At the back of the lecture room, TEs were observing ST's teaching. At the end of the PGT, TEs gave feedback to STs regarding their usage of words in teaching, teaching methods and strategies, teaching aids and activities, etc.

During one session of PGT, the communication between TEs from the educational and academic departments was interesting. I was sitting next to two TEs; one from the educational psychology department and one from the academic department, Geography subject. While ST was doing the PGT, TE from the educational psychology department took notes. Later then, she showed it to TE from the academic department. Then, these two teachers were discussing at the same time, observing ST's teaching. Finally, after the student teacher finished the PGT, TEs gave feedback regarding teaching methods and contents of the lesson.

4.5.1.3. Practice teaching

For this observation, I went to one 'partner school' where STs were doing their practical teaching for two weeks. Ten STs were allocated to this partner school by the university. Although I did not get a chance to observe STs' teaching in classrooms, I got an opportunity to explore the school environment, the teachers' community and the communication between STs and schoolteachers, as well as the collaboration among STs.

In this school, the private teacher room was arranged and given to a group of STs. The schoolteachers' room was located across from STs' private teacher room. When I talked to schoolteachers, they mentioned this:

> *We gave the STs 'a private teacher room', as we want them to have freedom and privacy in what they do. They are young and active, so we do not want them to feel uncomfortable around us. That is why a private room is given to them.*

During observation, it was found that STs were discussing about preparing lesson plans, teaching aids and methods, etc. Two STs mostly had to teach the same subject in one

school—this arrangement by the university aimed for STs to collaborate as they have to teach the same subject.

I spent two days in this partner school. During these two days, STs only went to the teachers' room when they had something to ask about or negotiate the teaching lessons. Likewise, schoolteachers occasionally came to STs' rooms to ask if STs were comfortable or needed something, etc. However, most of the time, STs were discussing with each other in preparing the lesson. According to this observation, there was very rarely communication between schoolteachers and student teachers regarding lessons, planning and teaching.

4.5.2. Interviews results

I conducted focus group interviews and individual interviews. Participants of the interviews included: (i) student teachers (STs), (ii) schoolteachers (SchTs) and mentor teachers (MTs), and (iii) teacher educators (TEs)/university teachers (UTs). Focus group interviews were done with three STs in their fourth year of studies at Yangon University of Education (YUOE). Another focus group interview was with three teacher educators (TEs) from one education college in Yangon. Face-to-face individual interviews were taken place in one partner school where STs were doing their two-week practice teaching at that time. I did face-to-face interviews with 3 STs, 3 MTs (subject head teachers). In addition, two TEs from education colleges (ECs) and one university teacher (UTs) from YUOE.

According to the interviews, it was found that 'trust building' should be practised between partners, especially in the case of mentor teachers and student teachers. According to interview responses with teacher educators and schoolteachers, 'closeness' was weak between schoolteachers and university teacher educators regarding improving initial teacher education and continuous professional development. The assessment of student teachers was decided through the evaluation sheet filled out by mentor teachers. Universities prepared these evaluation forms. There was no communication between schoolteachers and teacher educators in case of evaluating STs in their practice teaching. For schoolteachers' continuous professional development, there are sometimes formal seminars and training led by the university; mutual learning rarely occurs in those programs. Power relation seems to be a key issue in Myanmar, as most collaborations are university-led.

Consequently, the university took the leading role and got more resources and power than schools. This is also due to the social norms where university teachers were seen as superior or higher ranking in their profession compared to schoolteachers. As a result, research collaboration is very weak in the country. Most frequent research collaboration occurred when university researchers or post-graduate students went to school for data collection.

CHAPTER 5: RESEARCH METHODOLOGY

This chapter presents a detailed explanation of chosen research methodology and its related topics. Specifically, reflection on the research philosophy and discussion on the chosen qualitatively driven mixed-method design will be discussed with the rationale for applying it in this study. Lastly, ethical consideration, as well as limitation of the study, will be explained.

5.1. Research aims and research questions

As mentioned above in section 1.2. Study purpose, the main goal of this study is to have a better understanding of SUP in promoting teacher learning and professional development through its multifunctional roles. Therefore, the following research questions with their sub-questions have been developed to fulfil this goal. I have already presented the research questions in Chapter 1; however, I recalled these research questions again in this chapter as follows:

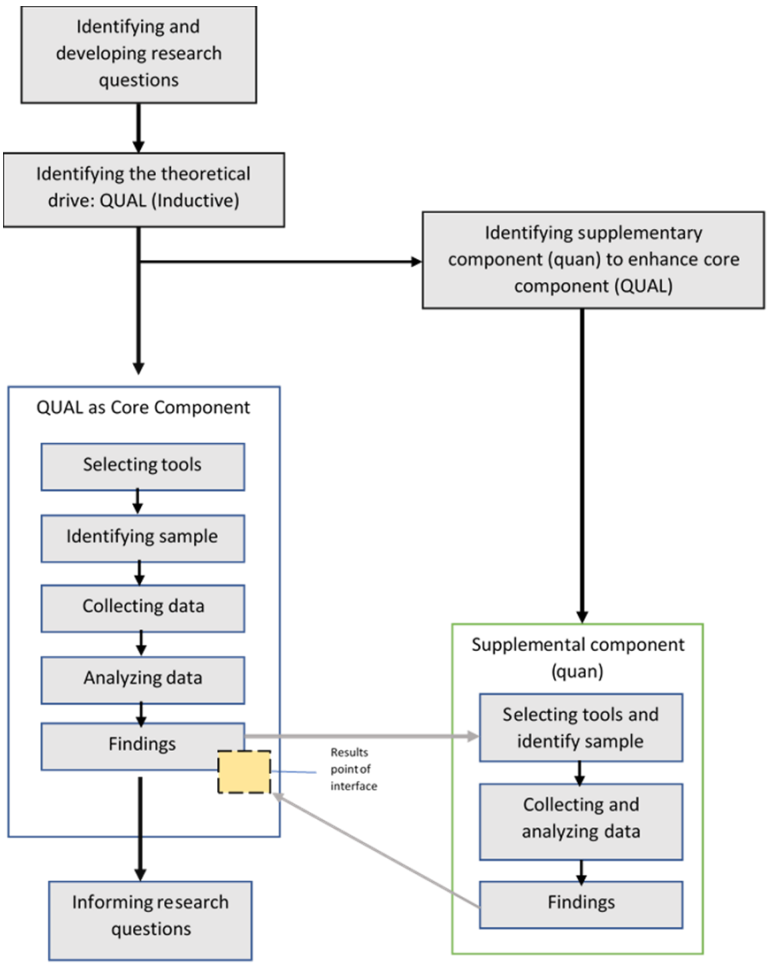
(i) What are the current practices of SUPs in Myanmar?
(ii) What are the conditions considered in determining the success and quality of SUPs?
(iii) What are the challenges of collaboration between schools and universities?
(iv) In what ways are SUPs supporting and stimulating teacher learning?

To understand the nature of the SUP, one must understand its actors because SUP is operated by different stakeholders, different actors and participants. The success and failure of SUPs are shaped by their experiences, knowledge, expectation, and action and vice versa. All these actors are connected, and their learning is also interconnected. Although studies on SUP in teacher education have been developed since the 1980s, the instruments to measure teachers' learning within the SUP have not yet been well-developed. As aforementioned, in Myanmar, where this study intends to investigate, SUPs are under-research or never studied. Due to these considerations, after the research questions had been developed, I conducted 'an armchair walkthrough', which was suggested by Morse (2010) for early-stage researchers to enable them to envision how a project may be implemented before it starts (Morse 1994, Morse 1999, Morse, 2010). Morse (2010) mentioned the benefits of 'an armchair walkthrough' as follows:

> *Doing an armchair walkthrough enables the researchers to envision how the project may be implemented, before investing in the project, by comparing the effectiveness of several methods to address those research questions. (Morse 2010; p. 341)*

Through armchair walkthrough and reflecting on the literature and the complex nature of the study area, I decided to use a qualitatively driven mixed-method design. In this design, the quantitative as a supplemental component will expand, strengthen, and deepen the whole research by answering the additional questions generated by the core component and other possible hidden areas to assist in elaborating and clarifying of overall core qualitatively driven research questions (Hesse-Biber et al., 2015). ***Figure 11*** illustrates the reflective diagram of a qualitatively driven sequential mixed-method design that resulted from the above considerations.

Figure 11: Reflective diagram of a qualitatively driven sequential mixed-method design



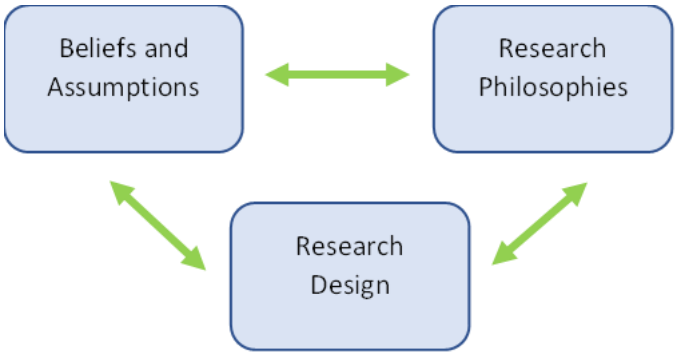
Source: Author, adapted from Morse (2010)

5.2. Reflection on research philosophy for the chosen design

A system of assumptions and presumptions about how knowledge develops is known as research philosophy (Saunders et al., 2016; p.124). Additionally, it directs how the researcher conducts his or her research. This section will discuss the perspective of research philosophy for the selected design.

There are connections between research philosophies, research design, and attitudes and assumptions. Researchers frequently use the beliefs and presumptions of the research philosophy when selecting the study design (Saunders et al., 2016). Conversely, research design can occasionally point the way to research philosophy. According to Saunders and colleagues (2016), researchers should consider their research philosophies in light of 'creating research philosophy: a reflexive process' (see ***Figure 12***). He advised early-stage researchers to reflect on their philosophies and confirm them before beginning their research. Therefore, as an early-stage researcher, I reflected on my research philosophy based on beliefs and assumptions and the nature of the research problem.

Figure 12: Developing research philosophy: a reflexive process



Source: Saunders et. al., (2016)

From the ontological standpoint, there are various beliefs and assumptions about the nature of knowing or knowledge. The three that are most frequently stated are: (i) the assumption that there is only one reality or truth (positivism); (ii) the premise that there are various realities (interpretivism); and (iii) the concept that reality is the practical consequences of ideas (pragmatism) (Saunders et.al., 2016). Regarding the development of knowledge, there are also three assumptions from the epistemological point of view. These include the assumptions that knowledge can be assessed and gathered using trustworthy designs, observable and measurable facts; the second assumption as knowledge needs to be interpreted to uncover the underlying meaning through

perceptions and interpretations, and finally, the third assumption of the epistemological standpoint includes knowledge should be evaluated using whatever tools are best suited to address the problem (Dudovskiy, 2018; Kaushik & Walsh, 2019).

Pragmatists acknowledge that there are numerous perspectives on interpreting the world and how to do research, therefore, the best method to see the reality is finding solutions to the problems (Saunders et al., 2016). According to pragmatism, various realities can be discussed and there is no single perspective to give the whole picture to understand a problem. Dudovskiy (2018) remarked that the most important component of the pragmatist research philosophy is the research question and the research problem. In a single study, pragmatists blended various points of view following the nature of the created research questions. Pragmatists employ whatever combinations of approaches are required to gain access to research questions and fully comprehend the research topic, much like architects who use whatever materials and construction techniques are necessary to build the structure they envisioned on paper (Dudovskiy, 2018). This study uses a qualitatively driven mixed method design because of the pragmatist philosophy (beliefs and assumptions) that this study is grounded on. Therefore, this design will allow for the collection of reliable, trustworthy, and pertinent data to improve the research.

5.3. Qualitatively driven mixed-method design (QUAL→quan)

The mixed-method design combines qualitative and quantitative research design where data from each design are involved in a study (Mills & Gay, 2016) (Morse & Cheek, 2014). The major purpose of using a mixed-method design is to understand better research problems than using only one design (Creswell & Clark, 2017; Mills & Gay., 2016). Given the complexity of the world of SUPs, a mixed-method design is the most suitable design for the current study. Apart from that, this study also explores the teachers' learning and professional development in SUPs. To thoroughly understand teachers' learning, their experiences and thoughts, communication, and interconnection are the important elements of the study. Therefore, I decided to use a qualitatively driven mixed-method design in this study.

Hesse-Biber and her colleagues identified qualitatively driven mixed method design as '*a project that gives privileges to a qualitative approach that forms the core of the whole project with the quantitative approach as a secondary role in mixed methods design*' (Hesse-Biber et al., 2015, p.7). In a qualitatively driven mixed-method design,

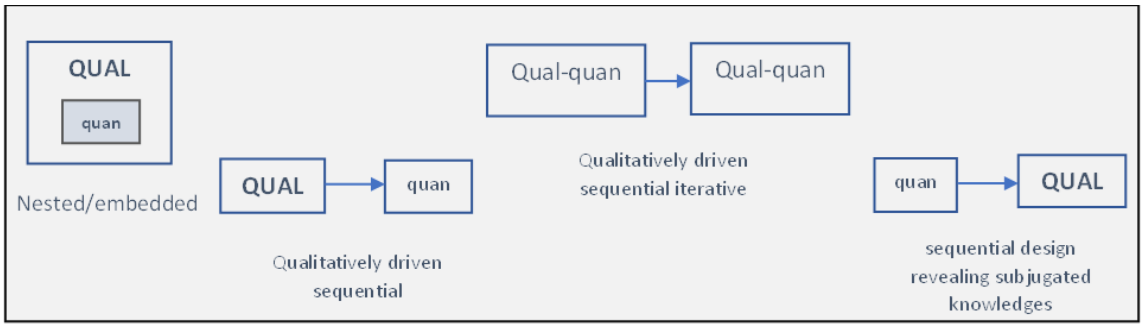
the role of the quantitative approach is to investigate the problem by asking a sub-question or set of sub-questions to elaborate and clarify qualitatively driven research questions (Hesse-Biber et al., 2015). On the other hand, Morse illustrated a qualitatively driven mixed-method design that the 'core component (QUALITATIVE)' is a complete and saturated study, which is complemented with another 'supplemental component (quantitative)'. This supplemental component aims to describe a particular aspect of the research which is not accessible by the core 'QUALITATIVE' method (Morse & Cheek, 2014). According to Morse (2015), 'quantitative' as a supplemental component makes the research better, and broader and adds more depth by answering secondary, accompanying questions.

There are two characteristics of a qualitatively driven mixed-method design. Firstly, the two components (core and supplemental) are related components addressing the same research purpose. The core component is a complete qualitative project, while the latter is a supplemental quantitative part. Secondly, the results of the two components should be integrated, whereas the qualitative component forms the basis of the narrative and the supplemental component adds details or examples (Morse & Cheek, 2014). The key in a qualitatively driven mixed-method design is integrating the results of the two components. This integration is called 'the point of interface', where '*the individual sets of results are combined so that both parts may contribute to the analysis'* (Morse & Cheek, 2015).

Hesse-Biber and colleagues (2015) suggested different examples of qualitatively driven mixed methods designs. They described four different examples of qualitatively driven mixed methods design, including *'(i) nested/embedded mixed methods design, (ii) qualitatively driven sequential mixed method designs, (iii) qualitatively driven sequential iterative design, (iv) qualitatively driven sequential mixed methods design that reveals subjugated knowledge*' (Hesse-Biber et al., 2015, p.9). ***Figure 13*** illustrates four different types of qualitatively driven mixed methods design, including an example of iterative design. In a nested/embedded mixed methods design, *the qualitative and quantitative methods are conducted simultaneously as separate studies within the same project* (p.9). In a qualitatively driven sequential mixed methods design, the qualitative method is followed by quantitative or qualitative as a supplemental component. The third qualitatively driven sequential iterative design is done when the same procedures

repeatedly happen as new ideas and theory generated from each procedure. In the 'fourth design', researchers start the quantitative component to generalize and validate the dominant qualitative study by collecting a more representative sample. This study falls into the No.2 category of the above examples: 'a qualitatively driven sequential mixed-method design' (See ***Figure 13***).

Figure 13: Examples of Qualitatively driven mixed methods design by Hesse-Biber et.al. (2015)



Source: Hesse-Biber, et al. (2015)

5.3.1. Why a qualitatively driven sequential mixed-method design (QUAL→quan)?

> *Why does a qualitative research project need a supplementary project? Isn't qualitative inquiry holistic, comprehensive, and complete? Aren't qualitative researchers producing information that is so complete and so solid, why does it need measurement? (Morse, 2016; p.29)*

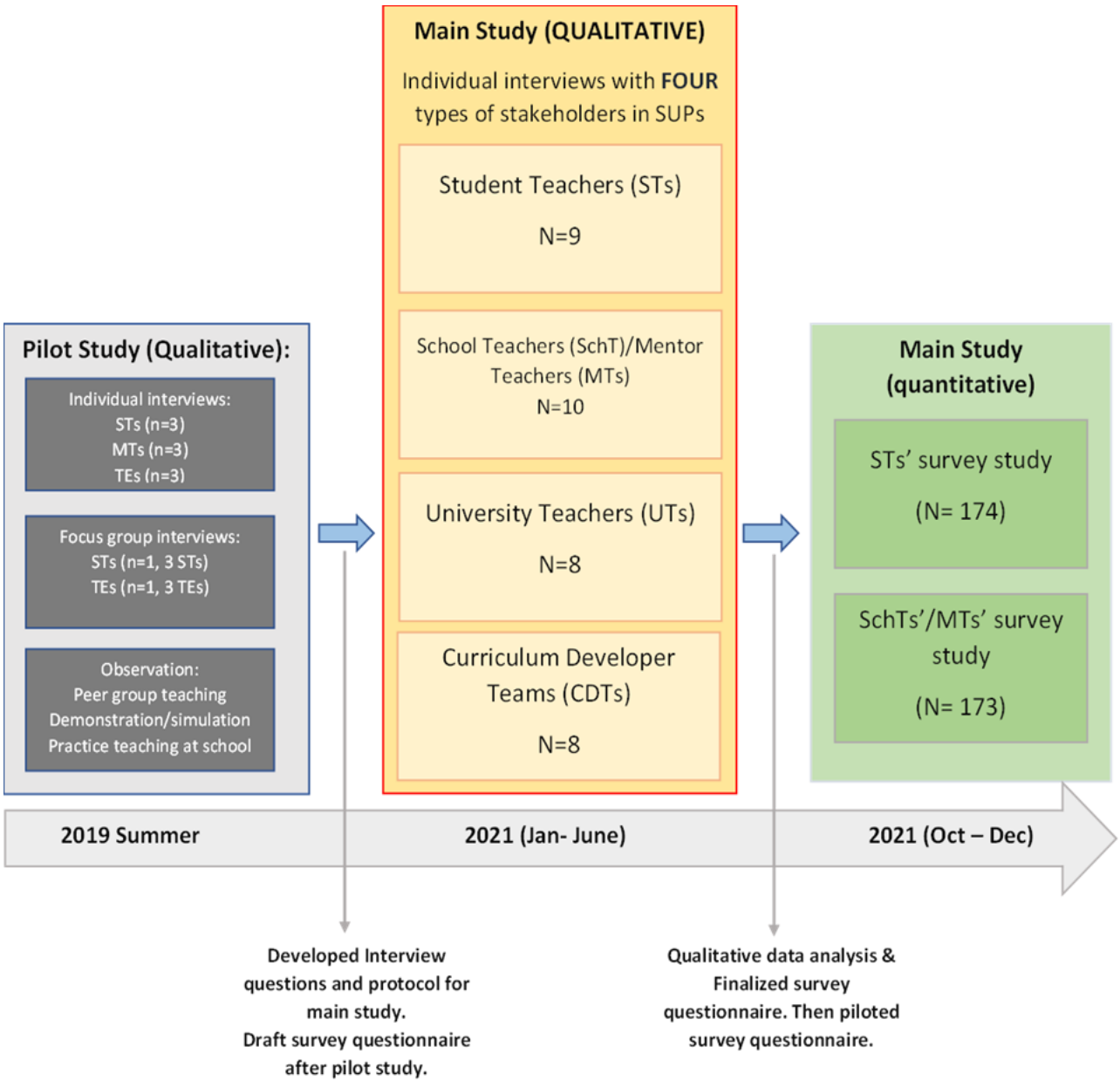
The following questions were developed by Morse (2016) in her book titled '*Essentials of Qualitatively Driven Mixed-Method Designs'*. The questions were answered by several different scholars (Creswell, 2012.; S. Hesse-Biber, 2010; Hesse-Biber et al., 2015; Hesse-Biber & Johnson, 2015; Morse, 2016; Teddlie & Tashakkori, 2009). This section will discuss why this study applied a qualitatively driven mixed-method design by outlining different scholars' opinions and assumptions.

Hesse-Bieber and her colleagues illustrated three purposes of using 'a qualitatively driven sequential mixed-method design' where the QUALITATIVE component is followed by quantitative as a supplemental component. According to Hesse-Bieber and her colleagues (2015), several scenarios that can emanate from this design are: '*(i) the quantitative results assisting in the interpretation of the core qualitative findings, (ii) testing out some of the theories generated by core qualitative findings, (iii) utilizing quantitative component as a way to generalize results from core qualitative study to a*

wider population' (p.11). According to the authors, researchers using this design are interested in validating or ascertaining if their theoretical findings can be generalizable to a larger population (Hesse-Biber et al., 2015). The first reason outlined by Hesse-Bieber directly reflects the aims of using qualitatively driven mixed-method design in this study: which is to assist the interpretation of the core qualitative findings. Another reason for using this design is to make our research more comprehensive, giving greater scope and increased depth (Morse, 2016). Besides, this design helps to achieve defined research purposes more comprehensively and completely than using one method alone (Morse, 2016).

Regarding the research problem 'SUP in Teacher Education in Myanmar', the research design will also encourage a deeper comprehension of the complicated phenomenon (Creswell & Clark, 2017.; Mills & Gay, 2016). As stated earlier, SUP is a complex phenomenon because partnership processes constantly change and evolve when participants gain mutual trust, understand each other and get more experiences working together. Besides partnerships, the SUP in Myanmar is not yet well-developed, making the research problem less tangible. This design aims to overcome these obstacles. Given the study's complex nature and the above reasons, a qualitatively driven mixed method design is chosen to apply in this study. The research design and procedures of this study are shown in ***Figure 14***.

Figure 14: A qualitatively driven mixed-method design: timeline and procedures



Source: Author

5.3.2. Qualitative strand (QUAL) as core component

5.3.2.1. Instrument

SUPs in teacher education are a complex phenomenon, and it is important to explore its actors' experiences, opinions and perceptions. However, since there is little theoretical and empirical evidence about this topic, conducting interviews will be the most suitable tool to explore the nature of SUPs and their actors' learning. Therefore, I decided to use 'semi-structured interviews' as a tool for exploring the nature of SUPs in Myanmar.

Semi-structured interview questions were developed based on literature reviews, research questions, and initial responses to the previous pilot study (observation, interviews, focus group interviews, etc.). In addition, my experiences in participating in the European Doctorate in Teacher Education (EDiTE) SUP project (Baráth et al., 2020) also played an important role in developing interview protocol and questions in understanding the nature of SUPs and its actors' learning. In this EDiTE SUP project, we have done the literature analysis, qualitative and quantitative investigations and case studies. All these experiences and knowledge helped me to develop interviews questions of the main study.

The quality and relevance of the questions were ensured with the help of experts from universities and with the support of schoolteachers who are not only from the same educational backgrounds but also mentor teachers at basic education high schools in the country. The interview protocol reflecting the study's purpose and research questions can be seen in Appendix 1: Interview protocol.

5.3.2.2. Participants

In order to gain diverse and credible perspectives, the purposeful sampling method was used in this study (Creswell, 2013). This sampling technique also helped me to get participants of maximum variation who were knowledgeable and experienced in the research phenomenon. A total of 35 participants from four categories participated in the study. These categories and selected participants can be seen in ***Table 5***. Participants include student teachers, schoolteachers, university teachers and teachers from curriculum development team. All student teachers are from the Yangon University of Education. Five university teachers are from the Yangon University of Education, and the remaining three university teachers are from other universities.

Table 5: Participants of semi-structured interviews

Category	Representing institutions	Number of participants
Student teachers (STs)	University of Education	9
Mentor teachers (MTs) or School teachers (SchTs)	Basic Education Schools	10
University teachers (UTs)	University of Education	8
Curriculum Development Teams (CDTs)	Both schools and universities	8
Total		35

Source: Author

In the category of MTs and SchTs, all teachers have experiences of engaging in SUPs in different areas such as continuous professional development, research development or school improvement, etc. Out of ten schoolteachers, eight teachers have active mentoring roles in their schools while others had communications with STs and gave supports in STs' learning occasionally. For the student teachers, STs who had 'practice teaching' experiences at schools are included to explore their learning within the SUP context.

For curriculum development teams (CDTs), I have three groups divided based on their roles in developing and implementing the national basic education curriculum. The three groups of CDTs are as follows:

1. CDT developers: members of CDTs who are responsible for developing national curricula, including basic education schoolteachers, academic university professors/teachers, university professors from teacher training institutions, etc. They are the people who wrote the new curriculum. This study includes three CDT developers: one university teacher and two schoolteachers.
2. CDT trainers: the schoolteachers or the school principals whom CDT developers trained. The roles of CDT trainers are to train the CDT trainees in their respective school township areas. In this study, these CDT trainers were the mediators or brokers between 'universities and schools' because they attended the trainings provided by UTs and then, they trained schoolteachers. Three CDT trainers participated in this study.

3. CDT trainees: the schoolteachers from basic education schools trained by CDT trainers. They did not have direct communication with university teachers like CDT trainers had. Two CDT trainees participated in this study.

5.3.2.3. Data collection and procedures

All interviews were done through online phone calls via a social media application. Each interview took from 30-90 minutes and was recorded. The interview protocol and questions were sent out to participants three days before the interviews started. Apart from recording the interviews, supplementary notes were also taken during the interview for future use in data analysis. When related content emerged, I asked additional questions to explore more about the context and their experiences: which is one of the benefits of using semi-structured interviews.

5.3.2.4. Data analysis

All recorded interviews were transcribed. All transcripts were coded manually with the help of Microsoft Word. The analysis of the data was conducted through reflecting and repeating stages. First of all, I read the transcripts over and over again to immerse myself in the interview data. While reading, I reflected on my research questions and put comments and notes across the transcripts. Secondly, I started coding and developed codes across transcripts. Based on the initially developed codes, I created a codebook which guided me to do coding next time at different times. Then, I gave myself time to review and revise the codes I generated by comparing them in each transcript. After the careful analysis of these codes, the codebook was revised. Then, I coded again a few weeks later as a second time based on the revised codebook. After the second coding, I compared and contrasted codes to seek themes that ran through the data.

5.3.3. Quantitative strand (quan) as a supplemental component

5.3.3.1. Instruments and content validity

Two separate questionnaires were developed: one for student teachers and one for schoolteachers. The questionnaires were developed based on the analysis of interview findings as well as on the literature reviews. Due to the lack of well-developed instruments in SUPs, I developed questionnaires under my supervisor's guidance. In addition, the quality of the content, structure and relevance were ensured through expert reviews; one university professor from Myanmar also reviewed and gave feedback before sending it out to participants. Moreover, the ‘think aloud’ procedures were conducted

with two schoolteachers who have similar backgrounds as the target participants (Dillman, 2000). The questionnaires were initially developed in English; however, they were translated into Burmese (with the help of two schoolteachers and university professor) before piloting. The questionnaires were piloted. While piloting, the reviews and feedback of participants were asked for the clarity, understanding and feasibility of answering the questions. This was done through informal conversation with piloted participants or sometimes through formal conversation with them.

The surveys include six major parts, which asked: (i) background information, (ii) general information about SUP or current practices in the country, (iii) professional development and learning, (iv) factors determining the success and quality of SUP, (v) challenges of SUP, and (vi) opinion questions about SUP. For schoolteacher's survey, there are 25 questions, while STs' includes 22 questions. The structure and content of both questionnaires are almost the same, and the difference is due to background questions and professional position. For most of the questions, the 1-5 Likert scale was applied due to its familiarity with participants to reduce the cognitive burden on participants. Except for the question about SUP's actual practices/frequencies, the 1-7 scale was utilized to have optimal statistical variance (Kerkhoff, 2017; Tourangeau et al., 2000). For survey questionnaires, see Appendix 2: Schoolteachers/mentor teachers survey questionnaire and Appendix 3: Student teachers survey questionnaire.

5.3.3.2. Participants and data collection procedures

Student teachers and schoolteachers participated in surveys. Survey questionnaires were distributed through sharing Qualtrics survey link to participants. The questionnaires were left open for three weeks to ensure all participants answered the survey in enough time and flexibility.

Due to the nature of the study content, the sample for STs was restricted to those with practice teaching experiences at basic education schools. For the selection of schoolteachers, there were no restrictions. Due to the difficulty of reaching schoolteachers in each basic education, the survey questionnaire was posted on 'Teacher Association' group on social media and on my personal social media account. Therefore, schoolteachers across the country with experiences in any functional area of SUP could access to the survey questionnaire. A total of 173 schoolteachers completed the survey

questionnaire. According to the student administration at the University of Education, the total population of student teachers (who had done their practice teaching) is 610. Krejcie and Morgan (1970) suggested that the sample size should be approximately 234 student teachers if the population is 600 (Krejcie & Morgan, 1970). Therefore, the survey questionnaire was sent to 234 student teachers. Of these participants, 174 student teachers responded to the survey with a 74% response rate.

5.3.3.3. Data analysis

The collected data were systematically analysed through Statistical Package for the Social Sciences (SPSS) software version 27. Descriptive statistics were conducted to explore the data. Furthermore, to find out teachers' learning and professional development between the groups, one-way ANOVA and t-Test were applied. Pearson correlation was performed to investigate the correlation between teachers' learning and their roles and communication level.

5.4. Ethical consideration

All the participants included in this study were given acronyms with numbers to protect their identities. The continuity of participation in the study was voluntary and I explained the purpose, research data collection procedures, and rights of participants before the data collection started. The interview recordings were deleted after being transcribed. The transcripts and all data were stored in digital form on my personal laptop in a secured system.

Due to the political situations in the country, it was not easy to reach the participants. I faced very difficult situations while reaching participants because of the violent conflicts in which society is divided into two groups; therefore, not everyone I contacted was willing to share information. I needed to be aware of this and follow ethical considerations during my data collection. I only included the participants who were willingly agreed to take part in this study.

5.5. Limitation

This study is a qualitatively driven mixed-method design in which the development of quantitative survey instruments, piloting survey questions, and quantitative data collection happened after the analysis of interview responses. Therefore, qualitative data findings are the major source for implementing quantitative procedures. However, due to

unexpected and unplanned contact with participants, one exception is that two interviews (one university teacher and one schoolteacher) occurred after the survey questionnaire was piloted. Due to Covid-19 situations and political situations in the country, it was not easy to reach the participants. Therefore, the quantitative data collection for the university teachers could not be conducted. Furthermore, only the interview respondents of the CDTs are included in the study for the same reason as aforementioned.

CHAPTER 6: UNDERSTANDING SUPs: EXPLORING STAKEHOLDERS' EXPERIENCES AND PERCEPTION

This chapter presents the research findings. Findings will be presented according to the four research questions. The results related with each research question will be discussed through the combined exploration of qualitative and quantitative data.

6.1. Research Question 1: What are the current SUP practices in Myanmar?

From a review of the relevant literature, along with my past experiences as a student teacher, schoolteacher and current position as a university teacher, the preliminary assumption was that SUPs have existed in Myanmar in initial teacher education as well as in continuous professional development. Before the data collection process, the pilot study also demonstrated that SUPs for initial teacher education were the first answer when participants were asked about what kind of SUP practices in teacher education existed in the country.

To answer this research question, two categories were developed in order to find out: (i) collaboration activities between schools and universities and (ii) communication level among participants in existing SUPs. In this section, these two categories will be presented through combination of both qualitative and quantitative findings.

6.1.1. Current SUP activities

'There was no partnership or collaboration between schools and universities.'

One interesting thing is that mentor teachers (MTs) and schoolteachers (SchTs) gave the above response when they were asked a general question if their school had partnership with universities or they have ever collaborated with them. However, as the interviews went on with specific questions such as whether student teachers (STs) came to their schools to do practice teaching or if they had ever attended professional trainings provided by universities or if university teachers came to their schools for data collection, then the existing partnership activities appeared in their responses. One the other hand, when university teachers (UTs) heard the term 'SUP', seven out of eight UTs immediately started talking about initial teacher training and practicing schools (sometimes called teacher training high schools) such as sending student teachers for practice teaching, their visit to schools for observing student teachers' practice teaching, etc. In other words,

university teachers understood SUPs mainly as partnership between schools and universities to enhance student teachers' learning.

Based on the interview responses, it was found that SUPs operated in the following areas: (i) initial teacher education, (ii) continuous professional development, (iii) research development, (iv) school improvement and university improvement and (v) curriculum development. However, the level of SUP practices was different in each area, where certain areas of SUP were more intensive than the others. For example, as mentioned above, respondents reported that SUP in initial teacher education was the regular and long-existing established area as it had existed several decades ago in the country. Another obvious and intensive SUP practices was in the case of national curriculum development. Although this SUP for curriculum development and implementation recently appeared when the country started its national educational reform, this was worth mentioning since the most intensive communication and mutual learning occurred in this functional area. SUP also appeared in the following areas: continuous professional development, research development, school and university improvement. However, they appeared as under-developed/low level practices. Nevertheless, these low-level practices will also be presented since they also represent the current situations and the nature of SUPs in the country.

6.1.1.1. Initial teacher education

The interview analysis shows that the area where SUPs operated the most regularly was initial teacher education. When university teachers were asked 'when this SUP had started in initial teacher education', they could not provide the exact date and time as it has existed for a very long time. University teachers (n=7) commented this as follows:

> *Well, this SUP has existed since we were young. When I was a bachelor student at the university, I heard our professors mentioning that they also had these practice teaching at schools; they also went to school for doing practice teaching. So, this agreement must have been created long time ago. (UT3)*

Therefore, the existence of SUPs in initial teacher education does not require much explanation. All teachers interviewed had already seen that student teachers came to their schools for practice teaching while 8 of them had active roles as mentor teachers in guiding STs' practice teaching. Although others did not have active mentoring roles, they

had seen student teachers' practice teaching at their schools and had communication with STs and gave suggestions whenever it was needed. This practice teaching is the regular partnership activity between schools and universities; in which university send student teachers to schools in a regular schedule and timeline. As aforementioned, according to the report of university teachers, student teachers must do 'practice teaching' in their third years and fourth years of university studies; each time they took approximately two weeks of practice teaching at schools. After the third year of studies at university, during semester break, student teachers do their practice teaching in schools in their native towns. They can choose any schools they want to do the practice teaching. University prepares some documents which will be delivered by student teachers to school principals. The documents were about the evaluation sheet that school principals or schoolteachers have to fill out for the grading of student teachers through observing their teaching. The second practice teaching happens during their fourth-year studies at university. This time it happens during their attendance at university as a part of university studies. Therefore, the schools are not in their native town, but in the city where they attend the university. The university arranged and administered the allocation of student teachers to schools. This is also a two-week practice teaching in schools. According to university teachers interviewed, they send STs to their partner schools in the specific time with a specific schedule.

> *Every year, we have to arrange for these practice teaching. We have around 42 schools as partners. We sent STs to these schools every year. We have a mutual agreement for sending and accepting STs. Every year before practice teaching, we contact the schools and arrange necessary things with schools such as subjects that student teachers can teach in schools, the number of children at schools, etc. We need to negotiate this because sometimes we want to send STs who specialized in specific subject, and some schools did not have any children who take that subject. So, we must arrange these things. This is the regular SUP activity we are doing here. (UT4)*

According to university teachers, these 42 schools are stable for receiving STs. However, in some cases, they need to exclude some schools due to difficulties in allocation of subjects, transportation, etc., as mentioned above. Although there was a practicing high

school (or teacher training high school) next to the university, it was not possible to send all over 300 student teachers (sometimes over 400 based on the cohort) to that school in one time. Although this practicing high school accepts student teachers at the time of two-week practice teaching like the other 42 partner schools, it was not collaborating intensively with the university beyond this activity. Student teachers reported that they had rarely been to this school for observation. However, one ST mentioned that he had experienced that one university teacher did 'demonstration (or simulation)' by teaching school children of this high school for her Ph.D. studies 'experimental research'. Due to this event, the STs got the chance to observe UT's teaching school children.

> *One time, we observed UT taught one lesson in university. She took the children from practicing high school and did simulated teaching. She was doing this for her Ph.D. studies, but we had a chance to observe it. This is the time we saw the communication with this practicing high school. (ST7)*

Similar to this student teacher, one university teacher from the interview reported that she also took children from this practicing high school to do demonstration (simulated teaching) for teaching student teachers. She was not doing it for her PhD studies or research, she was doing that for teaching student teachers; showing how to create an interactive lesson.

> *Sometimes, we took children from the practicing high school, and we did simulated teaching. There, STs were observing what we were teaching to school children. (UT4)*

Out of 9 STs, only one mentioned her experience to go to the practicing high school and observed the schoolteachers' teaching. According to her, they were given an observation checklist consisting of several items such as teacher's classroom management, teachers' introduction to the lesson, interaction with children, using teaching aids and so on. Based on these checklists, STs observed the classroom. This was reported by only one STs among nine STs, which means this observation did not happen very frequently in initial teacher training.

Therefore, according to all participants, these are the current SUP practices and activities in initial teacher education. This SUP functional area was assumed as the

regularly operated partnership activity because of its defined procedures, consistent timeline and mutual agreement between schools and universities. Although there was a fixed and regular partnership for sending STs to do practice teaching in schools, there were no regular activities for demonstration and observing schools. The interview respondents reported that these activities happened only on some occasions.

6.1.1.2. Curriculum development

Another SUP practice in the country was the partnership for national curriculum development and implementation. In this case SUP happened in two different conditions; (i) one was the curriculum development teams (CDTs) where university teachers/professors and schoolteachers developed the new curriculum together, and (ii) the other condition was the curriculum training where university teachers trained schoolteachers for implementation and teaching of the developed new curriculum. This SUP never existed before until the country started reforming its national educational curriculum and it is needed because different stakeholders have different professional knowledge and backgrounds which were valuable inputs for developing international standard basic education curriculum. Therefore, this was not long-existed SUP like in initial teacher education which has been established several decades ago, however, according to interview responses, this was the most intensive and successful SUP as mutual learning and intensive collaboration had occurred.

As mentioned before, in CDTs teams, there were university academic professors, retired professors, educational experts, schoolteachers and officers from education and curriculum department (See 4.4.1.1. Basic education curriculum reform and 5.3.2.2. Participants). As they are developing the new curriculum, there were discussions, negotiations as well as arguments among partners. The schoolteachers from basic education schools were attached to curriculum development department in order to have a regular communication and intensive collaboration with their partners, university professors. Trainings for CDTs teams were also provided by international and national experts. Therefore, the communication between schoolteachers and university professors were not only happening in developing curriculum discussion and planning, but also in attending the same workshops, and professional development programs. This SUP for curriculum development was unique because schoolteachers and academic professors

were working together as ‘colleagues’ which has never existed before in the country, where high level bureaucracy and a gap between professional position and power status exist.

> *I worked together with university teachers for the whole year. Now, it has been two years already. (CDT developer 1: schoolteacher)*

> *We were developing new curriculum together. It was very good experiences to work together with schoolteachers. (CDT developer: university teacher)*

For disseminating of new curriculum, the trainings for teaching new curriculum as nationwide had implemented. This partnership was more like a university led as university teachers (or CDT developers) trained schoolteachers (CDT trainers) for implementation and teaching the new curriculum. These schoolteachers were selected to become the trainer teachers who will later train to their colleagues (CDT trainees) in township level. Therefore, this curriculum implementation process happened through ‘cascade trainings’ nationwide where CDTs developers trained to CDTs trainers, then from CDTs trainers to CDTs trainees. Therefore, SUP emerged in two different situations: (i) developing new curriculum and (ii) implementation of new curriculum.

6.1.1.3. Continuous professional development (CPD)

Apart from initial teacher training and curriculum development, schoolteachers also mentioned ‘continuous professional development’ as a partnership activity in which they directly communicated with university teachers. In spite of the fact that this SUP was not a regular partnership within the specific timeline and procedures like initial teacher trainings, it was assumed as SUP activity because it also operated frequently for professional development of schoolteachers. However, this SUP was a low-level partnership since interview responses reported it as mostly university-led activity. In other words, most of these professional development activities were led by university teachers whereas schoolteachers usually attended the trainings and listened to/learnt from UTs.

> *We have refreshers programs which we attend every year. In these trainings, university teachers lectured about subjects’ content, and marking scheme for matriculation examination and evaluation, etc. (MT5)*

When university teachers talked about the CPD program, they also reported that they trained schoolteachers for subject content proficiency and teaching methods. According to interview responses, this SUP appeared for once or two times in a year for enhancing teachers' subject matter knowledge, pedagogical content knowledge, and refreshing courses, and trainings for teachers' collaborative mindsets and behaviours within schools, etc. However, in some cases, university teachers mentioned that they had discussion with schoolteachers during those CPD trainings.

6.1.1.4. Other SUP practices

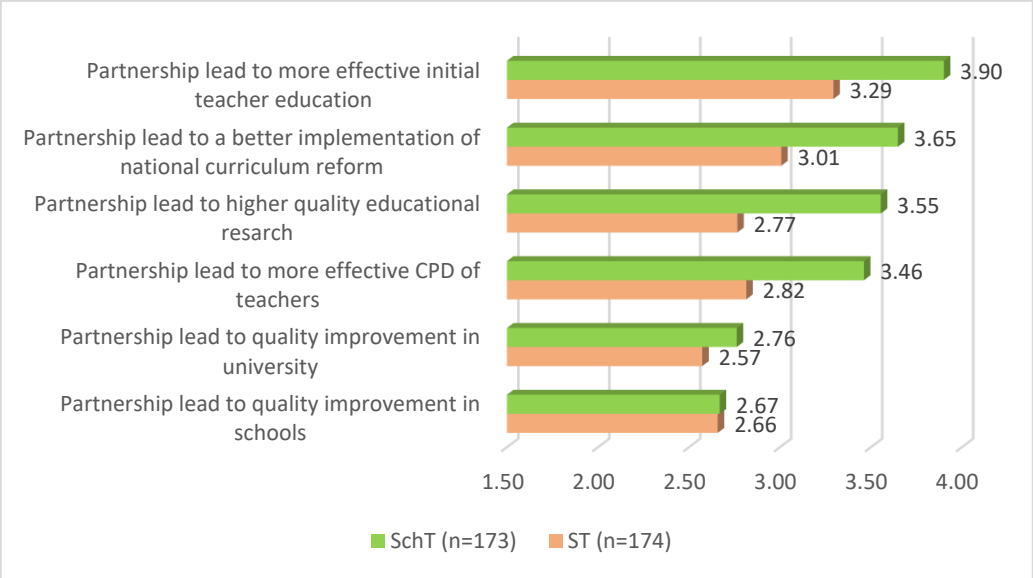
Other areas such as research development, school improvement and university improvement rarely appeared in the interviews with schoolteachers. School teachers mentioned 'data collection by UTs in their schools' as the research partnership activity. On the other hand, some responses of UTs showed that there were some partnerships in research development and school improvement areas in the country. For example, one university teacher shared her experiences in working together with schoolteachers in school improvement projects. And two university teachers mentioned about their data collection in schools, which was again the low-level partnership where university teachers collecting data in schools without any further partnership activities. On one occasion, one mentor teacher (MT) mentioned about her colleague collaborating with UTs for science exhibition project. According to MT, her colleague was in regular communication with UTs for some period of time in preparing and training school children for the science project. Unfortunately, this study could not include this schoolteacher as she had been transferred to a different school which could not recalled by the MT.

6.1.1.5. Stakeholders' perception on current SUP practices

Based on these interview responses, quantitative questions were developed. In the quantitative survey, schoolteachers (n=173) and student teachers (n=174) were asked to provide the actual practices of SUP in education. The questionnaire presented six functional areas of SUP and the following question was asked: *Which purposes or areas in the following are contributed by you and your school collaboration with university? (*with a 7-point Likert scale of *1=not contributed at all to 7= it contributed a lot)*. ***Figure 15*** provides the participants' perception of actual practices of SUP in education. The mean values of both participants are compared. These results confirmed the interview results because initial teacher education scored the highest mean values compared to other areas.

Participants expressed that SUP in initial teacher training was the long-existing partnership in the country followed by curriculum reform and implementation which became well-known SUP activity recently in the country.

Figure 15: The current SUP practices on its functional areas



Which purposes or areas in the following are contributed by you and your school collaboration with university?

Note: Mean values on 1-7 scale where 1 corresponds to 'not contributed at all', and 7 as 'it contributed a lot'.

As reported in interviews, school improvement and university improvement appeared as the least performing areas which is also reflecting this quantitative result. In interview responses, research development area appeared less frequently than CPD area. However, the quantitative finding of research development area is slightly higher in mean value than the CPD area in schoolteachers' responses. This might be the research data collection procedures which schoolteachers mentioned in interviews that UTs or post-graduate students came to their schools for data collation. However, for STs, CPD has a slightly higher mean values in CPD area of SUP than research development.

6.1.2. Level of communication (or) collaboration status

It is important to find out the communication status among participants as this will also reflect the current practices between schools and universities in teacher education. In this section, the level of communication among partners will be presented based on qualitative and quantitative analysis.

For the initial teacher education sector of SUP, the current communication level between mentor teachers and student teachers was not so intensive. In some cases, there was an intensive communication between schoolteachers/mentor teachers and student teachers (STs) which led to mutual learning. For example, STs mentioned that they asked MTs whenever they did not understand the subject content or when they had difficulties in teaching some lessons, and so on. Even if there were no formal procedures of discussion and collaboration between MTs and STs, informal conversation and discussion had occurred.

In advanced level SUPs, mentor teachers and student teachers discussed about teaching and learning together through planning lessons, discussing teaching methods and procedures. Besides these, observation of other's classroom and giving feedbacks for STs' teaching and learning happened in a regular basis. In this advanced SUP, the role of UTs is also prominent in supervising STs through collaborating with MTs to support STs' teaching and learning. However, according to interview responses, there were very rare intensive collaboration between MTs and UTs in order to support STs' learning. None of the participants reported that they had engaged in intensive communication for supporting STs' teaching and learning in schools. UTs (n=7) answered that they have never discussed with schoolteachers in preparing student teachers for their teaching. According to UTs, they sometimes talked to schoolteachers to ask whether the student teachers behaved well or if there were any issues schoolteachers wanted to discuss regarding STs' manners or performance. However, they mentioned that they talked to mentor teachers and schoolteachers in case of assigning and determining the subject content to finish teaching by STs during these two weeks of practice teaching.

> *During school visit to observe STs' practice teaching, we usually talked to principal first. Then we went to STs and asked if everything is all right or if they need any help. We sometimes talked to subject dean teachers, but we did not discuss about STs' teaching. (UT4)*
>
> *Sometimes, we need to discuss with schoolteachers, especially in the case of elite schools. Some schools are very systematic, and they were running their schools according to their fixed schedule. And these are successful schools. So, they were a bit reluctant when STs came to their schools for practice teaching since they*

> *were afraid that their teaching and children's learning will be disturbed by STs. In these schools, we have to negotiate with school principals and schoolteachers, such as how much of subject content they want STs to finish teaching within two weeks, which disciplines and regulations they had, and what they wanted STs to follow and obey. (UT7)*

The above quotes mentioned that there was communication between MTs, schoolteachers (SchTs) and UTs to some extent regarding administration and regulation procedures. Nevertheless, none of the interview respondents reported that they collaborated discussing, lesson planning and teaching methods in order to support STs' learning and teaching experiences in schools.

Another example which showed a low level of communication was reported by one university teacher who shared her experiences of demonstration (simulated teaching). For this simulated teaching, UT have to use the children from practicing high school (which situated next to university) as mentioned above in the current practices section. At that time, the schoolteacher came to university with her children and put them in the university classroom and left the room. The schoolteacher was not interested in UT's simulation teaching, and she left as soon as she finished placing her school children in the university classroom. UT said that she was not happy about that because she wanted the schoolteacher to observe her teaching.

> *I wanted this schoolteacher to observe my teaching. Since I prepared my lesson plan and teaching strategies very well to do this simulated teaching, I wanted them to observe. But she just left the children and went away. (UT4)*

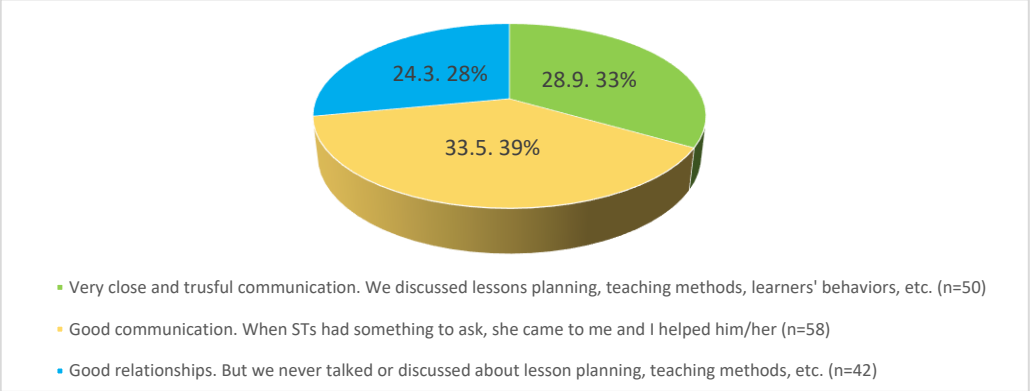
This simulation teaching was also mentioned by one ST. According to him, he had encountered UT's simulation teaching once in his third year of studies. He saw the schoolteacher came to university with her school children. She put her school children to the room where UT did simulated teaching. Then, she went outside and sat outside of the classroom.

> *I saw the schoolteacher came with her children. She put her children into the room and then she left the room and sat outside of the classroom. (ST7)*

According to these interview responses, it was found that the communication level of partners was not so intensive among partners.

For the survey questions, I provided four situations which reflect the communication level among partners. The four situations go from lowest communication level '*we did not have good relationship….*' to highest communication level '*Student teachers and I had very close communication. We discussed lessons planning and how to teach. We also discussed about students' behaviours and learning to improve their learning. I had a very trustful and close collaboration with STs*'. Regarding the quantitative findings, ***Figure 16*** shows the communication status of schoolteachers with student teachers. According to the analysis, majority of schoolteachers reported that they had good communication with STs, and STs came to them when they had something to ask. That also means they did not have a regular or intensive communication with STs in planning lessons or discussing and teaching methods. No teachers chose the situation 1: '*we did not have good relationship…*'. This result reflects the interview responses of participants. Student teachers also reported the same communication status with schoolteachers.

Figure 16: School teachers' communication status with student teachers (n=150)



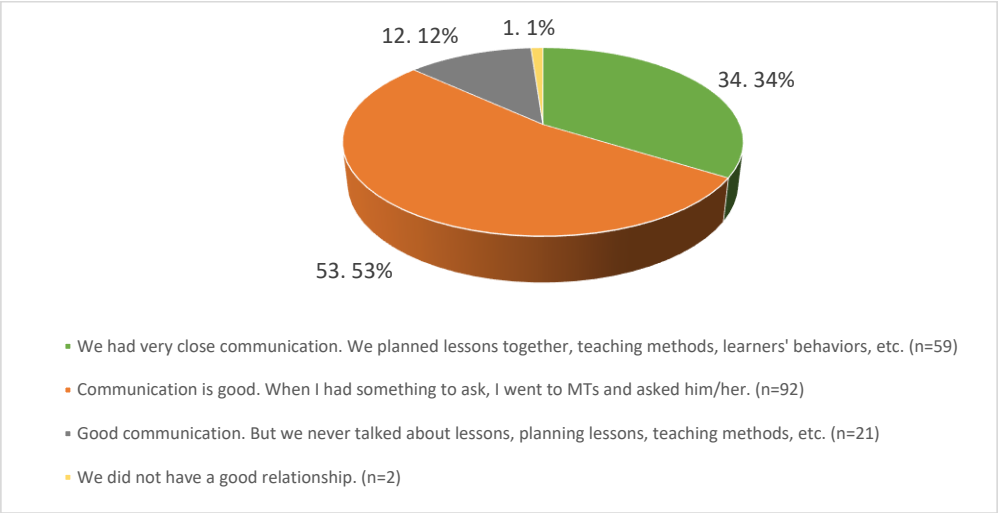
Survey Question: In the following, we describe four situations. Please read them and choose the one that you feel is the closest to your own experience.

Note: No teachers gave response for situation 1: we did not have good relationship.

As ***Figure 17*** shows the majority of STs (53.53%) reported that they had good communication, however, they discussed and went to MTs only when they had something to discuss such as lesson planning, or questions of teaching and learning. Interestingly, 34.34% of student teachers mentioned that they had very close and intensive

communication with MTs such as discussing lessons planning, teaching methods. This did not appear in the interview responses, however, the responses of the majority of STs reflected the interview responses where STs communicated with MTs when they wanted to know something.

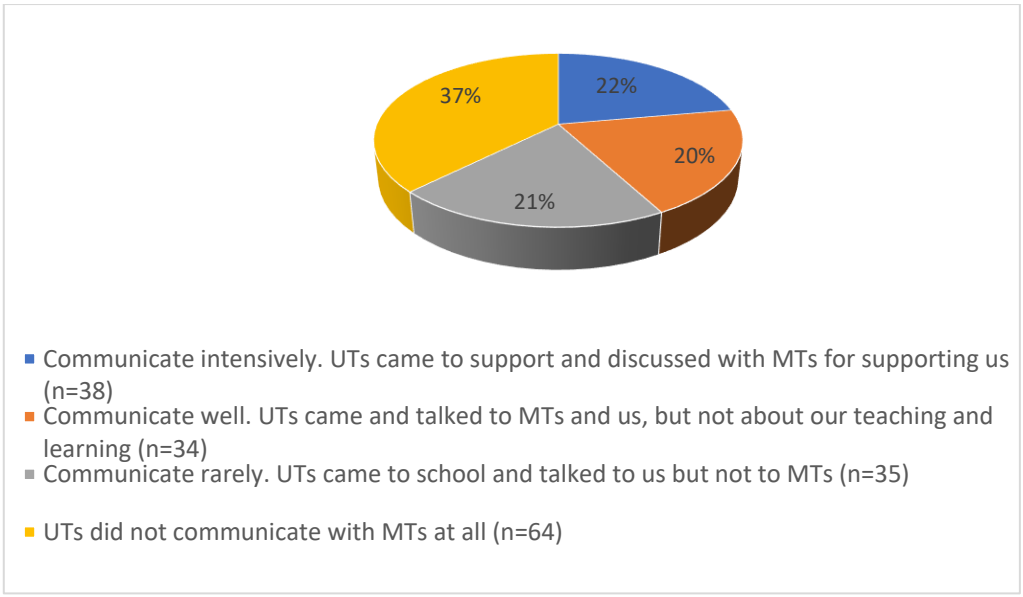
Figure 17: Student teachers' communication status with MTs (n=174)



Survey Question: In the following, we describe four situations. Please read them and choose the one that you feel is the closest to your own experience.

Student teachers also reported on the communication level between MTs and UTs during their practice teaching at schools. The majority of STs (n=64) reported that UTs and MTs did not communicate at all (see ***Figure 18***). The interesting fact is that there were responses from STs (n=38) for the highest communication level. As mentioned above in interview responses, UTs sometimes negotiated with school principals and mentor teachers regarding subject contents so that STs could finish teaching them within two weeks. On one occasion, UTs had to solve conflicts among MTs and STs because of misunderstandings regarding the preparation of teaching aids (which will be seen in subsequent chapters). This might have reflected the quantitative finding for this response.

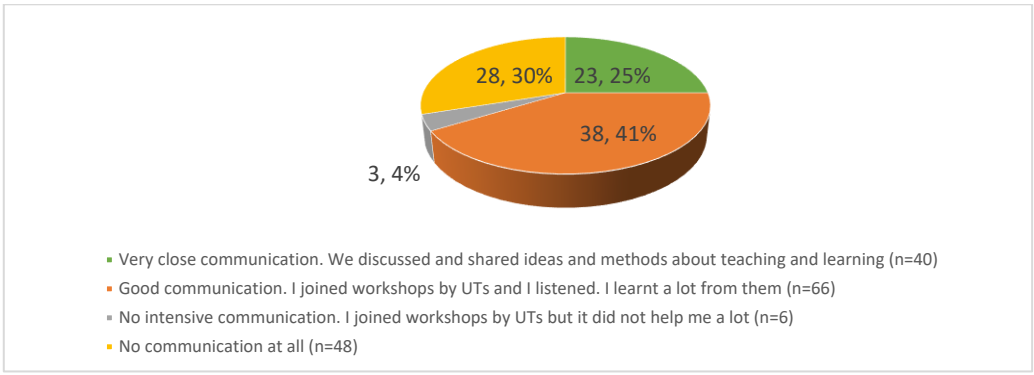
Figure 18: Communication status between UTs and MTs perceived by STs (n=171)



Survey Question: In the following, we describe four situations. Please read them and choose the one that you feel is the closest to your own experience.

Concerning continuous professional development, schoolteachers (SchTs) also gave responses to their communication level with UTs. As stated in interview responses, this SUP area was university-led. Respondents occasionally reported that they were learning from each other through informal discussion and communication. This kind of mutual learning will be discussed later in details, in the section related with another research question. The following figure provides the communication level between UTs and SchTs (see ***Figure 19***).

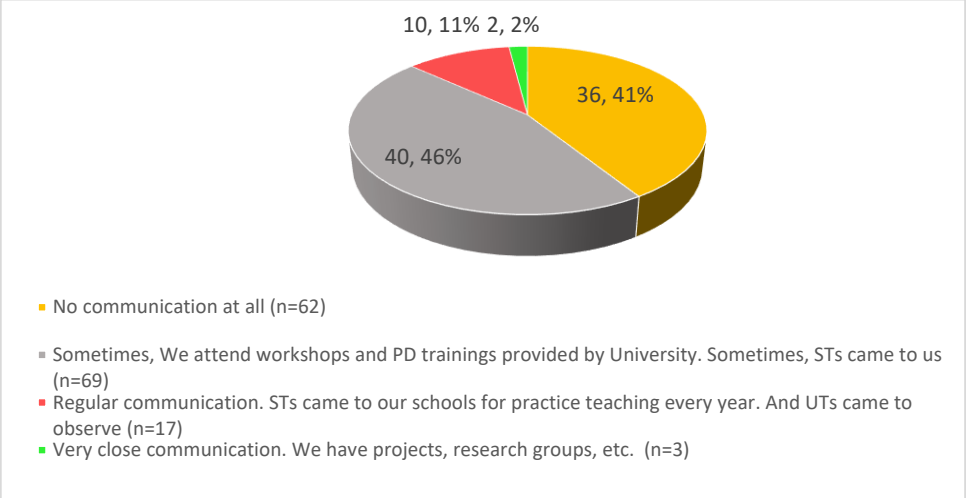
Figure 19: Teachers' communication level with UTs (n=160)



Survey Question: In the following, we described four situations. Please read them and choose the one that you feel is the closet to your own experience during your experience with UTs.

Besides individual communication, the survey questionnaire also included an organizational communication status question with four situations provided as response options. Few 'very close communications' have been established between schools and universities (see ***Figure 20***).

Figure 20: Communication status between schools and universities perceived by schoolteachers (n=151)



Survey Question: How will you define your school's collaboration with the universities? Please choose one of them from the following.

Majority of schoolteachers (n=69) reported that their schools had some communication with universities such as attending workshops and PD trainings provided by universities or STs came to their schools for practice teaching.

6.2. Research Question 2: What are the conditions considered in determining the success and quality of SUP?

To understand the complex nature of SUP, it is also essential to explore the elements determining its success, quality and outcomes. According to interview responses, three themes appeared which can determine the success and quality of SUP as follows: (i) the perceived important functions of SUP, (ii) influencing actors, and (iii) influencing factors for establishing successful SUP. This section will present these three themes by combining interviews and survey results.

6.2.1. Perceived important functions of SUP

In the theoretical perspectives chapter, we have discussed the seven functional areas of SUP. To establish successful SUPs in Myanmar, we have to find out which SUPs' functional areas are favoured by stakeholders. Before and during data collection, only five functional areas of SUP were considered. The sixth and seventh functional areas were conceptualized after the data collection, therefore, our quantitative survey questionnaire covered only five functional areas of SUP. These functional areas will be presented according to their level of importance mentioned by participants.

The most frequent SUP function that appeared in the interviews was teacher learning and professional development, especially in initial teacher education. All participants (n= 27, CDTs excluded) described that the main function of SUP should be promoting the quality development of initial teacher education. The least favourable function that participants rarely mentioned was 'SUP for university improvement'. Student teachers mentioned that SUP is essential for enhancing their experiences about the real classroom practices in schools. Hence, they reported that the priority purpose of establishing SUP should be enhancing the quality of initial teacher trainings.

> *Practice teaching is the only chance we get to know the real teaching and practical classroom experiences. Through this, we learn how to manage the classroom and how to handle the children's different behaviours, etc. Hence, I think this is an important area for collaboration between schools and university. (ST7)*

> *University teachers are teaching us about theoretical knowledge. But they are not teaching in real school and the school children. So, they do not know the ground conditions about the children like the schoolteachers do. I think schoolteachers should also tell their difficulties to UTs. Partnership should be done so that UTs can give advice us and prepare for methods and activities about those difficulties schoolteachers are facing. (ST2)*

Schoolteachers and university teachers also expressed that supporting the quality of initial teacher education was a major priority of SUPs. Bearing in mind that universities provided theoretical knowledge about teaching and learning, schoolteachers believed that practicing in schools would give student teachers extraordinary experiences about

classroom management experiences and interacting with school children. Two of schoolteachers explicitly mentioned that '*schools can give experiences and practices what universities cannot teach*'. Followed by these responses, schoolteachers also mentioned building a teacher identity during these practice teaching. Although they did not used the term 'teacher identity', the words they used carried the same meaning as identity.

> *Universities only teach the theoretical knowledge. To get practical experiences and to know how the real class is running, STs should come to schools and do practice teaching.* (MT1)

> *When they came to schools for practice teaching, it is not only for practical experiences, but they are also feeling like a real teacher, right? They communicate with schoolteachers, school children, they wear and behave like a real class teacher. So, after this practice teaching, I think they feel more like a real teacher. And it is important to feel like a real teacher.* (MT3)

Along with the schoolteachers' expression of SUP in initial teacher education, university teachers were also aware of the fact that SUP is important for trainings STs in supporting practical teaching experiences, theory-practice application and teacher identity formation. According to university teachers, they prepared STs for practical teaching experiences in a class through 'peer group teaching (PGT)'. However, they recognized that this peer group teaching was not enough for STs. Peer group teaching was a practice teaching which is done by STs at the university by teaching their friends as a simulation (as mentioned in 4.5.1.2. Peer group teaching). University teachers (n=7) mentioned that this PGT was a preparation for all STs before doing practice teaching at schools.

> *We want them to get 'practical teaching' experiences. This is the aim of the bloc/practice teaching. From our side, we gave them theorical knowledge. We have done peer group teaching, but this is not practicing with real classroom or children. Through sending them to schools and let them teach children in real classrooms, they can realize many practical experiences such as how their theoretical knowledge can be applied in real classrooms, how interactive questions and answers can be done in classroom, how to response based on children's responses and behaviours. (UT3)*

Besides the initial teacher education, all participants (n= 27, CDT excluded) mentioned that training for CPD and trainings for implementation of new curriculum should be another goal of SUP. These two areas; '*SUP for continuous professional development*' and '*SUP for implementation of new curriculum*' were mentioned interchangeably by all participants in a way that trainings for implementation of new curriculum is assumed as CPD by participants. Two STs mentioned that SUP should be done for acquiring pedagogical knowledge and subject content knowledge for the new curriculum. Similarity, the schoolteachers also reported that SUP is essential for the implementation of new curriculum development since the new curriculum content was entirely new for them and they were not yet competent enough to implement it in schools.

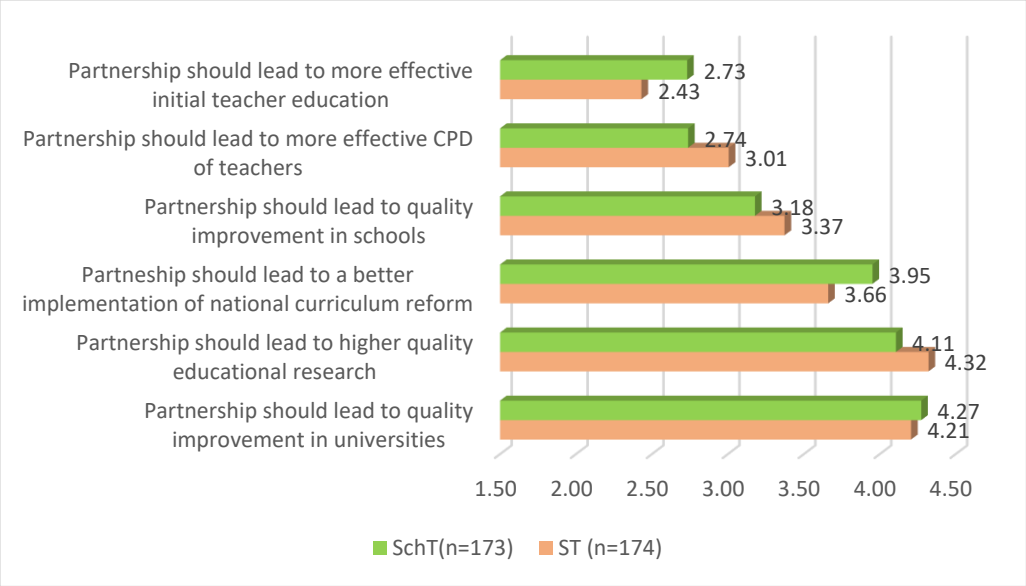
> *The content of new curriculum is high for most of us. So, we need trainings and refresher courses frequently. So, collaboration between schools and universities is essential for training of it, discussing issues and challenges for teaching it. (MT2)*

These two purposes of SUP were ranked in the same order by both student teachers and schoolteachers in the quantitative findings. Although other areas appeared to some extent in interview responses, they were not considered as the priority areas of SUP. Although the quantitative data collection for UTs could not be done in this study, the interview responses of UTs showed that the SUP for research development played important roles for them. Two of the UTs explicitly mentioned how their data collection would be easier if there was an intensive communication between schools and universities. In general, the most important functions of SUP perceived by participants were teacher learning and professional development and curriculum development and implementation areas.

Quantitative data from the survey questionnaire support the interview data. Participants were asked to rank the six important functions of SUPs to find out a clear understanding of their priority level. According to ***Figure 21***, all participants (n=342; student teachers and schoolteachers) placed '*SUP for initial teacher education*' as the first priority function and it was followed by '*SUP for continuous professional development*' and '*SUP for school improvement*'. Although '*SUP for school improvement*' did not appeared frequently in interview responses, quantitative findings showed it as a third priority function of SUP by both participants. However, the '*SUP for*

implementation of national curriculum reform' resulted as the fourth important function by both schoolteachers and student teachers (see ***Figure 21***). One interesting fact is that student teachers (n=174) put '*SUP for university improvement*' as the second least important purposes of SUP while schoolteachers (n=168) reported this function as the least important purpose of SUP.

Figure 21: The perceived importance functions of SUPs by participants (n=342)



Survey question: In your opinion, please indicate which areas are more important for collaborating schools and universities by ranking them according to their level of importance

Note: Average rank position of the important function of SUP, the more important goals being at the top (close to 1) and the less important ones at the bottom (close to 6). (n=342)

Figure 21 shows that the function of SUP in research development is the least favourable function. However, the actual outcomes of SUPs show that the research development area is placed as a second outcome in current practices of partnership activities (see ***Figure 15***). According to interview findings, compared to student teachers and schoolteachers who rarely mentioned research development as important function of SUP, four out of six university teachers mentioned 'research development' area as an important function of SUP. However, their understanding of '*SUP for research development*' seems to indicate mostly 'the procedures and challenges of their thesis data collection in schools'. University teachers described that 'SUP' should be for promoting the smooth procedures in carrying out university teachers' research data collection.

> *I am doing my research for Ph.D. Although I have permission letters from our university professors, these are not valid unless these are from township education officers (TEOs). So, it is like that I have Director general's sign, but I cannot do it as I don't have TEOs' sign. (UT2)*

In spite of the fact that the 'research development' goal of SUP appears at the second place in actual outcomes, the interviews findings from university teachers probably explain that this area was 'conducting data collection by university researchers in schools. Another interesting fact is related with '*SUP for school improvement*'. ***Figure 21*** illustrates that participants perceived 'SUP for school improvement' as a third priority function, although the actual practices of SUP for school improvement appeared as the least performing area (see ***Figure 15***).

Overall, the actual practices of SUP were in initial teacher education which was also the priority functional area perceived by all participants in both qualitative and quantitative findings.

6.2.2. Influencing actors

One of the further elements which can determine the success and quality of SUP is its actors. Analysing the interviews, it was found that participants' effective learning and the success and quality of SUP largely depended on certain participants who had the major roles. Participants who appeared as the major actors in establishing successful SUPs will be presented in this section. As the influencing actors of SUP are different in each functional area, they will be presented separately according to each function.

6.2.2.1. Influencing actors in initial teacher education

Before data collection, my preliminary assumption was that the most important influencing actors in initial teacher education are the principals of the schools, the mentor teachers, class teachers and the student teachers themselves. The actual outcomes from interview responses showed several other actors and their roles.

The most influencing actors according to interview responses of all participants (n=27, CDT excluded) in initial teacher education are ***'leaders of each institution (i.e., principals of schools and head of departments of teacher training universities, township education officers, and head teachers and subject dean teachers)'***. For example, the head of methodology department and his teachers played important roles in (i) arranging

school visits to practicing high schools to observe schoolteachers' teaching, and (ii) organizing two-week practice teaching to schools such as giving details information of schools and (ii) giving feedback after practice teaching. Some STs mentioned that their seniors had experienced visiting to practicing high schools for observation. However, most of the STs had never participated in such school visits or observation. According to one ST, it can be assumed that this was because of the different managing style of the department.

> *Senior STs got these experiences. But for us, we never had observation to practicing high schools. There was a change in head of department. Since then, we rarely had this activity. (ST7)*

The above quote was from one student teacher. However, other STs also mentioned the lack of communication between practicing high school and the university to support their teaching and learning. Most of them mentioned their seniors' experiences in comparison with their own lack of experiences. One of them said: '*the university cannot arrange for us the observation to practicing high school, which situated next to our university*'.

Comparison to student teachers, university teachers also mentioned the 'importance of leaders' who are responsible for arranging practice teaching of student teachers. University teachers (n=7) described that '***leaders of each institution***' played as important actors for the effectiveness of SUP such as the rector of the university, heads of departments and school principals, etc.

> *Mainly the university teachers from methodology department are the most important. But all the other 13 departments are important too, as they are training student teachers. But the leading department in ITE is methodology department. So, this department has the main responsibility. (UT3)*

> *All leaders from each school are important, school rectors, principals, department of head, etc. So, all the officials and officers are important. Educational leadership, management and planning play important roles, too. (UT6)*

The above quotes also express that university teachers had a clearly understanding of their roles and responsibilities in supporting STs' teaching and learning. Despite the fact that

there was little communication between practicing high school and university, university teachers fully understood the importance of their institution in SUPs for initial teacher education.

Beyond the university, in the case of schools, interview responses show that '***school principals***' play major roles in facilitating STs' learning. In initial teacher education, the success and quality of SUP can be measured by the level of performance and well-being of student teachers as well as of mentor teachers. If the learning and professional development of student teachers is optimal, it can be said that SUP is successful in promoting initial teacher education. Therefore, school principals are the major actors of SUP in ITE because in many cases, the student teachers' learning, and professional development is shaped (or resulted from minimum to maximum) by the capacities and leadership of school principals.

The importance of school principals appears first in 'arranging and organizing STs' practice teaching'. When school principals are flexible and capable to negotiate in arranging practice teaching, STs' learning and professional development became optimal. According to student teachers (n=5), the principals made negotiations and arrangement for the flexibility of their practice teaching. For example, one principal let student teachers to teach her favourite subject, which made student teachers confident in her practice teaching of third year studies. Another student teacher mentioned a principal who allowed him to do practice teaching more than two weeks. This helped the student teachers to get more experiences and made him more self-confident compared to his peers who did only two-week practice teaching. This happened during practice teaching in his third-year studies during semester break. For the practice teaching of fourth year studies, the university allocated the subjects and schools within fixed schedule and timeline. However, in practice teaching of third year semester break, STs went back home to their hometown and chose any schools they wanted to do practice teaching.

> *I wanted to teach 'English subject' as this is my favourite subject, so I told the principal that. Luckily, the English subject teacher was on maternal leave, so the principal arranged it for me to teach the subject. I was so lucky. (ST5)*

> *So, he asked me which subject I want to teach. I told him the subject, Physics. And he also asked me if I want to teach Grade 9 or Grade 10. I chose Grade 9 as*

> *Grade 10 is very important grade and it will be stressful for me, so I didn't want to take Grade 10, so I chose Grade 9. (ST7)*
>
> *Although, the practice teaching was only for 2 weeks, principal told me that I could do more than 2 weeks if I wanted. I wanted to get more experiences, so I spent there for the whole semester break, 2 months in schools. (ST7)*

Besides the arrangement and negotiation, principals were also the major actor in supporting student teachers' learning. Based on the principals' attitudes, their background knowledge, the learning of STs can be from minimal to maximal. Mentor teachers also reported that the role of principal is important. One mentor teacher who is currently a school principal in an elementary school mentioned her role in supporting student teachers' practice teaching. This mentor teacher believed that schoolteachers and student teachers should learn from each other. With this attitude in mind, she tried her best to give STs the opportunities as far as she can to optimize their teaching and learning.

> *On the very First day student teachers arrived, I introduced them to the schoolteachers, and I said 'you are going to learn from schoolteachers. And schoolteachers including me are also going to learn from you'. I teach some classes in my own school. Sometimes, I took the STs with me and let them observe my teaching, then I let them teach and I observed their teaching at the back of the class. (MT8)*

The following quote also shows that principals' expertise and knowledge in education issues allow him to arrange the best possible learning conditions for STs.

> *For student teachers, I want them to be experts and to be able to teach different subjects, not only to teach one specific subject and expert in it. In primary/elementary school level, schoolteachers need to know how to teach different subjects because of the insufficient number of teachers in schools. So, I trained them to be able to teach different subjects. (MT8)*

Compared to principals who could optimize STs' learning, it was found that STs' learning can go to the minimum achievement when the principals of the schools do not have the above abilities. One student teacher mentioned his friend's experiences in encountering a school principal who was always absent and unsupportive:

> *My friend was in the school where principal was always absent. There was only one teacher at that school, and she was in charge for all subjects. So, when my friend arrived there, she told him to teach only history or geography subjects. This was not my friend's major subject. And there was no principal to discuss these issues. (ST7)*

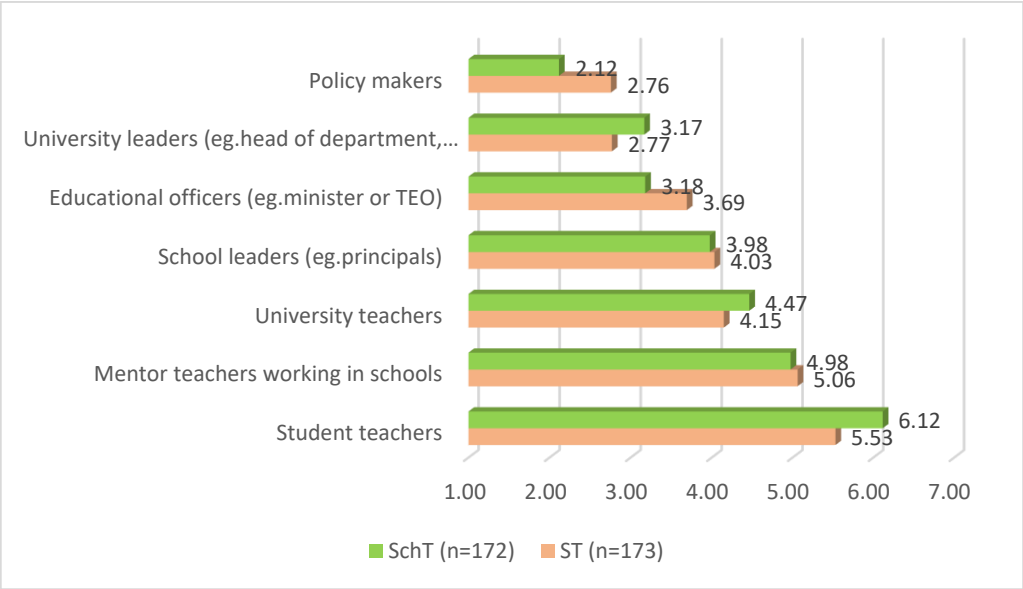
The above experience was not the direct experiences of STs who took part in this study. However, this hearsay experience seems to be worth being mentioned as it also shows the influencing actors for the success and quality of SUP. The interview responses above show that, the teaching and learning experiences of STs can be significantly enhanced by the leaders of the schools, especially school principals. While other actors such as ***township education officers (TEOs) and mentor teachers*** appeared in some cases of STs' responses, the most frequent mentioned was the school principals. On some occasion, STs also mentioned the ***subject dean teachers*** who gave them suggestion and advice about their teaching. ***University teachers, rectors and head of department*** appeared as well, as the main actors in arranging the practice teaching, and visiting to schools, but not for student teachers' learning and professional development.

Derived from interview findings, 'leaders of each institution' are the major actors in determining the success and quality of SUP. Based on the interview responses, a quantitative question for influencing actors was developed. Seven influencing actors were included in the question: (i) policy makers (ii) university leaders (e.g., rectors, head of department), (iii) education officers (e.g., TEOs), (iv) school leaders (e.g., school principals), (v) university teachers, (vi) mentor teachers and (vii) student teachers. Although the policy makers were never mentioned by interview participants, they were included on the basis of literature (the literature section earlier made reference to the importance of policy makers in SUP). Survey participants were asked to rank these influencing actors (1= most important actor to 7= least important actor).

According to quantitative ranking data, both schoolteachers and student teachers assume that school principals are the fourth most important actors for effectiveness and success of SUP (average rank position M_{STs}= 4.03 and M_{SchT}=3.98). Both student teachers and schoolteachers perceived 'policy makers' as one of most important actors for the quality and effectiveness of SUP (see ***Figure 22***). The quantitative results also reflected

the interview findings since 'university leaders (e.g., rectors, heads of department)' were seen as one of the most influencing actors for the success of SUP. The interesting thing about this ranking item is that policy makers were placed as the most important actors while they were never mentioned in the interview responses. Another interesting fact about the ranking question is that both participants assumed that 'student teachers' are the least important actors affecting the quality and success of SUP.

Figure 22: The perceived influencing actors of SUPs by participants (n=345)



Survey question: What do you think about the role of the following actors/players in determining the effectiveness of SUP? Who has the bigger role?

Note: Average rank position of the important actors of SUP, the more influencing actors being at the top (close to 1) and the less important ones at the bottom (close to 7). (n=345)

To conclude, 'leaders of each institution' such as school principals, head of university department appeared and TEOs as the most influencing actors in both qualitative and quantitative findings. Although, participants did not mention policy makers in interview responses, they appeared as the most influencing actors of SUP in quantitative findings. Despite one university teacher mentioned that STs' are one of the most important actors in her interview, quantitative finding showed that all participants consider STs as the least influencing actors in initial teacher education.

6.2.2.2. Influencing actors in curriculum development

Influencing actors for the success of SUP in curriculum development will be presented in this section. Three categories have been mentioned in section 5.3.2.2. Participants: (i) CDT developers, (ii) CDT trainers, and (iii) CDT trainee.

Interview respondents reported that '***district education officers (DEOs) and township education officers (TEOs)'*** played major roles in the implementation of the new curriculum. TEOs and DEOs have the authority and responsibilities in the selection of CDT trainer teachers to collaborate with university teachers in order to receive trainings about the new curriculum and then, become trainers representing the whole township (or district). DEOs and TEOs have to make decision in choosing the CDT trainers who will be the major mediators bridging the world of schoolteachers with the world of universities. These CDT trainers are representatives of each township who will be directly communicating with university teachers. During these trainings, the intensive communication happened between schoolteachers (CDT trainers) and university teachers. One CDT trainer mentioned:

> *An important thing is that it should be the right person in the right place. For the regional officers, they should choose teachers by observing who are active and interested in CPD. They need to think like, 'If I send her, will she be the good trainers for all of the teachers in my township'? These kinds of reflection, choosing and thinking are very important. Right choice should be made. (CDT trainer 2)*

According to her, it was important to select 'the right person as CDT trainer' because these CDT trainers will be the mediators of the two worlds: schools and universities since they will be the disseminator of information between two entities. One CDT trainer explicitly said that the implementation of new curriculum development was successful when TEOs and DEOs selected the right teachers to become the CDT trainers. The outstanding CDT trainers trained schoolteachers with the information and knowledge she collected through communicating with UTs. However, when the TEOs chose the wrong person to be the mediator between the two worlds, the implementation of new curriculum was not successful. One CDT trainer teacher mentioned explicitly the impact of the wrong decision as follows:

> *Some TEOs chose the teachers who were always with them, and closer to them. They were not hard-working teachers, for example, they chose the principals who were always with TEOs, followed TEOs all the time and rarely went back to his school to supervise. So, they were not really keeping in touch with real schools, schoolteachers and children, so they don't know about real school and classroom situations. When they became CDT trainers, it all messed up. (CDT trainer 1)*

Moreover, the success of implementation of new curriculum development can be assured according to qualification and interest of TEOs. Based on the interviews of curriculum CDT trainers, the TEOs' interest on education and passion did matter for the successful trainings of curriculum development. The CDT trainer argued that their training of new curriculum was facilitated and succeeded by TEOs' effort who provided the required teaching aids and facilities during trainings.

> *Another important thing is that the interest of township education officers. For us, our township officer was very interested in education. If we asked material we need, for example, projectors for trainings of specific lessons, she made it happen. She arranged to get projectors in every classroom. (CDT trainer 1)*

> *The township officer cannot provide projectors for us. He said like 'To get projectors or TV is not possible, so please do it possible in another way'. Even they cannot provide projectors, they should have arranged TV and CD players or something. But nothing has arranged. It was a pity that we could not implement fully what we have learnt from our training. (CDT trainer 2)*

> *We had some difficulties in understanding the new curriculum content. The CDT trainer did not know anything. When we asked something about the content, she said that she was also trained like that. She cannot provide the definite answer. The choosing of CDT trainer is important. (CDT trainee)*

The above quotes mentioned how the success and failure of the implementation of curriculum development can rely on TEOs and DEOs. When the education officers were interested and willing to provide the necessary resources, the implementation of curriculum was successful. On the other hand, if they were not capable or interested, the implementation failed. Although there was no direct involvement of SUP in this case, the

decision of TEOs had an impact on CDT trainers who will be the brokers between universities and schools.

There were also other influencing actors in the case of curriculum development. In CDTs, as mentioned earlier, we have university professors, schoolteachers, educational experts and education officers. The most intensive communication between university professors and school teaches occurred in these CDTs. For the CDT developers (schoolteachers), who developed new curriculum together with university teachers, responded that '***academic professors who have background curriculum content knowledge***' played as major actors throughout the collaboration. These academic professors became 'the middle negotiation person' between CDT developers (schoolteachers) and academic professors who don't have background knowledge about curriculum development concepts. Due to the lack of background curriculum content knowledge, there were some conflicts and difficulties between schoolteachers and university professors. At this time, to negotiate between the two worlds, CDT developers (university teachers) who have the general background knowledge from both sides have to intervene for negotiations. One CDT developer (university teacher) mentioned her role as follows:

> *Well, sometimes, I was in the middle between these two: schoolteachers and academic professors. They had different opinions about subject and activities very often. I had to negotiate between them. (CDT developer: university teacher)*
>
> *For academic professors who knew the curriculum development concepts such as 'spiral connection' among lessons, bloom taxonomy, etc., it is easy to work with them. They negotiated between us and the professors who didn't accept our opinion. (CDT developer: schoolteacher)*

These responses showed that university teachers who have the same background knowledge about curriculum development played major roles in negotiating between partners. The success of SUP depended on them as they understood both parties' attitudes and opinions. Unlike the other university professors who were purely researcher and academic subject experts, these CDT developers (university teachers) are professors from university of education. Therefore, they were kept in touch with schoolteachers and pre-service teachers. Also, they live in the world of university in interacting with other

researchers, and academic university professors. Therefore, they understood both sides and their feelings. CDTs were organized by members of academic professors, teacher education university professors, schoolteachers and curriculum department officers. The major conflicts happened between the schoolteachers and purely academic university professors, who are from a world that is very different from that of schools. In this case, the education university professors became the mediators who negotiated to run the SUP smoothly.

Overall, TEOs and DEOs played major roles in developing the new curriculum as they had chosen the CDT trainers as mediators between universities and schools. In the case of CDT developers, university professors who have the same background knowledge as schoolteachers became the major negotiators between schoolteachers and academic professors who had different background knowledge.

6.2.2.3. Influencing actors in other functional areas of SUP

For CPD, it also appeared that ***school principals, assistant township education officers (ATEOs) and township education officers (TEOs)*** took the major roles. One teacher mentioned the role of school principals in assuring the continuous professional of schoolteachers.

> *Principals should be careful to assess the quality of teachers. And principals should discuss with teachers to develop professional development, then discuss with TEOs. There should be group discussions at school. Through that, we should discuss with townships and states and with universities. (MT6)*

In addition to the continuous professional development area, university teachers mentioned the research development area of SUP as well as school and university improvement areas. According to one university teacher, there should be projects to support the schools to improve its student achievement. She participated in one research project focused on school improvement and teachers' professional development. Based on her experiences, she noted that the rector of the institutions, members of the academic bodies and leaders of schools were important actors. It was important to choose the right person in SUP research project so that the project could be successful in supporting school or university improvement. That was why the rector and members of the academic bodies played significant roles for the success and quality of SUP research area.

> *When the project is coming, the rector is very important as she has to report to MOE. And the expert who are expertise in fields of the projects are important, for example, if the project is for science education, the participants should be experts in science, not in art, obviously. And at university, the academic board or committee including rectors, department heads and professors, this board is important. Senate committee is also important as they are doing the decision for all the procedures and the projects. (UT3)*
>
> *School principals, rectors, professors, are all important and are essential leaders. (UT6)*

In general, participants said the leaders of each institution were important in order to create successful SUP in teacher education. Leadership and leaders appeared the most frequently in the responses of university teachers, schoolteachers, and student teachers for the successful partnership between schools and universities.

On one occasion, the response of one university teacher showed how the quality of SUP can be determined by the leaders' attitudes and managing styles. According to this university teacher, there is always an annual program that aims to support schools to promote student achievement for their matriculation exam. This program happens two months or three months before the matriculation exam. The tasks of university academic teachers are to go to schools and lecture high school children about their matriculation exam guides, marking scheme and subject matter content. This program's major aim is to instruct high school students rather than the schoolteachers. However, this university teacher decided to include schoolteachers and provided discussion sessions for teachers, although she got only one day for the lectures.

> *I was the group leader of university teachers responsible for going to school. I got only one day for the lectures, but I tried to go to school as early as possible and had a discussion with the teachers before my lectures. I encouraged teachers to participate in lectures I gave to children, to ask me questions, or whatever they were unclear about the subject matter or marking schemes. The reason was that, if I lectured school children, they would be gone the next year and would not be in that school anymore after passing the exam. But if I train and support schoolteachers, they will give the same lectures I gave to the children in school*

as they are the source people in school. They will spread what I gave them to the upcoming children. (UT8)

The above quote shows that the leaders' attitudes decide the effectiveness SUPs in supporting teachers and the schools. This was one example of school improvement. Although this program aims for student achievement, the leader's capacities and interests can extend it to the continuous professional development of schoolteachers.

6.2.3. Influencing factors determining the success and quality of SUP

Additional elements determining the success and quality of SUP are workplace conditions and working environment, leaders' supportive behaviours and partners' relationship and emotional attitudes. Derived from interview responses regarding these factors, four themes emerged in this content:

i. supportive environment and leadership
ii. mutual understanding and respect
iii. desire to learn (or) passionate about learning, and
iv. awareness of the limitation of knowledge.

The factors influencing the quality and success of SUP will be presented according to four these themes. Before presenting the findings, some preliminary assumption has to be mentioned. Based on the literature, one preliminary assumption has been 'a supportive environment' that allows/encourage different ideas and opinions. Moreover, 'a mutual respect and mutual understanding' is also an important factor for supporting successful SUP. I have also been assumed that 'the presence of concise regulation and policy which encourages the collaboration between schools and universities' is another important factor in implementing intensive communication and collaboration between institutions. The interview responses showed that supportive environment and mutual trust and respect played as important factors in determining the success and quality of SUPs. Although 'presence of regulation and policy which encourages collaboration' did not appear frequently, two respondents reported the need of policy for regular collaboration.

Based on the interview data analysis, survey questions were created to investigate the factors influencing the success and quality of SUP in enhancing teachers' learning and professional development. Besides the four themes mentioned earlier, the

participants' responses showed some other factors that might influence SUP's success and quality. Therefore, the survey questionnaires were developed based on these possible factors and other factors based on literature to have a clearer understanding of factors influencing SUP from a larger population.

Figure 23: Development of questions for determining the factors enhancing the success and quality of SUP

Source: Author

The participants were asked the following question: *Please indicate how strong the (positive) impact these factors might have an impact on the quality of collaboration between schools and teacher education universities and colleges according to your opinion. Please use a 1-5 scale '1' meaning 'this does not have any impact' and '5' meaning 'this has a major impact' on the quality of collaboration.* ***Figure 23*** provides the quantitative variables and items.

6.2.3.1. Supportive environment and good leadership

One of the most frequent factors that appeared in the interview responses was 'supportive environment and leadership' which enhances teachers' learning and professional development in SUP. Four groups of participants have been explored: student teachers, schoolteachers, university teachers and curriculum developer teachers. Each group of participants mentioned the effect of a supportive environment and leadership in enhancing their professional development and increasing the collaboration level between partners.

As reported earlier in the previous section 'influencing actors' of SUPs, principals and subject dean teachers have been key actors. For example, one of the student teachers mentioned that the principal gave him 'autonomy' to try new things and create as far as he can. This encouraged the student teacher to try to learn new things and increased his confidence in teaching and his abilities.

> *I like this principal so much. He never restricted me in anything and allowed me doing what I wanted to do, teach or create. He said that I can invent or create whatever I wanted to do and put effort as far as I can. Hence, I tried so hard and got confidence in me. So, if I were a headmaster, I would do the same, I would encourage student and gave them freedom. (ST6)*

According to student teachers, they improved their professional knowledge, and their learning was optimized in professional environments where teachers gave suggestions and feedbacks. One case, student teacher mentioned that the teachers provided feedbacks about his teaching when he taught lessons and made some mistakes during teaching. After his teaching, the teacher explained the concepts to him and gave suggestions and feedbacks after the class.

> *For example, there are changes in physics subjects in new curriculum. I didn't know these changes, so I taught what I understood. After my teaching, teacher explained me the concepts very well. I understood that I just taught the wrong concept. But she did not blame me, she only explained me the concept. (ST7)*

The above interview response presents supportive behaviour of schoolteacher professional respect towards student teacher. The mutual respect factor will be presented in the next section. From the perspectives of schoolteachers, interview responses also showed that learning of student teachers will be optimal if they are in a school environment where school principals encourage teachers' collaboration and learning together. One of the principals who was also a mentor teacher described how she trained her schoolteachers in order to value the work and learning together.

> *In my schools, I train my schoolteachers to try hard, to learn and to develop their knowledge all the time. I never let STs do nothing, and I want them to learn continuously. I have trained my schoolteachers very well and prepared. So, STs who came to my schools won't be lazy teachers. I am a principal; I won't let it happen. (MT8)*
>
> *whenever STs came to my school, I trained them and prepared them to be good teachers. So, when STs went back to their home, they talked about me and my school to their parents who were teachers. Because of this good news, teachers*

> *were coming to me and told me to accept their sons or daughter as a STs to do practice teaching in my schools. Some parents (teachers) even went to TEOs and asked him 'please send my daughter to this school'. This is how good news spread. I did not do anything to spread this news. I just wanted them to become good teachers who are interested in and value their children. (MT8)*

Likewise, good leadership and management is also very important in establishing a successful SUP, especially in initial teacher education. In the influencing actor's section, school principals played significant roles in supporting student teachers' learning. In this section of influencing factors, the impact of procedures, rules and regulations set by principals on student teachers' teaching and learning in schools is presented. For example, one school principal mentioned her rules and regulations in her school. These rules and regulations were set by the principal in order to run the school effectively and efficiently for school improvement. She mentioned how she introduced these rules and regulations to student teachers on the first day of their practice teaching.

> *I have arranged the rules, like there must be only one table and one chair in front of the classroom, and no teachers are allowed to talk to the other teachers while he or she is teaching. So, I already clearly mentioned to schoolteachers as well as to student teachers 'when someone is teaching in the classroom, no other teachers are allowed to talk to her'. They have their own break for lunch about an hour, so I told them: 'you have one hour break, you can talk or gossip or whatever you like to do; even about me, during these breaks, but not at the time of teaching'. So, my school is running like that. (MT8)*

This interview results also reflect the previous section of 'influencing actors in SUP' (see 6.2.2. Influencing actors) as the principal of the school played a very important role in training student teachers as well as in promoting teachers' professional development. According to the above responses, '*transparency and openness in communication*' was also an essential factor for the success and quality of SUP. Principal communicated openly with student teachers about her rules and regulation of schools.

Supportive environment was not only influencing factor of SUP in initial teacher education, but it was also the major element of SUP in curriculum development area as well. Schoolteachers also reported that they enjoyed their collaboration with university

teachers where they were welcome for speaking up their opinions, new ideas and thoughts. One example of this interpretation came from one CDT trainer who collaborated with university teachers for new curriculum implementation. According to this CDT trainer, the collaboration run very smoothly when university teachers were encouraging and supportive of the ideas they provided. Teachers mentioned that university teachers allowed them to ask questions and gave positive comments when teachers pointed out some new ideas and thoughts relating to new curriculum subjects teaching.

> *University teachers said that she likes the ideas, and she has never thought about this way of teaching before. So, she said that this is a good idea. They were very supportive. (CDT trainer)*

> *They also encouraged us to use alternative ways of teaching the lesson; they mentioned 'if the instruction or activities written in this book cannot be used in your local school, please try to use or substitute with the materials that can be accessible in your local areas'. (CDT trainer)*

These interview results show that '*supportive environment which encourage and supportive of partners' opinions*, new ideas as well as '*encouraging to do and try alternative methods'* increased the enjoyment or quality of SUP. According to CDT trainers, they had very close and intensive communication with university teachers because of their supportive behaviours and open-minded attitudes.

Another evidence of this factor appeared also in the communication between schoolteacher CDT developers and university professors. The collaboration between partners was easier when university professors accepted and listened to CDT developers' (schoolteacher) opinion while working together. This kind of collaboration created a successful SUP in contrast with the collaboration in which university professors did not listen to CDT developers' (schoolteacher) opinions and ideas.

> *When collaborating with university professors who listened to us and tried to negotiate with us, it was very easy to work with them. But, with the other professors who were stubborn and refused to listen to us, it was very difficult to discuss with them. (CDT developer: schoolteacher)*

The above responses from CDT (trainers) and CDT (developers) expressed that the importance of *supportive behaviours and working environments* had an impact for creating or impeding successful collaboration between schools and universities.

Based on the interview findings of 'supportive environment and leadership', four items were developed under the variable 'supportive environment and leadership' in the quantitative survey questionnaires. The developed items were presented as follows: (i) environment which allows you to speak up your opinion and accepts your mistakes, (ii) environment where people are open to alternative ways of getting work done, (iii) environment where people value new ideas and innovation, (iv) environment where leaders provide time, resources and venues for identifying problems and organizational challenges. Among 14 items of factors influencing the quality and success of SUP, these four items of 'supportive environment and leadership' variable showed the highest mean values after 'a trustful relationship and mutual respect' item. These quantitative findings support the interview results as the 'supportive environment and leadership' was the most frequent topic mentioned by the participants. ***Table 6*** provides the mean values and standard deviations of both student teachers and schoolteachers on the four items of supportive environment and leadership variable.

Table 6:Descriptive statistics on 'supportive environment and leadership' as factor influencing the quality and success of SUP

Items	Student teachers (n=174)		Schoolteachers (n= 173)	
	M	SD	M	SD
Environment which allows you to speak up your opinion and accepts your mistakes	4.08	1.093	3.99	1.226
Environment where people are open to alternative ways of getting work done	3.99	1.168	3.93	1.241
Environment where people value new ideas and innovation	4.10	1.105	3.93	1.240
Environment where leaders provide time, resources and venues for identifying problems and organizational challenges	3.94	1.205	3.82	1.373

Survey question: Please indicate how strong the (positive) impact these factors might have an impact on the quality of collaboration between schools and teacher education universities and colleges according to your opinion. Please use a 1-5 scale '1' meaning 'this does not have any impact' and '5' meaning 'this has a major impact' on the quality of collaboration.

As already mentioned, supportive environment and leadership appeared the most frequently in the interview responses. Likewise, this has the second highest value in the responses of both student teachers and schoolteachers on factors influencing the success and quality of SUP.

6.2.3.2. Mutual understanding and respect

Another important factor that appeared in the interview responses was 'mutual understanding and respect' among partners. Although the interview respondents did not directly mention the term: 'mutual understanding and mutual respect' in their responses, their expression about the communication with their partners showed the same meaning.

In the case of student teachers, for example, the trustful and familiar relationship occurred as ease factor for establishing successful SUP. Almost all of the student teachers (n=9) had experiences doing practice teaching in their hometown schools. Because of this fact, they were familiar with school principals as well as schoolteachers. As the schoolteachers and principals knew them since they were high school students, they had already built mutual understanding and trust on each other. This might also be assumed as supportive environment factor of 'doing practice teaching in familiar environment'. For all the student teachers who had done their practice teaching in their childhood schools, few challenges and conflicts emerged during collaboration. The already built-up 'mutual understanding and trust' among partners made their collaboration easy and effective.

> *I was one of the outstanding students at this school when I was a high school student. So, principal knew me, all the teachers as well. So, they trusted in me and gave me autonomy in teaching and learning. (ST6)*

> *As I did my practice teaching at my childhood schools, I knew all of the teachers. So, I discussed with teachers. I forgot some of the lessons, so I asked schoolteachers, and they explained me. I didn't have any barriers in communicating with the teachers. During school break time, I usually asked teachers what I didn't understand. I didn't want to sit all day long, so I taught six period, out of eight school period. (ST2)*

> *I passed my matriculation exam with flying colours in that school. Subject dean teachers and all other subject teachers were my teachers. The practice teaching went very well. (ST7)*

This interview responses showed that 'familiar colleagues' was one of the factors influencing for the quality of SUP. The importance of 'trust among partners' also stood as the main factor, even in unfamiliar schools or with new colleagues. For example, schoolteachers reported that they never corrected student teachers' teaching in front of the children in the classroom. They never criticized student teachers because they understood that student teachers did not have experiences of real classroom teaching before and they respect their 'teacher status'. They gave feedbacks during break time in teacher rooms. Principals also mentioned that she has requested to her teachers not to correct student teachers' teaching during her teaching, but to give advice privately.

> *When student teachers are teaching, I have told the subject teachers not to make comments in front of the children in classrooms. I told them to give feedbacks only in their break times or in the meetings. As the student teachers are young, we understand that they don't have so many experiences in classroom controlling and teaching skills. (MT6)*

> *Student teachers are young, and they are all smart. I don't need to give so many suggestions. They were well-prepared. If I found something to give feedback, I did it privately, not in the classroom while they were teaching. (MT2)*

> *One time, I was teaching a lesson. Mentor teacher was observing my teaching outside of my classroom. Just only for few minutes. After that, in teachers' room, she gave me feedbacks that some concepts I taught was incorrect. I respect she gave me feedbacks after my teaching. It was very considerate of her. I liked working with this teacher. (ST7)*

> *When they came to school, they had lessons they wanted to teach. Sometimes, the lesson they wanted to teach have already taught by us. But we let them teach again as they wanted to practice teaching. Because they came with a desire to practice, so we would like to fulfil their desire. (MT7)*

> *On the last day of practice teaching, the children wanted us to give 'goodbye speech' and to celebrate farewell party. When we asked schoolteachers, they allowed us and gave privacy for us and the school children. (ST4)*
>
> *At the end of practice teaching, student teachers asked me if they can do celebration farewell with school children. I allowed them. STs and school children showed attachment to each other during these two weeks. So, they want to do farewell. I understood the feeling. So, I said that they can do it. (MT5)*

The above responses showed that the mutual respect contributed a major role in enhancing partners' communication. Student teachers mentioned several times how the mentor teachers or schoolteachers gave feedbacks privately when they made some mistakes in teaching. They also expressed that they were very grateful for this manner. Not only in giving feedbacks to STs' teaching, but schoolteachers also showed understanding of the relationship between school children and student teachers. During these two-week practice teaching, STs built a friendship with their children. Therefore, the last days were heart-breaking days for them, such as children were sad and did not want STs to leave the school. According to STs, they mentioned that

> *Children cried when we left school on the last day. They did not want us to leave. It was so sad. (ST8)*

The schoolteachers understood this feeling and attachment and she let them to have a farewell party in school. Here the mutual respect was shown between student teachers and schoolteachers in a way that STs asked schoolteachers' permission to do the party as they respected them as the class teachers. The schoolteachers also understood the attachment between school children and STs, hence, they permitted them to do the farewell celebration.

In the case of schoolteachers and university teachers, mutual respects for each professional background and knowledge appeared very frequently. When the two partners come from totally different institutions, they have different backgrounds and professional knowledge. The communication and collaboration among these two partners were smooth when both parties understood that they had different professional backgrounds and showed respect to others' opinion, ideas and knowledge.

> *One teacher I met in CPD program was very smart and knowledgeable. He used to give feedbacks for our trainings and also put his ground experiences into our training. I appreciated his input and knowledge. The schoolteachers have ground experiences which we don't have. (UT6)*
>
> *Well, schoolteachers are very good in subject matter knowledge. They have been teaching in schools for several years. They know about the children, the subject and school conditions. So, we must listen to them regarding to classroom practices. (UT3)*
>
> *And the curriculum is also very good, we don't need to correct. We only discuss what to do and how to teach. So, when we discussed with ECs teachers, they listen attentively. They listened to us whenever we have ideas and things to discuss. (CDT trainer)*

Some other examples for the importance of 'mutual respect and understanding' also appeared in curriculum development collaboration as well. When university professors listened to CDT developers' (schoolteachers) opinion and inputs during collaboration process, their communication went very well till the end of the period. On the other hand, when university professors did not try to listen or reject schoolteachers' ideas and opinions, conflicts appeared. Two CDT developers (schoolteachers) explicitly said that their communication was difficult with university professors who did not have respect on their experiences and ideas. This is the lack of mutual respect and trust among partners which impede for establishing SUP. This factor will be discussed as challenging factor in the next section. 'Mutual trust and respect' have been perceived by all participants as a major factor for building the successful SUP. The 'trustful relationship and mutual respect' item shows the highest mean value among all survey questionnaire respondents (n=347) including student teachers (n=174) and schoolteachers (n=173) (see ***Table 7***).

Table 7: Descriptive statistics on 'mutual trust and respect' as a factor influencing the quality and success of SUP

Items	Student teachers (n=174)		Schoolteachers (n= 173)	
	M	SD	M	SD
A trustful relationship and mutual respect between partners	4.25	1.018	4.23	0.998

Please indicate how strong the (positive) impact these factors might have an impact on the quality of collaboration between schools and teacher education universities and colleges according to your opinion. Please use a 1-5 scale '1' meaning 'this does not have any impact' and '5' meaning 'this has a major impact' on the quality of collaboration.

6.2.3.3. Desire to learn (or) passionate profession/learning

Desire to learn or being open to new ideas is the major important factor which makes SUP more effective to support the participants' learning and professional development. This factor appeared most frequently in initial teacher education when mentor teachers talked about student teachers who were eager to learn, and curious to know new ideas and subject knowledge from them. Likewise, mentor teachers' eagerness to know different teaching methods from student teachers created the better communication and interaction between partners.

> *I remember one student teacher. He is so hardworking and curious to know everything about teaching and learning. When I talked about my experiences throughout my teaching profession, his eyes shined brightly, and he listened so attentively. You can see if they are interested in what you are saying by looking at their eyes. His eyes were shining and waiting for what I going to say. He appreciated my experiences and asked me questions when he wanted to know more. I am happy when I meet this kind of student teacher who are eager to learn and curious to know. (MT10)*

Mentor teachers' fondness to student teachers who have thirst for knowledge was mentioned by five mentor teachers. In these interviews, when mentor teachers mentioned these student teachers, they frequently mentioned their fondness such as '*I like when I have these student teachers*', '*I am glad that they are interested in teaching and asked a lot of questions*', '*When they ask questions, I need to reflect and think, this makes me constantly sharping my knowledge and skills*', and so on.

This curiosity to learn from others also bring the partners closer in a SUP. For example, one mentor teacher said that he wanted to learn teaching aids, different teaching

methods and teaching strategies from student teachers. He explicitly said that he tried to be friendly with student teachers and tried to find possible ways to interact with them. This was because of his curiosity to know the teaching techniques that the student teachers were using. This mentor teacher is open to new ideas and tried to explore student teachers' ways of teaching. This curiosity and eagerness in learning brought the mentor-mentee relationship closer.

For the quantitative part, two items were developed by providing two activities where participants might be motivated to engage actively in school-universities partnerships. The following two items provides the two situations where participants might be motivated in SUP activities; (i) consultation services for reducing stress and workloads, and (ii) work for partnership activities is rewarded or recognized (***Table 8***).

Table 8: Descriptive statistics on motivated situation as a factor influencing the quality and success of SUP

Items	Student teachers (n=174)		Schoolteachers (n= 173)	
	M	SD	M	SD
Consultation services for reducing stress and workloads	3.70	1.202	3.79	1.272
Work for partnership activities is rewarded or recognized	3.95	1.065	3.90	1.279

Please indicate how strong the (positive) impact these factors might have an impact on the quality of collaboration between schools and teacher education universities and colleges according to your opinion. Please use a 1-5 scale '1' meaning 'this does not have any impact' and '5' meaning 'this has a major impact' on the quality of collaboration.

6.2.3.4. Awareness of limitation of knowledge or resources

Another interesting factor which has an impact on the success of SUP is participants' awareness of limitations of knowledge or resources. This 'awareness of limitations of knowledge or resources' contribute as an essential factor in two stages: (i) before the establishment of SUP, and (ii) during the SUP.

Needless to say, all the SUP emerged due to the fact of this awareness that only one institution was not enough to train teachers, to produce knowledge or to promote innovation. In Myanmar, most of the SUP in education emerged as the government initiated it. Therefore, the impact of this factor before the establishment of SUP did not appear in the interviews. However, during the interviews, the participants clearly mentioned the awareness of their limited knowledge and resources. For instance, university teachers mentioned that the reason why they are sending STs to schools is that

they cannot provide what the schools can provide, such as the practical experiences of teaching in a classroom. Moreover, they acknowledged that schoolteachers sometimes possessed more subject matter knowledge and pedagogical content knowledge than the UTs since they have been teaching for several years and they were already experts in their subjects.

> *University cannot provide the practice teaching experiences like the school does. And schoolteachers are very proficient in their subject knowledge and how to teach their subject, so through collaborating with them, I am sure that STs will get a lot of advantages in their teaching*. (UT3)

The similar quotes in the above were mentioned by majority of the university teachers when they explained why they are sending STs to schools for practice teaching. In the case of one mentor teacher, he approached student teachers because he was aware that he has limited knowledge about teaching and learning. Therefore, he tried to communicate with STs to get new teaching aids, teaching methods and strategies.

The university teacher CDT developer also mentioned her limited knowledge concerning the characteristics of school children. Due to this fact, she listened and appreciated schoolteachers CDT developers' ideas and opinion during developing the new curriculum.

> *School teachers are in contact with school children every day. They understand more about learners' characteristics, learning styles, etc. We don't have this knowledge, so I usually listened to schoolteachers when they would like to add something.* (UT6)

According to these interview responses, 'awareness of limitation of knowledge' played a major role in building effective and successful SUP in education.

6.2.3.5. Other factors

A few respondents mentioned the need of policy or regulation that encourages the school-university collaboration in education. In addition, some mentor teachers mentioned that there are no specific rules or procedures such as 'how much times should be given for student teachers to do teaching in a day'.

For the quantitative part, more additional items were added based on the interview responses and literature review. According to the literature, it is important to have a clarification of roles and responsibilities of each partner before SUP and during SUP. Moreover, the flow of information within partnerships is essential to support all partners to have open and easy communication as well as for sharing information. Therefore, in the survey questionnaire, additional factors have been added based on interview responses and the literature review. ***Table 9*** provides the mean values and standard deviations of other factors which can have an impact on the success and quality of SUP.

Table 9: Descriptive statistics on factors influencing the quality and success of SUP

Items	Student (n=174)	teachers	Schoolteachers (n= 173)	
	M	SD	M	SD
An intensive communication between schools and universities	3.88	1.274	3.88	1.262
School teachers and universities teachers have regular meetings for collaboration activities	3.75	1.282	3.66	1.344
A flexible administrative/management for collaboration	3.71	1.180	3.63	1.298
A clear clarification and assignment of roles and responsivities	3.99	1.003	3.79	1.283
A clear time allocation and time availability of participants	3.86	1.175	3.68	1.354
Having easily flow of information environment	3.98	1.123	3.87	1.272
Both organizations have leadership responsibilities	3.91	1.174	3.82	1.332

Please indicate how strong the (positive) impact these factors might have an impact on the quality of collaboration between schools and teacher education universities and colleges according to your opinion. Please use a 1-5 scale '1' meaning 'this does not have any impact' and '5' meaning 'this has a major impact' on the quality of collaboration.

6.3. Research Question 3: What are the challenges of collaboration between schools and universities?

Besides investigating the factors influencing the success and quality of SUP, it is also essential to explore the impeding factors which might reduce the quality of SUP. Therefore, this research question has been developed to find out the challenging factors faced by participants during their collaboration. Qualitative interviews reported five major factors which impede the collaboration between schools and universities:

i. Power relation and different professional background
ii. Lack of resources

iii. Lack of motivation and interest in teaching and learning and in professional development
iv. Lack of support and feedbacks from leaders, and
v. Lack of mutual trust and respect.

In the previous section related to the research question of 'influencing factors' for the quality and success of SUP, 'supportive environment and leadership' as well as 'mutual respect and trust' were described as playing an essential role in successful SUPs. In this section, I will present how the lack of these factors can inhibit the success and quality of SUP in enhancing teachers' learning and professional development.

Based on my knowledge from the literatures of SUP, my preliminary assumption for the challenges in promoting teachers' learning was 'lack of resources', 'differing professional opinion and background knowledge' and 'power relation'. With keeping in mind about researcher's bias for this preliminary assumption, I avoided asking 'leading questions' in the interviews. The following section will present the results of interview findings aligned with quantitative survey questionnaire results.

In the quantitative part of the study, items were developed based on interview responses of the qualitative part. In addition, further items were added based on the input from the literature of SUP. For the quantitative part, participants were asked the following question: 'Please indicate how strong the (negative) impact these factors might have on the quality of collaboration between schools and universities according to your opinion'. Participants were asked to put the scale from 1 to 5 representing '1' meaning 'this does not have any impact' and '5' meaning 'this has a major impact'. These nine items can be seen in the findings of the quantitative part (see ***Figure 24***).

6.3.1. Power relation and different professional background

This area is the most frequent theme mentioned by CDTs developers. The power relation between schoolteachers and university professors seems to be a major obstacle that impedes the collaboration. University professors significantly hold higher position than schoolteachers as they are being seen as educational experts and academic specialist in the country. Besides this, they also hold higher status than schoolteachers because their higher salaries and privileges. Due to these factors, most of SUPs were university-led and symmetric relationships occurred very rarely between partners.

As mentioned in the previous sections, SUP in curriculum development was the most intensive partnership area between universities and schools in which both parties got the chance to work together and discuss together for a longer period of time and collaborate intensively at a level not experienced before. Since this collaboration was the very first and obvious example of intensive partnership, challenging factors appeared also in this functional area, and this deserve special attention when identifying the impeding factors.

SUP for curriculum development was aimed for developing and reforming the national education curriculum from kindergartens to 12th grade (K-12). This form of SUP was carried out within curriculum development teams (CDTs) which includes university professors from academic universities, university professors from teacher education institutions, schoolteachers, officers from curriculum development department and educational experts such as retired professors (5.3.2.2. Participants). As stated before, when the university professors hold a higher position among all participants, schoolteachers were under the influence of university professors although they were collaborating together for developing new curriculum. According to interview responses, university professors assumed schoolteachers as inexperienced teachers compared to their experiences and years of teaching services. Two CDTs developers (schoolteachers) explicitly mentioned that academic professors saw them as 'children' since they were very young and did not have many years of teaching experiences compared to university professors who were in their 60s and had many years of teaching services.

> *Academic professors see us as children because we were young and did not have a lot of experiences like them. (CDT developer: school teacher1)*
>
> *We are from weak side; they are professors and experts. So, most of the time, we had to give up what we proposed. Later, we didn't do anything that will have challenges and face with them directly. (CDT developer: school teacher2)*

Aside from this power relation, there were conflicts among participants because of different professional background and knowledge. For example, CDT developers (schoolteachers) mentioned about the disagreement they had with university professors in including 'class activities' in new curriculum. For CDT developers (schoolteachers), they knew that children were more interested in lessons with group work and activities

than listening to teachers teaching them. Therefore, CDT developers (schoolteachers) developed content with different class activities. However, from the perspectives of university professors, they focused more on subject content than including class activities.

> *For example, we added some brainstorming questions for arousing the curiosity. We don't want to teach lessons without no activities or started with asking question; so we wanted to include 'Q&A' section as well as class activities and group activities. But for university professors, they favoured more on content and usually excluded the class or group activities we proposed. (CDT developer: school teacher1)*

Having different professional knowledge and opinion, some CDT teachers were making reference to the 'ignorance' of some subject specialist professors regarding curriculum development content knowledge. As CDT developers (schoolteachers) have graduated from universities of education, they have learnt about curriculum development such as 'spiral connection' between lessons to lessons as well as across grades. However, academic professors ignored the fact of this connection across the grades, and they focused mainly to finish one concept in one or two grades.

> *In developing curriculum, there is a connection between one lesson to the other and from grade to another grade. But the academic professors ignored this fact. They wanted us to finish one concept in one chapter, and that is, no connection. We have this 'spiral connection' between concepts between lessons and also across grades. For example, if we introduce one concept in this grade, then we will extend it in the next grade. (CDT developer: schoolteacher 1)*

This kind of differing professional knowledge and opinion led to tensions between partners. According to one CDT developer (schoolteacher), academic professors once left the meeting room while one CDT developer (schoolteacher) was doing simulated teaching.

> *In our group, there was a young CDT teacher. During simulated teaching, she asked everyone in the room, to move around for group discussion and activities. At that time, the academic professors left the room as they were angry that this young teacher asked them to move around in the room. They said that 'you are*

> *not teaching kids; you are doing this with professors. Then they left. (CDT developer: schoolteacher 1)*
>
> *Sometimes, when we discussed with professors, I felt like I was defending for my thesis. There were a lot of disagreements and we needed to negotiate seriously. (CDT developer: schoolteacher 2)*

From the above statements, a 'power relation' also appeared again as constraints between partners. CDT developers (schoolteachers) also mentioned university professors who have the same background knowledge about curriculum development, especially university professors from teacher education universities. In working together with those professors who have the same background knowledge, the communication between them was smooth as academic professors listened to CDT developers' (schoolteachers) opinion and ideas.

> *For academic professors who have the knowledge about the curriculum development have shown respect to us. They listened to us and mostly agreed with our opinion. (CDT developer: schoolteacher 1)*

CDT developers (schoolteachers) also mentioned that the trainings about curriculum development content knowledge should be provided to academic professors for the better collaboration and communication.

In the case of student teachers, this 'different professional knowledge and opinion' appeared frequently as well. However, according to student teachers, this factor didn't create any obstacles for SUP in enhancing their learning. According to student teachers (n=9), they found that their teaching methods and mentors teachers' teaching methods were different as they used learner-centred approach very often while mentor teachers used a teacher-centred teaching method. Although this difference in professional practices appeared frequently in interview responses, student teachers did not mention it as an obstacle in collaborating with schoolteachers. However, student teachers (n=2) mentioned that mentor teachers wanted them to finish assigned lesson within two weeks of training.

> *Teacher told me to finish the lesson she assigned to me within two weeks. This was very difficult for me as my focus was not on finishing lesson. I wanted to teach*

with several activities and teaching aids to make the children fully understand the concept. It takes time to teach like that. (ST1)

This was mentioned by two student teachers as obstacles for teaching and learning. According to these student teachers, different professional opinion and beliefs were found as mentor teachers focused on finishing lessons whereas STs wanted to focus more on effectively delivering lessons with activities. This difference in professional opinion and beliefs was also connected with another factor: resources (e.g., time, human resources and money, etc.) as schoolteachers had very limited time and workload to finish lessons while STs got only two-weeks of practice teaching. These are another obstacle of SUP which will be discussed in the next section (see 6.3.2. Resources).

In the quantitative survey, two items were added under this variable: (i) different opinions, beliefs, and attitudes among partners, and (ii) lack of professional skills and expert knowledge. When student teachers (n=174) and school teachers (n=173) were asked to respond the question about 'factors impeding the success and quality of SUP', results from both participants showed the lowest mean value for the item: 'different opinions, beliefs, and attitudes among partners (STs: M=3.52, SD=1.163 and MTs: M= 3.35, SD=1.390) (see ***Table 10***). As discussed earlier in the analysis of qualitative data, this factor was the most influencing obstacle among curriculum developer teachers. Although a few student teachers and mentor teachers mentioned it in the interviews, this do not seem to have much impact on their learning in SUP. Therefore, the quantitative survey findings seem to confirm the qualitative interview findings.

Table 10: Descriptive statistics on different professional backgrounds and knowledge as an impeding factor for the quality and success of SUP

Items	Student teachers (n=174)		Schoolteachers (n= 173)	
	M	SD	M	SD
Lack of professional skills and expert knowledge	4.10	0.977	3.85	1.355
Different opinions, beliefs and attitudes among partners	3.52	1.163	3.35	1.390

'*Please indicate how strong the (negative) impact these factors might have on the quality of collaboration between schools and universities according to your opinion'. Participants were asked to put the scale from 1 to 5 representing '1' meaning 'this does not have any impact' and '5' meaning 'this has a major impact*'.

However, for the item: lack of professional skills and expert knowledge, student teachers reported a high mean value (M=4.10). This means that they thought that this item somehow did have an impact on their collaboration with schoolteachers or mentor teachers. In the interview responses, student teachers claimed that their teaching methods and strategies were different from schoolteachers' teaching strategies and methods in a way that they used learner-centred teaching methods while teachers applied teacher-centred methods. This fact might be assumed why STs answered as lack of professional skills and expert knowledge regarding to teaching methods and strategies (probably seeing child-centred teaching methods as more advanced than teacher-centred methods). Although student teachers reported that, interview findings showed that they have learnt subject matter knowledge and pedagogical content knowledge from mentor teachers (see 6.4.1.1. Professional knowledge and skills).

6.3.2. Resources

Resources as impeding factor of successful SUP mostly emerged in the initial teacher education functional area. Resources in this section include time, money, human resources, materials. Due to the poor conditions of the country, there are not enough teachers in schools as well as materials. Together with this shortage of human resources and materials in schools, too much workload on teachers also reduced the time devoted for communication with partners in SUP.

In the case of university teachers, 'time and workload' appeared as the main issue for explanation of why they couldn't go to schools to communicate with student teachers and schoolteachers intensively during the two weeks of student teachers' practice teaching. During these two weeks of practice teaching, university teachers go to schools typically only once to observe student teachers' teaching. One university teacher mentioned that '*I wanted to go and observe second time again, but because of the workload at the university, we were busy, so I couldn't go*' (UT3). All university teachers mentioned that they were overloaded, and it was difficult to spend time more than one day at schools. In parallel with administrative duties, they had classes to teach at the university as well. One university teacher mentioned that:

> *We only went to schools more than two times when there were issues between schools and student teachers. At that time, we had to negotiate with school principals and schoolteachers to have a smooth relationship between them. (UT3)*
>
> *Well, actually, we need to do two times, first time during first days of bloc teaching and second time, when they are about to finish. But these two times were not set firmly. It depends on teachers. Sometimes, if there are some issues, we have to go to schools very often. (UT4)*

When university teachers described the issues between schools and student teachers, the source of the issues also related to 'lack of material resources' in supporting student teachers' practice teaching and learning within two weeks. According to one university teacher, there were conflicts between school principals/schoolteachers and student teachers regarding in preparation of teaching aids. Some schools asked student teachers to prepare teaching aids which costs a bit much for them. When schools asked for it, student teachers could not afford to provide these teaching aids, then they complained about it to university teachers. Therefore, university teachers had to intervene to solve the issues.

> *Sometimes, schools asked to prepare 'colourful teaching aids' which are expensive for student teachers. Then, they cannot afford it, so they called us to negotiate between them. After we explained the situation, they understood. (UT3)*
>
> *For example, my friends who taught Biology, she discussed with Biology school teacher. That teacher complained a lot about teaching aids what my friends did. My friends tried to save money. They can't spend so much money. So, for teaching aids about drawing board, they did not print out in colours. They just drew it by themselves. The teacher didn't like it. She wanted them in colourful preparation. She complained about it. (ST3)*

As mentioned above, these can be related to two issues: resources and different opinions or misunderstanding among partners. In the above case, schoolteachers valued the teaching aids and expected to be in colourful version. While student teachers did only in simple black and white type, it couldn't satisfy the teachers' expectation. Lack of teaching aids/materials at schools pushed school sides to ask for preparing teaching materials from

student teachers. On the other hand, the lack of financial support from university for student teachers' practice teaching made it difficult for them to prepare materials.

One university teacher also mentioned that lack of resources at schools led to stop collaboration with schools.

> *Some school principals told us not to send student teachers to their schools next year. They said that they don't have enough resources such as rooms, desks, and chairs at schools. They said that even their schoolteachers don't have the teachers' room for break time, they had to sit on the corridor with few tables, so they don't want to receive student teachers. (UT3)*

Based on university teachers' responses, lack of materials and workload became the impeding factors of collaboration, particularly in supporting student teachers' teaching and learning. Relating to initial teacher education, other obstacles was the lack of human resources and the available time. According to student teachers and mentor teachers, 'not having enough teachers' in schools was one of the major challenges in collaboration among partners. One principal who was also mentor teacher explained that the intensity of her help in supporting student teachers' teaching and learning depended on 'teachers' resources' in schools.

> *When we have enough teachers at schools, I asked student teachers to observe my classroom and my teaching. Then we discussed together for her lessons, and I helped them in their planning lesson and observed their lesson. But nowadays, we don't have enough teachers in schools, so student teachers also have to teach the classes, and no time to observe my lesson. Though I still help them in their teaching, not intensively as I did before. (MT8)*

The intensity of supporting student teachers in their teaching and learning was shaped by schools' human resources. Another mentor teacher also mentioned that they don't have so much time to support student teachers as they all were busy with their teaching due to lack of enough teachers in the schools. From the perspectives of student teachers, they mentioned that 'class size' became the obstacles for them as more than 60 children in one classroom were difficult to manage during the activities. Five student teachers mentioned the class sizes and 'not enough teachers' at schools during interviews.

One student teacher mentioned that:

> *I used to do the group activities. They have never experienced these learner-centred approach and practical experiments; the children were so excited whenever I did. But it was so difficult to handle the class as they got so excited and the whole classroom became chaotic. And the schools didn't have enough materials for practical experiments, so I had to do it with few materials, then 60 children and few materials created chaotic, at that time, I got difficulties to handle. (ST8)*

However, student teachers did mention that they got help from schoolteachers when they could not handle the classroom. Student teachers were also disappointed about '*two-weeks training' period*, as these two weeks is a very short time for them to experience real classroom teaching and school experiences. One the other hand, university teachers mentioned that two weeks is the best they can arrange during the four months of one semester study period. At university, student teachers mentioned that they did practice teaching of two weeks only two times; one in their 3rd year of semester break and one in 4th year during university studies period. For some student teachers, it was fortunate that the principals and schools were flexible, and they could negotiate more than two weeks in their 3rd year of practice teaching in schools. However, this was not the case for all student teachers.

In new curriculum development and implementation, 'shortage of provided time' and 'lack of materials resources' appeared as obstacles as well for successful SUP. Due to being unable to provide necessary materials for curriculum implementation, one curriculum developer teacher (trainer) mentioned: '*I even wanted to cry at that time, as I wanted to do the best for training schoolteachers, but the lack of materials such as projectors and TV made me disappointed*'. Another curriculum developer teacher (trainer) also mentioned the amount of time period (two weeks) was so difficult to implement as they were trained by university teachers only a few days. She mentioned as follows:

> *We were trained only for a few days, and then we had to train schoolteachers for 10 days, we made us so stressed as we didn't know much about the new curriculum*. (CDT trainer 1)

There was only one item regarding to resources in the quantitative part of the study: 'limited resources (e.g., human resources, materials, time, money, etc.)'. Both student teachers and schoolteachers reported that this limitation somehow had an impact on SUP as both groups gave mean values of 3.98 to this time. As the item was asked under 5-point Likert Scale from 'does not have an impact' to 'have a major impact' like the other items, this mean value of limited resources represents 'moderately have an impact' for the quality of collaboration between schools and universities.

6.3.3. Lack of leaders' support and feedback and lack of interest

> *I want them to collaborate together and gave feedback to us after this practice teaching. (ST9)*

This was one of the student teachers' responses when the question about the status of the collaboration between schools and universities was asked. All student teachers (n=9) answered that there was no communication between schoolteachers and university teachers in discussing about their teaching and learning during practice teaching period. When university teachers came to schools for observing student teachers', they usually talked to principals as soon as they arrived. Then, the university teachers would come to student teachers to ask them if they are okay with school conditions, communication with teachers. And the student teachers rarely saw university teachers discussing with schoolteachers about their teaching and learning. University teachers usually talked to teachers about the condition of student teachers, particularly asking if student teachers do their teaching well or behaving well, and so on. University teachers also described that they have never discussed with schoolteachers about student teachers' lesson planning, observing their teaching and giving feedbacks, etc.

> *When I went to schools where student teachers did practice teaching for two weeks, I first talked to principal asking 'how is everything? Are there anything you need? etc. Then I went to STs to see how they are doing. I asked: do they have any difficulties? Is everything ok?' etc. I rarely talked to schoolteachers or mentor teachers. Sometimes, I greeted them. But we never discussed about STs' teaching and learning, we didn't have this discussion. (UT5)*

> *I asked teachers: 'are STs behaving well? Are they doing okay?' etc. But as we are busy and have a lot of things to do at university, we didn't have time to discuss with teachers. (UT3)*

Although there was informal discussion at university between student teachers and university teachers, there were no formal 'knowledge sharing or experiences sharing' practices at university. Another student teacher described that:

> *I want feedbacks from both university teachers and schoolteachers. It would be great if they can discuss together. (ST3)*

Lack of leaders' support was also reported by CDT trainers as an obstacle. The teachers complained a lot about 'lack of interest' from township education officers and colleagues' teachers during the training. Although this is not the case about the school and university collaboration, this also can be interpreted as an obstacle in implementing curriculum development at township level. One CDT trainer mentioned about one township officer as '*The main important thing is that they are not interested in what we are doing and training*'. Another mentor teachers mentioned her experiences of training student teachers:

> *If student teachers were interested in their profession and eager to learn, I was so happy to accept these kind of student teachers. But some student teachers were not interested in learning, or they even told me once that they entered this profession because their parents wanted them. (MT8)*

Two mentor teachers reported that the interest of student teachers in learning was important for their collaboration. On the other hand, student teachers also mentioned that they have wonderful collaboration with schoolteachers as teachers were interested in their activities and learner-centred teaching methods. They discussed more and communicated more with schoolteachers who were curious about what they were teaching.

For the quantitative part of this factor, three items were included: (i) lack of leaders' support and encouragement, (ii) lack of interest in teaching and learning, and (iii) environment where innovative ideas and creativity are not encouraged. Quantitative part of 'lack of leaders' support and encouragement' showed the highest mean values among participants (see ***Table 11***).

Table 11: Descriptive statistics on lack of leaders' support as an impeding factor for the quality and success of SUP

Items	Student teachers (n=174)		School teachers (n= 173)	
	M	SD	M	SD
Lack of leaders support and encouragement	4.27	0.916	4.06	1.246
Environment where innovative ideas and creativity are not encouraged	4.07	0.989	3.93	1.295
Lack of interest in teaching and learning	4.25	1.183	3.99	1.461

'*Please indicate how strong the (negative) impact these factors might have on the quality of collaboration between schools and universities according to your opinion'. Participants were asked to put the scale from 1 to 5 representing '1' meaning 'this does not have any impact' and '5' meaning 'this has a major impact*'.

For the item 'lack of interest in teaching and learning' showed the second highest mean values for both groups of participants (see *Figure 24*). For the third item of environment where innovative ideas and creativity are not encouraged also resulted higher mean values. These reports showed that both participants believed leaders' support did have an impact on the collaboration between schools and universities. This also reflects what participants have reported in the previous section as leaders' support made a difference in their learning and professional development as well as for SUP.

6.3.4. Other influencing factors

Based on participants' responses, other impeding factors for a successful and quality of SUP were 'mutual respect and trust', 'lack of policy and regulations which encourages partnership', and 'change in administrative procedures in education'.

'Mutual respect and trust' appeared frequently in responses of curriculum developer teachers where academic professors and teachers faced challenges during collaboration. The lack of respect to schoolteachers' opinion in developing curriculum was emerged as the major obstacle together with power relation and different professional knowledge.

In the case of initial teacher education, all student teachers (n=9) reported 'lack of partnership regulation and policy' as the weakness for their learning. According to them, the practicing high school was out of touch with university although it is named 'practicing high school' and situated just next to their university. However, due to lack of

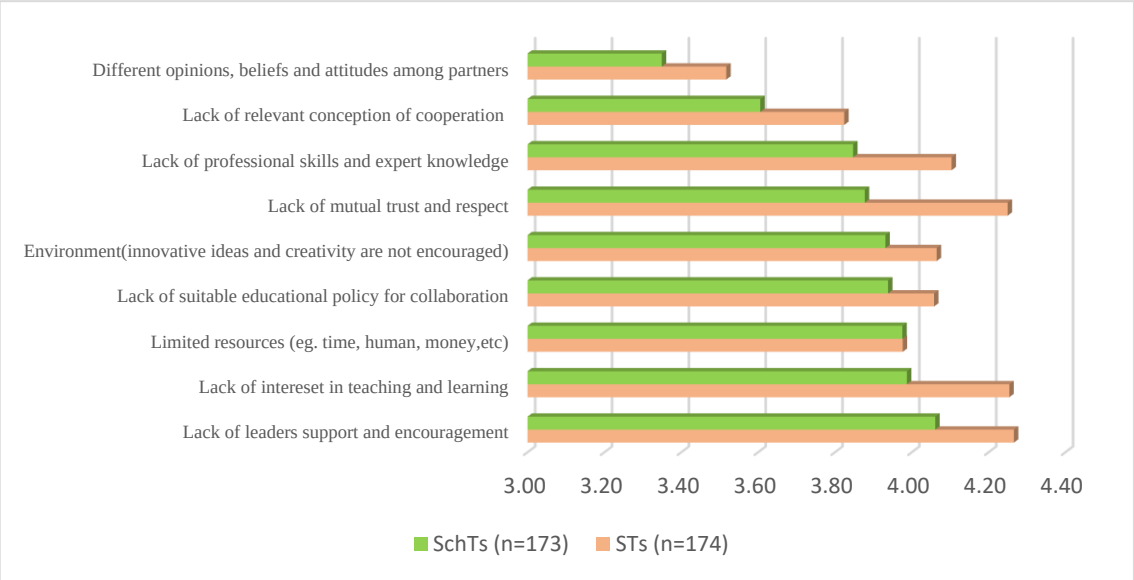
policy or regulation which encourages partnership, they didn't even have a chance to go there and observe the teachers' teaching.

> *The practicing school was existed next to our university. But we felt like it is a useless building. We are not even allowed to enter the building. (ST7)*
>
> *It is sad that we never had a chance to go and observe this practicing school. It should be ours and it should provide for our learning and teaching. (ST3)*

Regard to this, one university teacher mentioned about the 'change in administrative procedures' which meant that practicing high schools were now under the management of basic education. Before that, these practicing schools were directly managed by higher education and teacher education universities. However, due to the change in policy, more and more gap in partnership appeared between practicing high schools and teacher training universities. According to university teacher, this separation and change in policy was one of the major impeding factors of SUP in teacher education.

The overall quantitative results of impeding factors for a successful SUP are reported in the following figures. ***Figure 24***shows the comparison of perceptions of student teachers and schoolteachers on factors impeding for a success and quality of SUP. On the one hand, ***Figure 25*** shows the average mean values of all participants for those impeding factors.

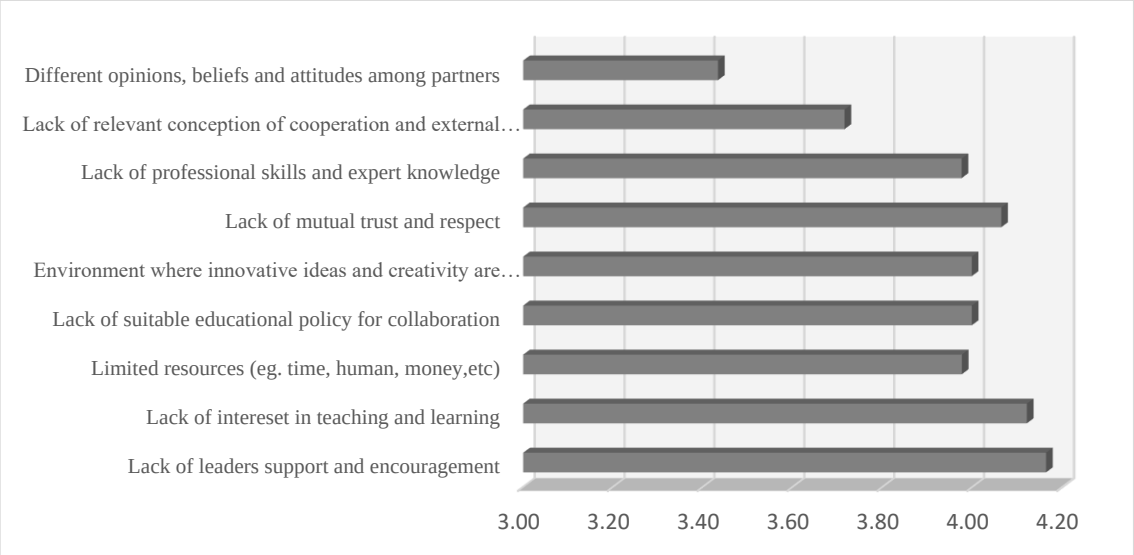
Figure 24: The perceived impeding factors of SUPs by participants (n=347)



'*Please indicate how strong the (negative) impact these factors might have on the quality of collaboration between schools and universities according to your opinion'. Participants were asked to put the scale from 1 to 5 representing '1' meaning 'this does not have any impact' and '5' meaning 'this has a major impact*'.

Note: Mean values on 1-5 scale where 1= this does not have any impact, to 5= this has a major impact.

Figure 25:The average mean values for the impeding factors of SUPs by participants (n=347)



Note: Mean values on 1-5 scale where 1= this does not have any impact, to 5= this has a major impact.

6.4. Research Question 4: In what ways are SUP supporting and stimulating teacher learning and professional development?

This section will present the impact of SUPs on teachers' learning and professional development in each functional area of SUP. In accordance with the level of current practices of SUPs in the country, the initial teacher education function, which is the long-existed area of SUP, will be presented as the first functional area followed by other functional areas. The following ***Table 12*** provides the logical structure of this section.

Table 12: Structure of presentation

RQ.4: Functional areas of SUP	**Developed professional areas**	**Sub-areas**
Initial teacher education (ITE)	Knowledge and skills (Qualitative findings)	Six areas of professional development
	Emotions and attitudes (Qualitative findings)	-
	The impacts of SUP in ITE perceived by participants (Quantitative findings)	Two sub-sections: (i) STs' learning, (ii) MTs'/SchTs' learning.

RQ.4: Functional areas of SUP	Developed professional areas	Sub-areas
Curriculum development and implementation	Knowledge and skills (Qualitative findings)	-
	Emotions and attitudes (Qualitative findings)	-
	The impact of SUPs in curriculum development and implementation perceived by participants (Quantitative findings)	-
Continuous professional development	Combination of qualitative and quantitative findings	-
Teachers' learning and other functional areas	Combination of qualitative and quantitative findings	-
Spectrum of SUP: fostering teacher collaboration	Combination of qualitative and quantitative findings	-

6.4.1. Initial Teacher Training

Both interview responses and quantitative data analysis have shown that this is the most 'well-known' functional area of SUP in Myanmar. 'Well-known' means that this SUP has existed in the country for several decades and this is the only long-existed partnership in the country. Under the topic 'Initial Teacher Training (ITE)', this section will discuss how student teachers and schoolteachers developed their professional knowledge and skills during collaboration. In SUPs focusing on ITE, we have three groups of stakeholders: student teachers (STs), mentor teachers (MTs)/schoolteachers (SchTs) and university teachers (UTs). Interview responses as well as survey findings showed that there was more intensive and direct communication between student teachers and mentor/schoolteachers than between mentor teachers and university teachers. Although there was no intensive communication between mentor/schoolteachers and university teachers, some interview responses showed that there were some cases where they had direct communication.

For investigating SUPs in ITE, qualitative and quantitative section will be presented separately. However, the combination of the two findings will appear interchangeable while presenting each result. This section has three parts: (i) section 6.4.1.1. Professional knowledge and skills shows the professional knowledge and skills developed by participants, (ii) section 6.4.1.2. Emotion and attitudes presents the emotion and attitudes of participants within SUP and (iii) section 6.4.1.3. Participants' perception

on the impact of SUPs in initial teacher education describes the quantitative findings of participants' learning and professional development.

6.4.1.1. Professional knowledge and skills

Although the duration of practice teaching was not very long (as mentioned earlier, student teachers thought two-week practice teaching was too short to learn and gain experiences: see 6.3.2. Resources), all STs reported that they have developed their *subject matter knowledge, pedagogical content knowledge* and *knowledge* about *learners' behaviours, their attitudes and characteristics, classroom management skills*. In addition, through communication with schoolteachers, they learnt *teaching strategies and acquired knowledge of new curriculum content and subjects*. According to interview responses, while schoolteachers could attend training for teaching the new curriculum, student teachers were totally novice regarding the teaching and the content of the new curriculum. They were these new curriculum concepts only through communication with schoolteachers.

6.4.1.1.1. Getting to know the learners: learning styles, behaviours and characteristics

This area of teacher competencies appeared mostly in student teachers' interview responses. Student teachers reported that understood learners' behaviours, attitudes and characteristics through directly communicating with them. In the case of school/mentor teachers, they reported that their understanding of the nature of children learning improved through observing the communication between student teachers and school children in a friendly and familiar teacher-student relationship.

Through interacting directly with school children, student teachers gained better understanding of the nature of children's behaviour such as the needs for the attention of teachers. One student teacher noticed that some children behaved badly at the beginning because they needed his care and attention to their existence. Then, he started defining 'bad behaviours' as 'attention seeking behaviours' for some of misbehaved students he experienced. For example, one student teacher mentioned that the children he encountered during his practice teaching in school as follow:

> *I had to teach in the 'repeater' class. The children showed disrespect at the beginning. I am a young teacher, so they did not take me seriously. Then, after asking them a lot of questions and communication with them, I realized that they needed some attention from me. They wanted me to notice them. So, I gave my attention to them and care about their learning. Since I understood that, everything was okay. (ST7)*

Another student teacher described that the school children were interested in his lessons if he did 'group activities' and 'class activities' rather than when he used the lecture method. Several different student teachers mentioned their experiences of 'how they had to arrange their lessons to attract the attention' during practice teaching. All student teachers recalled their memories of practice teaching in a way that '*children love when I use different class activities and practical experiments*'. In the country, the teaching methods of 'group activities' and 'practical experiments' are rarely practiced in real classrooms due to workload, lack of resources and insufficient qualifications to use these diverse teaching methods. However, according to interview responses, all student teachers (n=9) mentioned that they used different teaching activities, teaching aids and diverse teaching methods which were all new for school children. Besides using these teaching methods, they were also adapting their teaching methods and activities to the learning styles and conditions of learners. They observed school children learning styles as well as their level of learning status. Based on their observation and trial methods, student teachers tried to use the most suitable approach for the learners.

> *I was teaching English in that school. At first, I was speaking in English all the time and teaching them by using English language. At first, I thought they all understood me. But, later, I found out they were just pretending that they understood. So, I had to stop teaching them in that way. I talked in Burmese, then I taught very slowly. They could not follow me if I taught so quickly. I need to observe their situation all the time. (ST9)*

> *We have different classes; for example, Class A is better than Class D. You need to know that children are different. You cannot teach the same for all of them. You need to adapt. So, I used to learn the children condition first, then adapted my teaching methods to their level. (ST6)*

During interviews, student teachers also reflected their real teaching experiences by connecting what they have learnt in university. One student teacher mentioned about her reflection from university theoretical knowledge about learners' different learning styles and how she connected this knowledge in her teaching.

> *In university, we have learnt that children have different learning styles and learning backgrounds. Before practice teaching, it was only theoretical knowledge. When I did my practice teaching, I became to understand deeply as I saw it in my eyes. You cannot teach the same teaching methods for all the children. You must use different teaching strategies and choose the best methods to adapt to children's learning styles and background. (ST9)*

The above interview response shows several areas of student teachers' learning such as applying her theoretical knowledge to her practice teaching, and her reflection towards children's learning conditions.

Although schoolteachers and mentor teachers did not mention explicitly that they learnt more about learners' behaviours, attitudes and characteristics during SUP, they shared their experiences of observing the relationship and communication between student teachers and school children. According to them, they learnt that children were happy and active in learning because student teachers used different group activities, several teaching aids and practical experiments.

> *Children were happy when student teachers came to school. Student teachers were young and active, and they used practical experiments and used different teaching aids and strategies. Children showed so much interest in learning with those activities. (MT7)*

One class teacher mentioned her experiences with excitement. She was the class teacher of Grade 9 students who had the most intensive communication with children. She handled their misbehaviours and learning issues in a disciplined way. So, the children saw her as their boss and their leader of the class, and however, they had good teacher-student relationship. When the student teacher taught her class, she saw that the relationship between student teachers and school children was more like 'friend-to-friend'

communication. The children openly communicated with student teacher while her relationships with children was more formal way.

> *One day, I was walking through outside of the class to check ST's teaching and the children's learning condition. When the children saw me, immediately, they said loudly; 'Enemy is coming, please hide everybody', then all the boys went to hide under their desk. They told me as 'enemy' while they were with ST in the class. This was very funny indeed. You know I was their class teacher, so I used to be a very disciplined teacher. When they were with STs, they got freedom and said it openly to me like that. (MT4)*

The above quote was said by the class teacher with smiles and laughs. The emotions of the class teacher when she recalled this experience were positive and she spoke with excitement. From her voice of excitement, it was obvious that her students and she had good communication. The point she mentioned later was that the children's communication with STs was of a friendship manner and she observed that children liked this kind of friendly communication with teachers. After this experience, the class teacher tried to communicate with her children in a friendly way. And she also found that children started to talk to her their difficulties and actively participated in class activities.

6.4.1.1.2. Managing the classroom and getting broader subject content and concepts

Two other knowledge areas that emerged from interview responses were '*subject matter knowledge'* and *'classroom management skills*.' Talking about their communication with schoolteachers and mentor teachers, student teachers explicitly said that they learnt mostly about '*subject matter knowledge*' and *'classroom management skills'* as schoolteachers were experts in the subject they teach and had very good classroom management skills. Some student teachers were impressed by mentor teachers' expertise in subject matter knowledge. They got this impression from observation of teachers' classrooms, having informal conversation with teachers, and formal discussion with mentor teachers. One of the student teachers recalled his experiences in observing mentor teacher's teaching described:

> *She is such an expert in the subject. She knew everything. When children asked questions, she can answer immediately. (ST7)*

One student teacher who forgot 'the subject content' in his subject approached his mentor teacher. She mentioned that:

> *As I forgot some subject concepts, I needed to ask mentor teacher. She explained me very well. As they have been teaching this subject for several years, they are experts in the subject. (ST5)*

This expertise of mentor teachers in subject matter knowledge was not only expressed by student teachers. The university teachers also mentioned that mentor teachers were experts in their subject knowledge. Although, UTs and MTs had very little communication in the case of supporting ITE, the university teachers clearly approved what STs had said.

> *School teachers are proficient in the subject they teach. As they have been teaching this for several years, they already mastered in it. No doubt that STs learn subject content knowledge from schoolteachers. (UT4)*

The second area which student teachers described several times in interviews was getting help from schoolteachers about '*classroom management skills'*. One of student teachers described how he learnt from schoolteachers' handling children's misbehaviour:

> *I saw schoolteachers used to say a word privately to children who misbehaved during her teaching. They never punished in front of other kids, which was very good ways to deal with this issue. (ST6)*

Others also mentioned how they got help in managing classrooms in a chaotic situation. Due to the big class size where approximately 50-60 children in the classroom, student teachers sometimes had difficulties in managing the classrooms while they were doing practical experiments. One of them mentioned that when he faced difficulties, the class teacher helped him in managing the classrooms.

6.4.1.1.3. Teaching methods and teaching strategies

Although there were some examples that student teachers learnt from schoolteachers and mentor teachers, regarding *teaching methods and teaching strategies*,

it seems that student teachers often used more advanced teaching techniques than schoolteachers and mentor teachers. Most student teachers explicitly (n=5) reported that they used 'learner-centred teaching approach' whereas schoolteachers used a traditional 'teacher-centred approach'. Most student teachers explicitly or implicitly mentioned that schoolteachers were experts in subject matter knowledge, but children got bored sometimes because of traditional styles of teaching methods. Regardless of this teaching style, one student teacher described his mentor teacher's teaching style as follows:

> *Teacher knew everything of her subject. I once observed her teaching. Although the teaching style is very traditional; lectures with no activities or Q&A, I like the way she explained. It was very clear, concise and showed her expertise in subject content. (ST7)*

One student teacher mentioned that he helped a schoolteacher in her teaching. He showed her how to look for new teaching aids and materials using YouTube and Google. According to him, this schoolteacher was not his mentor teacher. However, this schoolteacher interested in the teaching aids and materials the student teachers used in his teaching. During their free time in the teachers' room, the schoolteachers came to him and asked him how he found those materials and teaching aids and how she could also get this information. According to student teachers, schoolteacher was not familiar with technology, therefore, he taught her how to use 'YouTube, Google' as well as using practical materials for experiments in teaching Physics.

> *There was a teacher who just promoted to senior teacher, so she was not proficient in the subject. She came to me and asked me 'how to do this and that' and 'where to look for video tutorials I showed to children, etc. So, I have a lot of videos and tutorial for practical lessons and subject content. I prepared one VCD for her, it included a collection of these videos and teaching aids. And she doesn't know how to use 'google and internet'. So, I taught her 'how to use google and internet, YouTube', etc., for finding teaching aids and lessons tutorials. (ST7)*

Not only the student teachers reported that they knew more advanced teaching strategies than schoolteachers, one of the mentor teachers also expressed that in the interview. The mentor teacher said that he tried to communicate intensively with student teachers as he wanted to explore their teaching methods. According to his response, he had been

disconnected from the university, he was not up to date for new teaching methods, and strategies and for creating and using teaching aids.

> *Student teachers are currently studying at the university. So, they kept in touch with using new teaching methods, and creating teaching aids. I found out that children are more interested in lessons with games and activities. So, I asked student teachers about the games and activities they used during teaching. I wanted to learn from them. (MT7)*

> *I have learned that they use teaching aids for any lesson. When STs found out that children are bored, they changed their teaching methods, and used different method. That's what I got from them. (MT5)*

Other schoolteachers also mentioned that they were impressed by student teachers' teaching methods, their different teaching aids and class activities used during teaching. According to one student teacher, schoolteachers mentioned him that '*You are very energetic and active in your teaching. We envy you*'. One mentor teacher expressed her observation of student teachers as '*they are very active. They prepared their teaching well with teaching aids and materials*'. Regardless of this, one student teacher explicitly mentioned one mentor teacher's teaching methods which he impressed a lot. According to him, he was impressed by the mentor teacher's teaching strategies such as introducing lessons, doing Q&A, and her ways of teaching in solving mathematic problems.

> *Unlike other teachers who explain and give all solutions to mathematics problem, she (mentor teacher) firstly tried to make the students understand the problem first. She asked students to read the problems first and asked them to think about it how to solve. Then she tried to give different answers for solving the problem. She has awareness and she tell students that there is no single fixed method to solve a problem. And she showed students several ways and let students choose the favourite one. So, I learnt this kind of attitudes and teaching methods from her. (ST3)*

According to him, this teacher was an expert not only in subject matter knowledge but also in teaching methods. This student teacher's response reflected what one mentor teacher explained in the interview.

> *Whenever STs come to my school, I always said that: 'if you know how to teach a lesson and its objectives, teaching is very effective without exhaustion. For 40 minutes, if you know the objectives of the lesson and you know how to teach to achieve these objectives, it will be very effective teaching'. (MT8)*

Although the majority of student teachers encountered schoolteachers' teaching in a traditional way, the interview responses also show that there were some schoolteachers whom student teachers could learn about new teaching methods in schools.

6.4.1.1.4. Curriculum content knowledge and teaching in the context of curriculum reform

Another knowledge area student teachers described was '*new curriculum content knowledge*'. Student teachers (n=3) reported that they have learnt 'new curriculum content knowledge' as well as 'subject matter knowledge' through communication with schoolteachers. One student teacher mentioned that he learnt the new ways of introducing lessons using 'ITPR' method where 'I' stands for 'Introduction a lesson', 'T' stands for 'Teaching', 'P' for 'Practice' and 'R' for 'Review'. This 'ITPR' methods appeared together with new curriculum implementation as teachers were trained recently to teach every lesson with this approach. In addition, it is recommended to teach lesson in connection with 21st century skills in new curriculum. All schoolteachers have been trained about teaching new curriculum with new teaching techniques such as ITPR and connecting with 21st century skills. On the one hand, student teachers were not familiar with these new concepts and have not been trained like schoolteachers. Before practice teaching, student teachers did not know the 'ITPR' method, however, after communication and discussion with schoolteachers, they learnt the new curriculum content knowledge as well as teaching methods for it.

> *School teachers have already attended the training for new curriculum and its content. And the subject content included in new curriculum are very high level and there were new contents which I have never learnt before. For example, English Language new content is quite advanced. So, I had to ask schoolteachers about some new concepts I didn't know. (ST2)*

For mentor teachers and schoolteachers, they also reported how they helped student teachers in understanding the new curriculum content and the related teaching methods and subject matter knowledge. One mentor teacher said that they had discussion with student teachers, and he helped them how to teach a lesson through 'ITPR' approach. One time, in teaching Physics subject, student teachers did not understand why the names of scientists have to be focused in delivering lesson to children. As these kinds of contents used to skip in old times, so they could not understand why they needed to teach this part. Then, the mentor teachers explained how important it was and useful for children. School teachers had attended the new curriculum teaching training and CDT trainers have instructed them about the importance of these lessons for the children. Moreover, schoolteachers have learnt new teaching techniques for the new lessons. When the student teachers got confused with the new curriculum content, schoolteachers helped them to understand and transmitted the information and knowledge they accumulated from the trainings.

> *When STs were teaching, they did not think children can remember the names of scientists. But I explained to them: children don't need to memorize these names, but it is good to know these scientists and their work. And these are connected to the next lesson, we can't skip. So, we had to explain those things. I said to them this: if we tell the students every day, they will remember these names. (MT7)*

Another mentor teacher also described one student teacher who came to her asking about how to teach a specific lesson of the new curriculum subject. According to the mentor teacher, the student teachers never learnt this lesson in his childhood, and it was difficult for him to understand and teach it to the children. Then, the mentor teacher showed him how to use the teachers' guidebook and how to teach the lesson. In the old curriculum, there were no teachers' guidebooks and there were no details of instruction or explanation for teachers to plan a lesson. With the new curriculum, teachers' guidebooks appeared and were seen as useful by the teacher. So, she recommended them and helped the student teacher in using them. After explaining him to use teachers' guidebook and teaching approaches, student teacher finally understood and was able to teach new curriculum content.

> *I remembered one student teacher came to me and said: 'I don't know how to teach this lesson, please help me?'. So, I helped him and explained him to plan and teach the lesson. (MT8)*

The above communication between student teachers and schoolteachers showed that student teachers were learning subject matter knowledge as well as pedagogical content knowledge from schoolteachers.

6.4.1.1.5. Reflective skills and analytical skills

Based on the analysis of interview responses, some interesting skill development also found in student teachers. The possible skills which student teachers might have acquired during their practice teaching was '*reflective and analysing skills'*. These skills were not explicitly mentioned by student teachers, however, they frequently talked about their reflection on their teaching and how they would change or improve this if they could do it again. Moreover, some student teachers mentioned how they applied their previous practice teaching experiences during their second practice teaching. For example, two student teachers mentioned how they reflected on their teaching based on their previous experiences of practice teaching and tried to do it better. One of the two student teachers presented his experiences as follows:

> *I had some difficulties in first practice teaching, and I learnt from it. In my first-time practice teaching, I think I did not understand the nature of learners very well. So, in second time of practice teaching, I tried to understand the nature of the kids, how to teach them, which method to use, etc. I tried to reflect my own difficulties and based on these experiences; I prepared my teaching. So, I tried to become familiar with them, and I tried to build friendship with them to observe, so I knew it from the first day. And it made me easier to plan lessons and manage the class later. (ST3)*

Besides these reflection and analytical skills, student teachers also mentioned that how *they connected what they have learnt at university in their teaching practices* in schools. Student teachers claimed that they usually applied their theoretical knowledge in lesson planning, introducing a lesson, classroom organization for activities and dealing with children, etc. Two student teachers mentioned the difference between their expectations

and reality. Although they encountered difficulties in adjusting their behaviours to the real situation, they overcame the situation using theoretical knowledge. For example, one student teacher got difficulties in implementing learner-centred approach in his lesson. However, the class size became obstacles for the activity. By using his theoretical knowledge to change the classroom setting, he overcame the difficult situation.

Another student teacher expressed how she prepared her lesson and teaching styles to adapt to the children' learning status.

> *I had to learn the children' learning status. Based on it, I prepared my lesson and teaching. Sometimes, the technique or teaching methods I used was not suitable for children. So, I needed to find the solution, analyse the situations, and find the source why they didn't understand my teaching. Based on these, I prepared my lessons and change my teaching strategies. (ST9)*
>
> *I have to prepare several times till I make it sure children understand my teaching. I tried different techniques which worked for all children. (ST5)*

Although, student teachers did not explicitly refer to reflection skills and analytical skills, it might be assumed that they had developed certain skills related to reflection, analysing and problem solving and dealing with difficult situation or adapting their teaching techniques to the level of children. They also showed the use of previous experiences to their practice teaching which is interpreted as reflection.

6.4.1.1.6. Working in a group: teamwork and collaboration

'*Teamwork and collaboration*' were also mentioned by student teachers frequently. Teamwork and collaboration often happened when student teachers did practice teaching in Yangon schools during their 4th year of studies. As mentioned earlier (see 6.1.1.1. Initial teacher education), during the 4th year of university studies, schools were selected by university and the university allocated STs to partner schools based on their majoring subjects. The university allocated student teachers in groups, for example, 10 student teachers in one school according to the majoring subjects: from Myanmar language subject to Biology. These group of ten student teachers went to the school together and did their practice teaching there for two weeks. This 4th year practice teaching was different from their 3rd year practice teaching where the former was done in

new environment and the later was in the familiar environment of their native towns. Due to the new environments and new teachers whom they encountered, these student teachers worked together and discussed together in the planning lessons, teaching methods and concepts whenever they did not understand the subject or could not figure out.

> *We worked and discussed together for teaching. For each subject, there were two of us in one school. For me, my friend and I got Biology subject to teach. We taught different classes. Before lessons, we discussed using teaching aids and teaching methods. We shared each other. (ST1)*

Besides discussing the lessons, student teachers collaborated in preparing reports to submit to the university about their practice teaching experiences. Student teachers reported that they collected their ideas and experiences during practice teaching, and they wrote the report. Despite the fact that student teachers did not explicitly mention that they had improved their teamwork and collaboration skills, the interview responses showed that there was collaboration between them. The mean value of 'My teamwork and collaboration skills (mean= 3.97)' shows that they had slightly improved their collaboration and teamwork skills.

6.4.1.2. Emotion and attitudes

According to literature on ITE, practice teaching plays a prominent role in developing professional identity, professional value and self-confidence in student teachers. In this study, results also showed that student teachers developed these professional values during practice teaching. An analysis of interview results showed that student teachers developed '*self-confidence and enjoyment in teaching*', '*acceptance of being a responsible and important person in education*' and '*building a bond with children*', and so on. Most importantly, *their commitment to become a teacher* became 'promised agenda' and also, they became more interested in further post-graduate studies.

Interview responses showed that student teachers became committed to the teaching profession after they experienced practice teaching in schools. This was mentioned by student teachers who expressed their increased interest in teaching and became more determined to enter the teaching profession. One student teacher mentioned that he was overwhelmed by happiness when children paid homage to him at the end of the practice teaching. In Myanmar, we have an 'event of paying homage to teachers'

where children show their respect by sitting on the floor while teachers sit somewhere in higher stage or chair. The children will put the palms of the hands together in the middle of their chest. According to a student teacher, this event made him extremely emotional and joyful.

> *I felt something and I was overwhelmed by the happiness by seeing my children showing respect to me. Since that time, I came back from practice teaching, my desire to become a teacher stronger. (ST7)*

Another student teacher mentioned his experiences as well. For him, he joined the University of Education (UOE) as his mother asked him. Therefore, he wasn't interested in learning at the university. He said that he never wanted to be a teacher since his childhood. He wanted to join 'Agricultural University', and this was his passion to learn. He mentioned:

> *To be honest, I did not want to be a teacher. I got high score in matriculation exam, I could choose any universities: medical profession, engineer, or teacher, etc. whatever I want. But I didn't want to join University of Education. In my first year and second year of studies, I didn't want to learn anything, and I was not interested in any of the subjects at UOE. (ST5)*

However, his attitudes changed after his practice teaching at schools.

> *In third year, after practice teaching, I wanted to be qualified and passed with credits for my university studies. Since then, I tried to study and read. I also wanted to attend master courses to study and know more about teaching and learning. (ST5)*

The above interview responses proved that student teachers may develop their commitment to become a teacher and developed their professional identity as a teacher when experiencing practice teaching. Another student teacher mentioned that although the first few days were difficult to adapt to the new environment, he created the friendship with children at the end of practice teaching. He mentioned that he enjoyed teaching and interacting with children during practice teaching. Besides student teachers' responses, university teachers also illustrated their experiences with student teachers' practice teaching while they went to school for observing them practicing teaching.

One university teacher found that schools gave the 'gate duty' to student teachers which is checking people entering the school and taking responsibilities as a security person at the entrance of the schools. Every school in Myanmar has this 'gate' where teachers sit inside a little building for managing people getting in and out of the school as well as information coming to the schools. For the university teacher, she mentioned that it was a good practice to give 'gate duties' to student teachers although it is not part of practice teaching. According to the university teacher, it helps student teachers to build their professional identity as they participated in every school activity like a real schoolteacher. The university teacher also did another observation of student teachers taking special responsibilities in school:

> *When we went to the school, the student teachers were preparing for giving a speech to all children in the school. They were preparing enthusiastically and actively. We asked them like 'oh, you are preparing something, and it is not school lesson, what is it?', they said, 'I am preparing for speech note, as I am going to speak on stage in front of the whole school on Monday'. We were proud and we were very happy that schools arrange this activity for them as well. (UT3)*

An additional feature of identity and enjoyment in teaching are shown also in the interview responses of university teachers. They found that all student teachers came back happily after practice teaching. One university teacher mentioned that '*At university, they were like the children, right? At schools, they cannot behave like children, the school children pronounced them as 'teachers', so they came back like adults after two-week practice teaching*'. Another university teacher mentioned her experience as follows:

> *Most of them are happy. They came back to university after two weeks, but they cannot even concentrate into studies as they had attachments with their children. And sometimes, we saw their children came to university to visit to them and waited for them to see at the university entrance gate. (UT3)*

The interviewee continues with saying that they were very happy that schools arrange these kinds of activities such as 'gate duties' and 'school speech' for student teachers. She showed her opinion in this way: 'for us, we want them to behave like a real schoolteacher at schools. We want student teachers to know what real teachers are doing in daily lives, and we want them to do the same'. Relating to participating in school

activities, one mentor teacher also mentioned how she included student teachers in school activities.

> *There was one time that we had interviews for the children who wanted to take part in 'outstanding students' competition for township and regional level. I included student teacher in the interview processes. So, he interviewed to children with me. He and I did together. (MT4)*

According to university teachers and mentor teachers, these forms of including student teachers in school activities increase the 'professional identity of student teachers and their enjoyment in the profession'. One student teacher also shared her experiences of participating in a school ceremony with other schoolteachers. She was happy and felt like she was a real schoolteacher.

6.4.1.3. Participants' perception on the impact of SUPs in initial teacher education

In this section, the impact of SUP on teachers' learning and professional development will be discussed through the results of quantitative part. The section is divided in two parts; firstly, the student teachers' learning, and professional development will be presented and then the learning and professional development of mentor teachers/schoolteachers in the second part.

6.4.1.3.1. The impact of SUP on student teachers' learning and professional development

In this section, the learning and professional development of STs through participating in SUP will be discussed.

6.4.1.3.1.1. Student teachers' learning and professional development based on frequencies and length of practice teaching

To find out which areas of student teachers' professional development areas are improved and affected by SUPs, three groups of STs are compared on the basis of the frequency of their practice teaching. The survey question for exploring the frequencies of practice teaching is *Do you have any 'practice teaching' experiences at schools?* For this question, the following three groups are resulted according to the respondents: (i) Yes, only one time (n=31), (ii) Yes, two times (n=52), and (iii) Yes, more than 2 times (n=91). In order to explore whether the learning and professional development of these three

groups of STs are different, mean values have been compared. Obviously, student teachers who had done 'more than two times of practice teaching' showed highest mean values in all learning and professional development areas than the other two groups. Also, the STs' who had done 'two times of practice teaching' had higher mean values than the 'only one time' group. To find out if the differences between the groups were significant, analysis of variance (**ANOVA**) was performed. According to the analysis, there were significant differences in the areas of '*my teamwork and collaboration skills', 'my commitment to become a teacher', 'my capacity to connect theoretical knowledge to practical knowledge', 'my feeling of being a responsible person in education', 'my effort to reflect on and analyse my own teaching'* among three groups of STs (p<0.05). ANOVA post-hoc test was further explored to find out the differences between each group. For each variable, the homogeneity of variances could not be assumed, hence, the Games-Howell post-hoc test was applied (Games, Keselman, & Clinch,1979). ***Table 13*** shows the results of the ANOVA Post Hoc test between two groups, which showed the most significant differences among them.

Table 13: Comparisons on groups of STs according to frequencies of practice teaching: Results from Games-Howell's procedure.

Variables	Yes, only one time		Yes, more than two times		*F* (2,170)	η^2
	M	*SD*	*M*	*SD*		
My teamwork and collaboration skills	3.77	1.175	4.20	0.909	4.948*	0.55
My commitment to become a teacher	3.84	1.186	4.41	0.745	4.783*	0.53
My capacity to connect theoretical knowledge to practical knowledge	3.42	0.992	4.02	0.830	7.297*	0.79
My feeling of being a responsible person in education	3.63	0.964	4.14	1.002	3.023*	0.35
My effort to reflect on and analyse my own teaching	3.48	1.061	4.02	0.977	3.616*	0.41

***p < .001, $^{**}p$ < .01, $^{*}p$ < .05.

Further, a survey question of '*How long did your practice teaching take*?' was asked with four answers options: (i) two weeks, (ii) one month, (iii) more than one month, and (iv) more than two months. However, a new variable has been computed by combining 'one month' and 'more than one month' into one, due to similarity and few responses. Therefore, the final analysis is based on three groups of STs' practice teaching duration

as follows: (i) two weeks, (ii) one month or more than one month and (iii) more than two months. Regarding learning and professional development areas, mean values of STs with more than two months practice teaching were higher than the other two groups: the 'two weeks of practice teaching' group having the smallest mean value. To explore if there are significant differences between groups, a one-way ANOVA has been performed. ***Table 14*** shows that there are significant differences in certain areas of professional development ($p<0.05$, $p<0.01$, $p<0.001$).

Table 14: Results of the one-way ANOVA for investigating the impact of SUP on learning and professional development according to STs' duration or length of practice teaching

Variables	Two weeks		One month or more than one month		More than two months		F	η^2
	M	SD	M	SD	M	SD		
My subject matter knowledge	3.52	1.143	4.02	0.964	4.27	0.799	5.732**	0.63
My pedagogical knowledge	3.53	1.127	3.92	0.967	4.27	0.799	4.292*	0.48
My Pedagogical content knowledge	3.38	1.040	3.88	1.018	4.06	1.124	5.206**	0.57
My classroom management skills	3.59	1.093	3.93	1.018	4.33	0.617	3.953*	0.44
My repertoire of teaching methods and my teaching strategies	3.32	9.85	3.78	0.980	4.36	0.633	8.129***	0.88
My teamwork and collaboration skills	3.53	1.143	4.11	0.963	4.63	0.619	9.855***	0.103
My knowledge about curriculum and curriculum reform	3.03	1.108	3.54	1.033	4.00	0.756	6.922**	0.076
My knowledge about up-to-date educational issues in national	3.17	1.078	3.55	1.067	3.93	0.884	4.483*	0.045
My knowledge about how to conduct research	2.96	1.122	3.13	1.105	3.80	1.146	4.124*	0.039
My commitment to become a teacher	3.74	1.148	4.41	.833	4.56	0.629	10.742***	0.112
My capacity to connect theoretical knowledge to practical knowledge	3.38	1.073	3.88	0.924	4.38	0.500	8.828***	0.094
My enjoyment in teaching	3.66	1.101	4.03	0.979	4.44	0.814	4.654*	0.052
My effort to reflect on and analyse in my own teaching and learning	3.69	0.959	3.92	0.992	4.50	0.650	4.151*	0.047

***p < .001, **p < .01, *p < .05.

Due to the same reason that the homogeneity of variances could not be assumed, the Games-Howell post-hoc test was also applied here again. According to the post-hoc test, the same areas show the significant differences, however, only between 'two weeks of

practice teaching' and 'more than two months of practice teaching' groups ($p<0.05$, $p<0.01$, and $p<0.001$).

6.4.1.3.1.2. Correlation between practice teaching and professional development

The correlations between frequencies and duration/length of practice teaching towards STs' learning and professional development areas are provided in ***Table 15***. According to the results of the analysis, STs' duration or length of practice teaching is correlated positively with fifteen learning and professional development areas as shown in ***Table 15***. The correlation has been higher in three areas: (i) my teamwork and collaboration skills ($r= 0.321$, $p < 0.01$); (ii) my commitment to become a teacher ($r= 0.314$, $p < 0.01$); (iii) my capacity to connect theoretical knowledge to practical knowledge ($r= 0.306$, $p < 0.01$), compared to other learning areas. Likewise, the correlation between frequencies of practice teaching and STs' learning areas has been higher in these learning areas than in other learning areas as presented in ***Table 15***.

Table 15: Pearson correlation table between STs' frequencies and length of practice teaching and their professional development

Learning areas	Frequencies of practice teaching	Duration/length of practice teaching
My subject matter knowledge	.164*	.246**
My pedagogical knowledge	.056	.219**
My Pedagogical content knowledge	.137	.230**
My classroom management skills	.094	.210**
My repertoire of teaching methods and my teaching strategies	.146	.296**
My capacity to trying out new things in my teaching practice	.141	.154*
My teamwork and collaboration skills	.194*	.321**
My knowledge about curriculum and curriculum reform	.124	.275**
My knowledge about up-to-date educational issues in national	.113	.212**
My knowledge about how to conduct research	.174*	.172*
My commitment to become a teacher	.229**	.314**
My professional self-confidence	.174*	.173*
My capacity to connect theoretical knowledge to practical knowledge	.263**	.306**
My enjoyment in teaching	.203**	.228**
My feeling of being a responsible person in education	.185*	.169*
My effort to reflect on and analyse in my own teaching and learning	.191*	.202**

***$p < .001$, **$p < .01$, *$p < .05$, N=174.

Through the above correlation analysis, it can be concluded that the more time the student teachers spend in schools for practice teaching, the higher their level of learning and professional development is. The frequencies of practice teaching also have a positive relationship with student teachers' professional development. However, duration of practice teaching has more impact than frequencies of practice teaching as described in the above table.

6.4.1.3.1.3. Student teachers' learning and professional development based on communication level

In SUP in ITE, the communication between STs and MTs is also important to promote STs' learning and professional developments. Therefore, to explore the impact of SUP on STs' learning and professional development, their communication with MTs also should be investigated. The purpose is to find out if there were significant differences in STs' learning based on the level of intensity of their communication with MTs. The related hypothesis is that the more student teachers communicate and are engaged in social dialogue with MTs, the more they develop in their learning and competences in teaching and learning. Therefore, a one-way ANOVA is calculated to compare three groups of STs according to their intensity of communication level: (i) no communicate at all with MTs (n=23) (ii) good communication, but no communicate for lessons planning and discussing for their teaching and learning situations (n=92), (iii) intensively communicate (n=59) (see ***Table 16***). Originally, the survey question provided four communication levels, however, 'we did not have good relationship' resulted for only 2 respondents. Hence, this was combined with 'no communicated at all' variable.

Table 16: Results of the one-way ANOVA for investigating the impact of SUP on STs' learning and professional development according to their communication level with MTs

Variables	No communication at all. We never discussed about teaching and learning		Good communication. When I had something to ask, I asked her. But we did not have so much to talk about lessons		Very close communication. We discussed, planned lessons together, and shared ideas		F (2,170)	η^2
	M	SD	M	SD	M	SD		
My subject matter knowledge	3.39	1.158	3.86	0.956	4.09	1.081	3.791*	0.43
My pedagogical content knowledge	3.39	1.234	3.65	0.999	3.98	1.042	3.183*	0.36
My capacity to develop cross-curricular (eg. skills creativity/problem solving/critical thinking)	3.22	1.313	3.34	1.118	3.93	0.896	6.391**	0.70
My capacity to trying out new things in my teaching practice	3.35	1.071	3.48	1.041	4.02	0.974	6.080**	0.67
My teamwork and collaboration skills	3.13	1.290	3.97	0.988	4.29	0.872	11.181***	0.116
My knowledge about the curriculum and curriculum reform	2.96	1.147	3.33	1.081	3.69	0.915	4.529*	0.51
My knowledge about up-to-date educational issues in national and global contexts	2.96	1.147	3.35	1.058	3.81	0.973	6.570**	0.72
My capacity to connect theoretical knowledge to practical knowledge	3.96	1.107	3.83	1.034	4.12	0.983	4.017*	0.45

***$p < .001$, **$p < .01$, *$p < .05$

Here again, post-hoc test was calculated to explore the differences between the three groups. Mostly, there were significant differences between 'no communication at all' and 'very close communication' groups. Besides the communication level with MTs, STs' learning areas based on the intensity of communication between MTs and UTs has been explored. The same procedures have been applied as presented above. In the original survey question, four communication level were given, however, new variable with only

three communication levels was computed due to the slight differences in participants' responses. The following presents the results of a one-way ANOVA according to the communication levels (see ***Table 17***).

Table 17: Results of the one-way ANOVA for investigating the impact of SUP on STs' learning and professional development according to intensity of communication between MTs and UTs

Variables	UTs do not communicate with schools at all (n=64)		UTs came to schools. Talked to us and teachers but not discussed about our teaching and learning (n=69)		UTs communicated intensively with teachers, discussed about our teaching and learning (n=38)		F	η^2
	M	SD	M	SD	M	SD		
My repertoire of teaching methods and my teaching strategies	3.51	1.014	3.59	0.975	4.05	0.928	3.964*	0.45
My capacity to develop cross-curricular skills	3.33	1.169	3.49	1.072	3.97	0.972	4.308*	0.49
My efforts to reflect on and to analyse my own teaching and learning	3.72	1.105	3.84	0.933	4.25	0.732	3.589*	0.41

***$p < .001$, **$p < .01$, *$p < .05$

The results showed that there were significant differences among the three groups. Therefore, an ANOVA post hoc test was performed again. It was found that there was significant difference in the learning area of '*My repertoire of teaching methods and my teaching strategies'* ($p<0.05$) between the 'no communication at all' and the 'intensively communicate' groups as well as between second group and the third group ($p<0.05$). Furthermore, the ANOVA post hoc test also showed that there were significant differences between the 'no communication' and the 'communicate intensively' groups in the area of '*My knowledge about how to conduct research'* and '*my capacity to connect theoretical knowledge to practical knowledge'*.

6.4.1.3.1.4. Correlation between communication level and professional development

Besides investigating the significant differences in learning and professional development of student teachers according to their intensity of communication with mentor teachers, the next step went for investigating the relationship between them. Firstly, the Pearson correlation is applied to find out if there are relationship between communication level between MTs and STs as well as between MTs and UTs in supporting student teachers' learning and professional development. The results showed that only four areas showed that there are positive relationships: *my capacity to develop cross-curricular* (r=.209**, *p*<0.01), *my capacity to connect theoretical knowledge to practical* (r=.175*, *p*<0.05), *my repertoire of teaching methods and teaching strategies* (r=.193*, *p*<0.05) and *my knowledge about how to conduct research* (r=.183*, *p*<0.05). To put this in another words, according to ***Table 18***, the more teachers and university teachers collaborate together, the more the professional development of student teachers is improving in those four areas.

Table 18: Pearson correlation table between levels of communication and STs' professional development

Variables	Communication level between MTs and UTs	Communication level between STs and MTs
My subject matter knowledge	.134	.199**
My pedagogical content knowledge	.080	.189*
My capacity to develop cross-curricular	.209**	.246**
My capacity to trying out new things in my teaching practice	.145	.242**
My teamwork and collaboration skills	.102	.320**
My knowledge about curriculum and curriculum reform	.125	.226**
My knowledge about up-to-date educational issues in national and global contexts	.102	.267**
My capacity to connect theoretical knowledge to practical	.175*	.184*
My repertoire of teaching methods and teaching strategies	.193*	.052
My knowledge about how to conduct research	.183*	.225**

***$p < .001$, **$p < .01$, *$p < .05$

More interestingly, ***Table 18*** also shows that the more intensively communication happened between MTs and STs, the above learning areas of student teachers are promoting. This have been illustrated in interview sections, in which student teachers mentioned that they were learning subject matter knowledge, pedagogical content knowledge, etc. from mentor teachers while they were in discussion or interaction with them. In the interview responses, it had been stated that student teachers and mentor teachers were frequently in informal conversation, and discussion. Sometimes, student teachers went to mentor teachers for asking about subject matter knowledge, classroom management skills, etc. Moreover, mentor teachers sometimes approached student teachers to find out new teaching strategies and methods. These interviews responses are reflected in the above correlation table.

6.4.1.3.2. The impact of SUP on schoolteachers'/mentor teachers' learning and professional development

In this section, the learning and professional development of mentor teachers through participating in SUP will be discussed.

6.4.1.3.2.1. Teachers' learning and professional development based on their mentoring role

Descriptive statistics showed that teachers who have been mentors have higher mean values than those who have never been. Therefore, Independent sample t-test has been used to determine the impact of teachers' mentoring role in the different professional development areas. Statistically significant differences ($p < .01$ and $p < .001$) were found in almost all professional development areas of schoolteachers as described in ***Table 19*** suggesting positive changes in all these areas.

Table 19: Summary of Independent Sample t-test based on teachers' mentoring role (n=162)

Variables	Non-mentor teachers (n=60)		Mentor teachers (n=102)		*t*	*p*	Cohen's *d*
	M	SD	M	SD			
Pedagogical knowledge	3.42	1.197	3.93	1.078	-2.605	0.011	1.123
Pedagogical content knowledge	3.36	1.069	3.97	1.055	-3.427	0.001	1.060
Knowledge about learners (their behaviours, the way they learn and personal characteristic)	3.20	1.177	3.88	1.083	-3.503	0.001	1.117
Classroom management skills	3.26	1.216	3.88	1.154	-3.077	0.002	1.177

Repertoire of teaching methods and my teaching strategies	3.36	1.182	3.92	1.106	-2.944	0.004	1.134
Knowledge about how to assess students and how to use various assessment methods	3.35	1.250	3.98	1.086	-3.141	0.002	1.148
Capacity to develop cross-curricular skills	3.16	1.167	3.73	1.114	-2.972	0.003	1.133
Capacity to trying out new things in my teaching	3.33	1.058	3.87	1.115	-2.562	0.004	1.094
Teamwork and collaboration skills	3.47	1.212	3.98	1.140	-2.653	0.012	1.166
Knowledge about curriculum and curriculum reform	3.33	1.187	3.85	1.140	-2.005	0.009	1.157
Knowledge about up-to-date educational issues in national and global contexts	3.41	1.141	3.79	1.110	-2.718	0.047	1.121
Professional self-confidence	3.60	1.211	4.13	1.077	-2.456	0.008	1.123
Capacity to find enjoyment in teaching	3.52	1.062	3.97	1.113	-2.391	0.015	1.095
Feeling of being a responsible person in education	3.70	1.239	4.16	1.075	-2.771	0.018	1.139
Efforts to reflect on and to analyse my own teaching	3.80	1.001	4.12	1.017	-1.715	0.044	1.012

***$p < .001$, **$p < .01$, *$p < .05$

According to

***Table** 19* above, teachers who have been mentors show higher mean values than those who have never been in mentoring role. It can be concluded that teachers who were in interacting with student teachers improved their competences and professional development through mentoring and guiding student teachers in their teaching and learning. In other terms, SUP supports mentor teachers to develop their professional knowledge, skills and attitudes in initial teacher education. To measure the effect size, I calculated Cohen's d values. Looking at the effect sizes in the above table, shows large effect sizes between the groups (Cohen, 1988).

6.4.1.3.2.2. Teachers' learning and professional development based on their communication level with STs

Likewise, in the case of schoolteachers, it is interesting to investigate if there are significant differences in teacher learning and professional development based on their communication level with student teachers. For this reason, the following survey question

'*In the following, we describe four situations. Please read them and choose the one that you feel is the closest to your own experience*', four response options were provided (i) we did not have a good communication (ii) good communication, but we never discussed about teaching and learning and (iii) good communication. When she/he has something to ask me, she came to me, (iv) very close communication, we discussed about lessons, teaching and learning, planned lessons together, share ideas. However, as nobody chose 'we did not have good communication' option. Therefore, only three groups could be compared (only 150 participants responded this question, out of 173). In order to explore whether the learning of these three groups of schoolteachers in the different professional development areas are different, analysis of variance (ANOVA) was performed. As shown in ***Table 20***, schoolteachers who had intensive communication with student teachers showed highest mean values in learning in the different development areas than the other two groups. Significant differences (p <0.001) were found in the following areas: *my classroom management skills*, *capacity to develop cross-curricular skills*, *capacity to trying out new things in my teaching*, *my knowledge about how to conduct research and application of its results*, *my professional self-confidence*.

Table 20: Results of the one-way ANOVA for investigating the impact of SUP on learning and professional development according to teachers' communication level with STs (n=150)

Variable	Good relationships. But never discussed about teaching and learning (n=42)		Good communication. When she had something to ask, she came to me, and I helped him/her (n=58)		Very close communication. We discussed lessons planning and how to teach, share our teaching and learning (n=50)		F	η^2
	M	SD	M	SD	M	SD		
Pedagogical content knowledge	3.49	1.052	3.61	1.123	4.23	0.937	6.757**	0.089
Knowledge about learners (their behaviours, the way they learn and personal characteristic)	3.34	1.132	3.59	1.141	4.11	1.005	5.687**	0.089
Classroom management skills	3.33	1.221	3.47	1.234	4.28	0.902	9.272***	0.080
Repertoire of teaching methods and my teaching strategies	3.34	1.196	3.57	1.175	4.15	1.042	6.010**	0.095

Knowledge about how to assess students and how to use various assessment methods	3.31	1.301	3.73	1.096	4.22	0.941	7.149**	0.041
Capacity to develop cross-curricular skills	3.10	1.215	3.40	1.132	4.09	0.880	9.748***	0.123
Capacity to trying out new things in my teaching	3.34	1.063	3.47	1.120	4.23	0.937	9.807***	0.123
Teamwork and collaboration skills	3.56	1.184	3.62	1.225	4.21	1.031	4.586*	0.061
Knowledge about curriculum and curriculum reform	3.41	1.163	3.44	1.244	4.17	0.940	6.834**	0.090
My knowledge about how to conduct research and application of its results	2.86	1.134	3.09	1.186	3.78	1.064	7.542***	0.102
My professional self-confidence	3.70	1.224	3.67	1.218	4.54	0.721	9.759***	0.124
Feeling of being a responsible person in education	3.73	1.301	3.84	1.183	4.43	0.886	5.149**	0.069
Efforts to reflect on and to analyse my own teaching	3.61	1.159	3.88	1.046	4.28	0.926	4.609*	0.061

***$p < .001$, **$p < .01$, *$p < .05$

According to ***Table 20*** above, there were significant differences in almost all learning areas (p<0.05). As ANOVA showed significant differences among the groups; ANOVA post-hoc test was used to find out the differences between each group. As the homogeneity of variances could not be assumed for each variable, the Games-Howell post-hoc test was chosen to find out the differences between the three groups of STs (Games, Keselman, & Clinch,1979). ANOVA post-hoc test also showed significant differences among the three groups of teachers, particularly between the groups choosing the response options ‘good communication, but we never discussed’ and ‘very close and intensive communication’ group.

6.4.1.3.2.3. Correlation between teachers’ communication level and professional development

To explore if there are relationships between teachers’ communication level and their professional development. The Pearson correlation is performed. Firstly, the Pearson correlation is applied to find out if there are relationship between teachers’ communication level with STs and their professional development. The results showed

that all areas except subject matter knowledge area; showed that there are positive relationships *with* $p<0.01$, $p<0.05$ and $p<0.05$). To put this in another words, teachers reported that the more they communicated with STs, the more they are improving in their professional development. Secondly, the relationship between teachers' communication level with UTs and their professional development is explored. The results showed that there are positive relationship in seven areas: *my classroom management skills* (r=.170*, $p<0.05$), *my repertoire of teaching methods and my teaching strategies* (r=.213**, $p<0.01$), *my knowledge about curriculum and curriculum reform* (r=.222*, $p<0.01$), *my knowledge about up-to-date educational issues in national and global contexts* (r=.203*, $p<0.05$), *my knowledge about how to conduct research and application of its results (*r=.212*, $p<0.05$), *my feeling of being a responsible person* (r=.201*, $p<0.05$), and *my effort to reflect on and to analyse my own teaching* (r=.189*, $p<0.05$). Therefore, teachers reported that they improved in these seven areas through communication with UTs.

6.4.2. Curriculum Development and Implementation

This functional area of SUP was recently conceptualized in Myanmar. As stated before, in the framework of the reform in basic education curriculum, curriculum development teams (CDTs) were formed in order to develop the new national basic education curriculum (see 5.3.2.2. Participants). Intensive communication between schoolteachers and university professors happened the first time in CDTs as they had to work together closely as colleagues in developing the new curriculum. This section has three parts: (i) 6.4.2.1. Knowledge and skills present the knowledge and skills areas developed by participants, (ii) 6.4.2.2. Emotions and attitudes describe the participants' emotion and attitudes and (iii) 6.4.2.3. Participants' perception on the impact of SUPs in curriculum development and implementation, illustrates the quantitative findings.

In this CDTs, interviews were made with eight persons participating in the curriculum development process. As already mentioned, three groups were identified according to their different roles in the process: (i) CDT developers, (ii) CDT trainers, (iii) CDT trainee (see ***Table 21***). From the three curriculum developer teachers (CDT developers): two were schoolteachers working together with university professors. These two schoolteachers (CDT developers) had the direct and most intensive communication with university professors, retired university professors and educational experts since

they all were participants of CDTs. They worked together closely and intensively with university professors. Another CDT developer was a university professor. She was a university professor from UOE, and she had very intensive communication and collaboration with schoolteachers. In the group of CDT trainers, there were three schoolteachers who provided trainings to their fellow teachers about the new curriculum. These three schoolteachers attended the training provided by CDT developers and then they had to train their colleagues at township level. These CDT trainers were also in intensive communication with CDT developers (university teachers) while they attended the trainings. As for CDT trainees, two teachers were included: they attended the trainings provided by the CDT trainers. These CDT trainees did not have direct communication with universities; however, they were included in this study to understand the flow of information disseminated between universities and schools and the working conditions within the framework of new curriculum implementation. The following ***Table 21*** provides the number of interviewed participants in the SUP for curriculum development and implementation area.

Table 21: Number of Participants in this study for curriculum development and implementation function of SUP

SUP functional area	Role in CDTs	Profession role	Number
Curriculum development and Implementation	CDT developer	University professor	1
	CDT developers	Schoolteachers	2
	CDT trainers	Schoolteachers	3
	CDT trainees	Schoolteachers	2
Total			8

6.4.2.1. Knowledge and skills

To be honest, I was shocked when schoolteachers pointed out the fact to me. I did not know that and never thought to consider this fact. It was good that they pointed out to us.

This is a quote from an interview with a university professor CDT developer who spoke enthusiastically about her experiences. She continued saying that the suggestions made by the schoolteacher CDTs developers was very important, as they pointed to facts she did not know before. She was thankful for their comments and suggestions during the whole process of working together. The team of this university professor CDT developer

was responsible for developing the 'moral and civics subject' for basic education. In her team, there were schoolteachers, teacher educators from education colleges and university professors. The university professor realized the potential of schoolteacher CDT developers while developing the specific content of the subject. She did not pay much attention to a given issue until the schoolteachers gave some inputs about the subjects. She later found out that the inputs from schoolteacher CDT developers were important and valuable for the whole team. She admitted that her ideas to develop the content was too simple and she was too much adhered to traditional way of teaching and learning. However, from the perspectives of schoolteachers, the traditional way of giving the lesson was not a good way.

> *In one lesson, there were examples of children who did not behave well when there were guests at home. For us, we are kind of conservative, you know? We would say to a child in a mild scolding and cold way to stop those behaviours, right? But schoolteachers pointed out that, 'it is not good way to treat children like that as it is related to human rights, and also according to 21st century skills, we cannot teach in the traditional way. So, we should develop the new content in this way'. (CDT developer: university professor)*

She continued saying that she realized that the schoolteachers had more ground experiences about learners' behaviours, characteristics and attitudes than she had. And she explicitly mentioned that she was not aware of the learners' characteristics and behaviours, and she did not think about the human rights implications and the 21st century skills while developing the new curriculum. Thanks to the schoolteacher CDT developers, she started emphasizing and paid attention to these issues. She explicitly said that:

> *As they are in touch with children in their everyday lives, they have ground experiences. We are only in touch with adults at university. But for them, they are in touch with children from KG to Grade 12. In these cases, concerning children's characteristics and behaviours, we got a lot of information and experiences from them. (CDT developer: university professor)*

The above response of the university teacher described the awareness of her limited knowledge as well as the need for more knowledge about learners' behaviours and characteristics. Although she was only university professor from CDTs who participated

in the study, her response can demonstrate that there might have been cases when university professors were learning from schoolteachers.

As for schoolteacher CDT developers, they claimed that they have learnt subject matter knowledge. They mentioned that university professors were very proficient in subject matter knowledge and expert in their academic fields. For example, both schoolteacher CDT developers reported that university professors corrected their misunderstood concepts and facts during discussion. Although they had difficulties in communicating because of different opinions about teaching activities, schoolteacher CDT developers clearly said that they have got a lot of subject matter information from university professors.

> *I was not proficient in subject contents like university professors. Sometimes, the factual information or concept I used/understood was wrong. That time, university professors corrected our misunderstanding. I got a lot of valuable information and knowledge about this subject from working together with them. (CDT developer: schoolteacher 2)*

In the curriculum development and implementation functional area of SUP, 'subject matter knowledge' and 'curriculum content knowledge' were the most frequently mentioned areas of professional development in the case of CDT developers. The interview analysis of CDT trainers and CDT trainees showed that they developed subject matter knowledge, pedagogical knowledge, pedagogical content knowledge and cross-curricular skills in some cases. Although CDT trainers have attended the trainings provided by university professors, they did not have very intensive communication with university teachers like schoolteacher CDT developers. However, they also had communication with university teachers to some extent. CDT trainers reported that they got 'subject matter knowledge as well as pedagogical knowledge' through the trainings. One of the pieces of evidence was provided by CDT trainer explicitly reporting on this:

> *For the academic professors in the trainings, we got to know the new subject content. And we also learnt about the ITPR method of teaching a lesson. It was very new for us. Through this training, they introduced us the new way of teaching a lesson. (CDT trainer 2)*

Actually, CDT trainers also mentioned knowledge sharing events with university professors during trainings. In this case, rather than learning from university professors, CDT trainers were sharing their knowledge with university professors. There was one example that a CDT trainer mentioned. According to her, there was a discussion about a 'salt making process' lesson. One of the CDT trainer teachers complained that they cannot show the salt making processes in practice as they live far from sea and there was no industry for salt making in their local area. Then, one of the CDT trainers said that they can show the video tutorial of salt making and they can find these videos in YouTube or Google. And if this was not satisfactory, she pointed out that they can do 'reverse process': melting the existed salt into liquid, then redo it again. The idea provided by her fascinated the university professors. According to her, university teacher complimented her. She reported that:

> *University professor was happy, and she said that she likes the ideas. She also mentioned that she has never thought about making the salt to liquid and then do it again to become salt. So, she said that this is a good idea and can be done by any teachers in any local village or town. (CDT trainer 1)*

This discussion happened among schoolteachers where university professors were observing them during training. The problem was posed by one CDT trainer and the solutions were developed through discussion among teachers. According to interview responses, there were times when university professors were also observing and learning from CDT trainers. Another example of this was mentioned by a CDT trainer. She mentioned that one of the lessons included 'a flowerpot making with newspapers' activity. This was in an art subject which encourages children to do art activities and decoration. After the presentation of how to teach the lesson, university professors asked CDT trainers: 'what will you do if you don't have newspaper in your village (or) if it is difficult to find newspaper in your village?' The CDT trainers discussed it with colleagues, and they found the solution:

> *We can use bamboo instead of newspaper. It is true that newspapers were difficult to get in some villages. But in villages, we have a lot of bamboo trees and bamboos. We can use bamboo for this art lesson, to make a flowerpot and decoration.* (*CDT trainer 1*)

This example was given by one of the CDT trainers, but these kinds of teacher collaboration appeared not only among CDTs trainers. CDT developers who trained CDT trainers also mentioned how active and proficient CDT trainers were:

> *They are so active. I think that they knew very well about subject matter and teaching. This is my opinion, I interpreted this as I observed from the ways they talked and did their simulated teaching. (CDT developer: school teacher1)*

According to these interview responses, there were intensive discussions among teachers. These responses also pointed out that 'the cross-curricular skills' developed in teachers while they tried to solve issues and complaints emerged during their trainings. Teachers showed problem-solving skills, creativity and critical thinking at the same time with their reflective skills. The above responses show not only mutual learning among participants, but also intensive communication among them. Moreover, these reflective skills were also reported by CDT developers:

> *I think I have improved a lot in my knowledge about the subject as well as connecting lessons from each grade and each chapter. Before CDTs, I didn't really understand the way to connect the lessons. Now I understood.* (CDT developer: schoolteacher 1)

Both CDT developers and CDT trainers developed a wide range of skills. In the case of CDT trainees, they mostly reported that they got subject matter knowledge and pedagogical knowledge. One of the interesting facts is that a university teacher also mentioned 'pedagogical content knowledge' that she learnt from schoolteachers. This university teacher did not participate in CDT team, although she became a trainer for CDT trainers. When she trained CDT trainers, she mentioned that she realized some 'teaching strategies' to teach in specific lesson.

> *Well, I was observing CDT trainers teaching lesson. In some lessons, their teaching methods were very good. I realized that this lesson can be taught in that way as well. I didn't know it.* (UT3)

Apart from all of these knowledge and skills, 'curriculum content knowledge' was also developed in participants, especially in CDT developers. Due to the necessity to attend trainings before and during developing curriculum, CDT developers had a chance to work

together with national and international consultants. A university professor CDT developer mentioned that if they stayed in university, without working with schoolteachers, they would not know deeply about developing curriculum and its content. According to her, learning together about developing curriculum and writing teachers' guides for teachers created a combination of two worlds ('old hands' and 'fresh hands').

> *As we came together for curriculum development, this is the collaboration between old hands and fresh hands, right? so we are learning everything about developing curriculum such as developing objectives, how to assess and assessment methods, etc., from units to chapters. We are not only developing curriculum content, but we are also developing teachers' guides, so this is a very rich experience. (CDT developer: university teacher)*

The same opinions are also given by schoolteacher CDT developers as they also gained valuable experiences about curriculum content knowledge. They also mentioned the valuable experiences they got from the trainings provided by international consultants. For example, one CDT developer said that he got to know more deeply about 'curriculum content knowledge' after joining the team to become a curriculum developer. He gave an example of 'spiral connection' of lessons across grades as well as along the units. He has learnt this concept 'spiral connection' in his bachelor studies of education; however, he realized how to use and connect it after becoming a CDT developer.

6.4.2.2. Emotions and attitudes

According to the literatures, the participants' emotions and feelings play a significant role in partners' learning and professional development. As they can also shape and reflect the success and quality of SUPs, it is important to explore the emotions and attitudes during collaboration.

Interview results show that positive emotions and feelings developed in participants during collaboration related with professional self-confidence and motivation in the profession as well as feeling of achievement in their work. The most significant evidence was found in the group of CDT developers when they demonstrated their feeling of improving their status explicitly through reflection. One CDT developer mentioned that '*I would say that I am happy that I joined the teams. I satisfied myself for what I have achieved*'. He felt this status improvement happened by reflecting about his work done

and the achievements through collaboration. He mentioned that he had developed his understanding of thinking processes in connecting curriculum across different grades. In his first days of developing curriculum, he could not see the connection of ideas and subject content due to lack of his experiences in developing curriculum. However, later on, he reported that he understood the connection between the concepts.

> *For example, if I developed Grade 8 curriculum content, I started checking Grade 7 and Grade 9 content and their scope and sequence. I realized that I need to check them as the content are interrelated. I need to write based on previous as well as upcoming content to have a connection across the grades. So, this is how I developed. I can see that there was a lot of good improvement in me.* (CDT developer: schoolteacher 1)

As seen in the last paragraph, CDT developers were not only improving in their professional knowledge and reflection, but they also expressed enjoyment in their achievement. A CDT developer (university professor) also mentioned: '*It was very good experiences. We were learning a lot*'. She mentioned that her team for developing 'moral and civics' was very friendly with each other and supporting each other in every stage of developing contents. According to her responses, she listened to schoolteachers as well as showed respect to their opinions.

Aside from emotions and feelings, 'change in attitude and opinion' was also found in interview responses. As reported by a university professor, there was change in attitudes among them. Most of them in CDTs were academic professors who were proficient and expert in subject matter, nevertheless they did not have any background knowledge about the curriculum content knowledge. Before attending the trainings for developing curriculum with national experts and international experts, most academic professors were quite stubborn to accept the ideas of schoolteacher CDT developers. These schoolteachers knew about the basic curriculum content knowledge as they were graduated from University of Education. However, at the beginning, it was difficult to communicate among CDT developers due to different professional backgrounds and knowledge. According to university professor CDT developer, the attitudes of some academic professors was changed after attending the trainings with national and

international experts. This was also reflected in what one of the schoolteacher CDT developers described in her responses.

> *Since the training finished, their attitudes changed as they had got all those concepts in their mind. Sometimes, they even gave us the leading role during discussion of training section; for example, when we were discussing about Bloom's taxonomy, they asked our knowledge and told us; 'you know more than us in these concepts', etc. So, academic professors who had attended the trainings together with us listened to our ideas and opinion later on. (CDT developer: school teacher1)*

As evident in the previous paragraph, academic professors became flexible in communicating with schoolteacher CDT developers after the training. CDT developers mentioned that there were still some academic professors who were stubborn and difficult to communicate as they haven't attended the trainings. According to CDT developers, when schoolteachers and academic professors joined the trainings sections and discussed together in a group, they became flexible to communicate.

In the case of CDT trainers, they showed their excitement and emotions when they talked about their trainings to CDT trainees. Their responses demonstrated that they had intensive communication with CDT trainees. According to them, they had both frustration and excitement feelings. They were happy as they were learning a lot of subject matter knowledge as well as pedagogical content knowledge from their colleagues as well as from CDT trainees.

> *These trainings days were tough. Not easy, you know? Especially, when you were a trainer to your colleagues. But I am glad that I had this opportunity. Because of these trainings, I had to read a lot, prepare a lot which promote my subject matter knowledge. (CDT trainer 3)*

> *Sometimes, questions from CDT trainees are difficult, that time, I felt a bit stressed before the lesson as I was afraid that I cannot answer to them, immediately. (CDT trainer 2)*

However, they were frustrated when their workload was too much for them since they had to read a lot as new curriculum was also totally new for them. At the same time, they

also had to confront some questions posed by CDT trainees. They mentioned that there were times they could not answer the questions, then they felt frustrated and stressed at the same time. However, in conclusion, they admitted that they have learnt a lot through discussion with CDT trainees and from the questions posed by them.

6.4.2.3. Participants' perception on the impact of SUPs in curriculum development and implementation

The quantitative part of this study also explores teachers' learning and professional areas based on their participation in curriculum development and implementation. I compared mean values of two groups of teachers: (i) teachers who attended trainings for curriculum implementation (CDT trainees) (n=47), and (ii) teachers who did not attend those trainings (n=126). Obviously, teachers who attended the trainings of new curriculum showed higher mean values than teachers who did not attend the trainings. Therefore, I run independent sample t-test for further investigation, and it showed significant difference in only one area called 'my pedagogical knowledge' (t= -2.035, p=0.044) (See ***Table 22***).

Table 22: Summary of Independent Sample t-test based on attendance of curriculum trainings hold by universities (n=173)

Variables	I did not attend the curriculum training (n=126)		I attended the curriculum trainings (n=47)		*t*	*p*	Cohen's *d*
	M	SD	M	SD			
Pedagogical knowledge	3.61	1.209	3.98	0.977	-2.035	0.044	1.148

***p < .001, **p < .01, *p < .05

6.4.3. Continuous Professional Development

According to interview responses, the SUP for continuous professional development in Myanmar is usually seen as university-led workshops or trainings where university teachers lecture to schoolteachers for promoting subject matter knowledge and pedagogical content knowledge and so on. Regardless of this university-led trainings, interviewees reported their professional development. Most of the schoolteachers' responses showed that they got a lot of valuable information, knowledge, experiences, teaching aids and materials from university teachers. All schoolteachers mentioned that

they got at least ‘subject matter knowledge’ when they attended trainings or workshops provided by universities. However, it was not always that only schoolteachers were receivers of knowledge as mentioned earlier. One university professor recalled her memories of an outstanding schoolteacher in the interview. Although, she was not mentioning what she has learnt from him, her responses showed that university teachers and schoolteacher had a good relationship as well as good discussions during trainings.

> *There was one teacher I remember until now. I was one of the trainers for the project. The project aimed to develop CPD of teachers. I remember him because he always shared his opinions, experiences and knowledge with us. Sometimes, we were teaching them a ‘flipped classroom’ lectures. Once, he stood up and he mentioned his own methods, such as he will teach at home, or may be when the parents are free, or in free time whenever he is available. So, what he meant was he has been doing this for his whole life in his own ways. (UT6)*

As she continued, she mentioned that she was impressed by this schoolteacher:

> *I thought we were teaching them a very advanced teaching strategies and new knowledge for them. We prepared a lot such as colour PPT and materials. But as he said, he has been doing this in his whole teaching services. Our lecturers were not surprising to him as we expected. (UT6)*

Because of excellent teaching and his openness, the university teacher appreciated the schoolteacher and had a conversation with him. She did her discussion with him during the trainings as well as break time. The university teacher remarked him as the teacher *who always thinking about how to teach better and how to make his students for high achievement.* When the university teacher asked his education and teacher position, it turned out that the schoolteacher did not possess a degree, and he only had his matriculation pass certificate. This surprised the university teacher as she thought the teacher must have a higher degree level since his knowledge was advanced and very informative during the training. The university teacher noted in the interview: ‘*I really appreciate this teacher. Very smart and intelligent teacher*’.

Based on this response, we can see that ‘SUP for continuous professional development’ was university-led partnership in Myanmar. Nevertheless, it did not mean

that there were no communication and no inputs from schoolteachers during these partnerships. On the other hand, very experienced schoolteachers recommended novice teachers to attend those CPD trainings and workshops provided by university teachers. They mentioned that: '*they were very useful professional development programs. Novice teachers will be proficient and expert in their subject fields through joining these trainings regularly*'. However, she also mentioned that an experienced like her also need the CPD trainings for teaching new curriculum as follows:

> *For old curriculum, we are good in our subjects, we don't need training. However, for new curriculum, we still need trainings. (MT3)*

The above response showed the need of SUPs for trainings and successfully delivering of new curriculum. As reported by interview responses, the SUPs for continuous professional development were mainly implemented for senior high school teachers. For primary school teachers, they mentioned that few of them have experienced these kinds of professional trainings.

It is important to explore that collaborating with university such as participating in workshops and professional development (PD) programs have an impact on teachers' learning and professional development. Therefore, I compared the mean values between two groups of teachers: (i) teachers who participated in PD trainings and workshops with UTs (n=53), and (ii) teachers who never participated in those programs (n=120). Here again, teachers who had participated in those programs showed higher mean values in all learning and professional development areas than the other two groups. Hence, I run independent sample t Test to find out if there were significant differences between each group. No significant differences between two groups.

6.4.4. Teachers' learning in other functional areas

In spite of the fact that SUP in Myanmar was mostly known in initial teacher education, continuous professional development and for curriculum development (which was developed recently), there were some examples of SUP for other functional areas such as research development, school and university improvement and they appeared in the interview responses. As the information appeared just only in a few responses, the combination of these functional areas will be presented in this section.

SUP for research development areas appeared when university teachers mentioned their experiences of collecting research data in schools. The research development area was also found as low level of partnership according to interview responses. In other words, based on interview responses of schoolteachers and university teachers, SUP for research development is seen as university teachers and researchers going to schools for their data collection. It was not an advanced level of partnership such as university and schools working together for a research project or schoolteachers doing research for their school improvement, which are very popular activity in advanced SUPs. Nevertheless, there were some outstanding examples which showed 'mutual learning' among partners during this low level of partnership.

One university teacher recalled her experiences of data collection in schools. She did her doctoral studies and had to spend sometimes in schools for data collection. She was doing an experimental study and because of this, she kept in touch with schools for three months. During these three months of spending time frequently in schools, she had a friendly communication with schoolteachers as well as with the school environments. On one occasion, the university teacher mentioned how she admired the schoolteachers' teaching strategies. She recalled her observation of schoolteachers' teaching. When she observed the schoolteacher's classroom, she found out that schoolteacher was doing evaluation of her children during the teaching. The university teacher mentioned this behaviour of schoolteacher in educational terms, describing this process as 'formative assessment'.

> *In that school, I observed classrooms. There was a teacher who did a formative assessment during her teaching. But she did not know what she was doing was formative assessment. She did it in her every day's teaching and it was successful. (UT2)*

And the university teacher continues with saying that she reflected her teaching after she saw the teachers' teaching. And she realized that she wasn't doing 'formative assessment' as intensively as this schoolteacher. This experience was a red flag for her teaching and decided to try 'formative assessment' as far as she could in her university teaching.

> *If I do this kind of assessment more often in my teaching, I think my teaching will be better than now I am doing. (UT1)*

Beside this observation, she also mentioned her informal conversation with another schoolteacher.

> *I went to school frequently during these three months, so I became very friendly with teachers. One day, I was talking to one teacher. While sitting next to her on her desk, I found students' essay books. As she knew that I was curious of these essays, she let me read them. I asked her why she asked children to write essays and what these essays were about. She mentioned that when she finished after one week teaching, she asked her students to write essay about their feelings such as 'do you like studying physics? Do you want to continue learning physics? What do you like? Why do you like/dislike? What are your difficulties?' etc., to let children to express about their experiences and feeling after they had learned this week. When I read about them, it was impressive. Children mentioned about their favourite lessons and their feeling. Before that I was thinking like: 'essays and physics? Really?'. But after reading the essays, I realized it was a good idea to do it. You can observe your children's learning, their feeling as well as their attitudes and difficulties about the subject. It was really a good idea. (UT2)*

Beside these above observation and experiences, the university teacher also asked teachers about their self-studies: how they pursue their learning to be expert in the subject they teach. The teachers mentioned that they read a lot of teachers' guides book, checking materials and teaching aids with the help of internet, etc. University teacher said that she learnt new experiences from schoolteachers as:

> *During those three months, I think I learnt from them. For example, formative assessment. I also did in my classroom. But I didn't feel like I was doing it seriously. But after I learnt from her, I took it seriously and it reminded me to do it regularly. I learnt that she did multiple choice, so I can do these kinds of multiple choice for my STs. This is what I thought. (UT2)*

While this university teacher reported that she got some experiences from schoolteachers, another university teacher also mentioned her experiences in interacting with school children. UT said that her data collection was directly related with children, therefore, she mostly communicated with school children in schools. According to her, she was also amazed by the school children's level of intelligence.

> *I didn't expect that children could reflect their learning and had abilities to point their weakness and strengths. But when I interviewed the children, they were more mature than I thought. (UT1)*

The above responses showed the university teachers' experiences in communicating with schoolteachers and understanding school environments during their data collection. According to responses, the SUP was not advanced level in the research development area, however, it did not mean that each partner was neglecting nor ignoring each other's strength and weakness. In other words, they were observing their partners' teaching and learning through informal conversation. Nevertheless, from the schoolteachers' perspectives in the case of data collection, few teachers mentioned that they have gained information from university teachers. They all mentioned that they cooperated with university teachers in responding to their questionnaire and interviews, etc. One example:

> *We were happy to help them in their research. As for me, I gave a lot of suggestions in open-ended questions. I hope it will be useful for them. And I gave my opinion in detail, so that their thesis can improve our schools as well. (MT10)*

This was mentioned by one schoolteacher who showed her willingness to learn and give suggestion for the university teachers' research project.

On the one hand, UT3 reported her experiences of communicating with schoolteachers during school improvement research project. The project was about training teachers for teaching 'environmental awareness to children'. According to the university teacher, it was a 3 year long project with the collaboration between universities and international organizations. The project was to train schoolteachers to improve teaching skills in science. Therefore, again, the SUP was not an advanced partnership since university teachers just only trained schoolteachers teaching science subjects. However, while recalling her experiences, she mentioned some cases that she got help from schoolteachers in dealing with practical teaching. For university teachers, it was difficult to do practical lessons and experiments as they have never done it before, especially with elementary school children.

> *In the project, there was something that we wanted school children to learn about the insects, for example, butterflies, bees, and bugs. We (UTs) did not know how*

> *to catch these insects without hurting them and without having danger to children. We didn't want these insects to die also. We wanted to release them after we showed them to children. We didn't know how to catch them. That science teacher as I mentioned above, he caught them by not killing them and also how to maintain them. We did not have those experiences. (UT3)*

In connection to this, UT3 also mentioned her lack of experiences in dealing with young children, and that she was helped by schoolteachers.

> *And they are primary school teacher dealing with young children every day, their usage of words was very good that they can communicate so easily with children and made them understand. For us, we usually communicate with university students, so we are not really in practice to communicate with children. So I had to learn from these teachers how to communicate with the young children. (UT3)*

As pointed above, UT3 mentioned that she appreciated schoolteachers' help in the project. This was happened when she did a pilot study to observe schools during the projects. Another interesting fact that the university teacher mentioned was that her awareness of knowledge gap between theoretical experiences and practical experiences. The following quote shows her awareness of this knowledge gap:

> *For me, I was also a schoolteacher last 20 years ago, I served 10 years at basic education high schools. But I have been here at university for 20 years now. So when I do these projects, I went to schools, and I realized the real frontline condition in schools. As I am working at university, I can only realize the real school conditions when I do projects or research. What we have in mind is different from what we see in schools in real situations. (UT3)*

Besides this awareness of her limited knowledge, she also mentioned the importance of SUP in education:

> *If there is no connection between schools and universities, there will be more gap to promote education and teacher education. So, there must be a connection between schools and universities. (UT3)*

As pointed above, although there was only a low level of SUP in Myanmar regarding to the research area and, university improvement area, participants were aware of their

limited knowledge and said that SUP is important in education. In other words, this can be interpreted as signs of a wish for more intensive communication between schools and universities in the country.

6.4.5. Spectrum of SUP: Fostering teacher collaboration and learning organization

Besides learning and professional development among partners, there are some interview responses in which teachers developed collaborative practices and change of attitudes in working together with others. Although this is not about partners' learning from each other within the SUPs, I think they are worth mentioning as these are indirectly related to SUP. As will be seen in the following, without SUP, these learning would not be occurred.

First of all, one response from university teacher showed that there are potentials of collaboration which is not a top-down or regular process but initiated by this university teacher. According to this university teacher, she was eager to promote teacher learning and professional development, therefore, with the help of her own connections and friends, she created a professional training program for teacher educators in one education college.

> *I have a strong desire to promote the education in my home city. There is one education college at my hometown. I am a professor at the university. I wanted to give professional trainings for teacher educators. I have some friends who are working in international projects. I connected them and arranged everything my own to run this program. I told the principal of this college 'please give me one big room and teacher educators to attend the training. I will arrange other things to happen with my own. You don't need to worry about anything. All I need it a big room and teacher educators for the training'. I said that to principal, she agreed, and I implemented the program. It was successful. (UT8)*

This is how the university teacher implemented partnership activity on her own effort. She mentioned the following:

> *I don't have long arms to transform the whole education. But I know that teachers are the most important person because they are truly shaping the education. Therefore, I decided to approach the education college. I cannot do the training*

for all schools in the country. So, my target became teacher educators who were trainings student teachers. (UT8)

This is not a SUP; however, this is the university teacher tried to implement a training program for teacher educators in education college. However, this is showing how the bottom-up initiative partnership program can happen.

In the case of new curriculum development training by CDT trainers to CDT trainees, the collaboration among teachers occurred significantly. First of all, among CDT trainers, there are cases that teachers are learning together through discussing in a way that more experienced and proficient teachers helped less experienced teachers in training new curriculum content. Firstly, the teacher collaboration in new curriculum development trainings will be described. According to these CDT trainers, there were a combination of public-school teachers as well as private school teachers who attended their trainings. Both of them shared their exciting experiences as well as stressful situation during this training. Based on the interview responses of CDT trainers, it appeared that they had challenging situations in trainings to schoolteachers. Analysis of interviews responses showed that these challenging situations pushed CDT trainer schoolteachers to collaborate with each other in preparing lessons together before trainings to CDT trainees. Before CDT trainers trained the CDT trainees, they attended the training provided by CDT developers. The training for high school curriculum lasted only a few days for each subject. For instance, the CDT trainers attended the new mathematics curriculum for Grade 9 in two days, which they had to train CDT trainees in seven days. Hence, the training provided for them in two days did not cover the whole textbooks. The CDT developers focused on the most important chapters of the new curriculum. Therefore, there were a lot of new subject contents which had not been lectured or trained by CDT developers. In teaching to CDT trainees, CDT trainers discussed together for the new content they haven't trained by CDT developers. These led to collaboration among teachers. Furthermore, the trainings of CDT trainers to CDT trainees did not happen 'trainer-trainee' relationship, it was more like a teacher collaboration and discussion for teaching the new curriculum. One CDT trainer mentioned that:

The training was more like a discussion among us. We openly told our colleagues (CDT trainees) that we are also learning now, therefore, they can discuss and

> *questions whenever their opinions are differed from us. So, we discussed each other through simulated teaching, group discussion, etc. (CDT trainer 1)*

One CDT trainee mentioned her experiences as follows:

> *I have never given my opinion to other colleagues before I was afraid that he or she would misunderstand me if I did. Now, this training was more like a family type, so we can discuss everything we want. So, when I saw my colleagues understood some concepts wrongly, I gave constructive feedback, and they appreciated it. (CDT trainee)*

According to this CDT trainee, her attitudes in giving feedbacks to her colleagues had changed during the training. Although CDT trainee mentioned about the difficulties of not having enough resources for implementing new curriculum at schools, they were happy about the trainings and experiences they got from this curriculum training.

CHAPTER 7: DISCUSSION

This chapter provides the discussion of research findings in three parts. First, partnerships typologies and current practices of SUPs in Myanmar are analysed through comparing and contrasting the literature review of partnership theory. Secondly, the factors which can determine the success and failure of SUPs are discussed. Finally, the impact of SUPs in teachers' learning and professional development is presented.

7.1. Fitting SUP to the partnership typologies or theories

Different scholars defined partnerships distinguishing them from other relationships based on level of participants' involvement and interdependence among organizations, organizational structures based on their involvement, the goal and impact of partnership (Grobe, 1990; Intriligator, 1992, Tushnet, 1993; Barnett, et.al.,1999). These definitions of partnerships suggest a partnership image developing from lower to higher levels. Few scholars argued that underdeveloped partnerships can also foster higher mutual learning and professional development among partners. Therefore, it is necessary to see the insides of partnerships regardless of the defined partnership levels.

In Myanmar, according to the results, we have seen that lower level of partnerships were established in teacher education as well as in other functional areas of SUP. However, we have seen some outstanding cases where mutual trust and understanding had been built among partners. Besides these, mutual learning and professional development had occurred within these poor level partnerships. Due to this fact, this section will discuss how underdeveloped SUPs can also foster optimal learning and professional development of participants. To highlight this, first of all, I will present 'current SUP practices in Myanmar' by placing them under the pre-defined typologies of different scholars; according to their (i) linkage or relations and (ii) level of interdependency. Further, I will reflect how fruitful learning can happen within these assumed lower-level partnerships.

7.1.1. Linkage or relations

Regarding the relations among partners and the structures based on these relations, Tushnet (1993) classified three types of partnerships as follows: (i) primary/limited partnership, (ii) coalition partnership and (iii) collaboration partnership. Based on these dimensions, current practices of SUPs revealed by this study can be grouped in each

category. According to the results, the most obvious SUPs practices in the country are initial teacher education, continuous professional development and curriculum development and implementation. Although other areas such as research development and school/university improvement appeared in some cases, they were not seen as regular practices.

According to Tushnet's classification of partnerships, current practices of SUP in initial teacher education fall under 'primary/limited partnership'. As stated earlier, primary partner/limited partnership is the partnership in which a managing partner gives services, training and materials or resources to other partners and its staff (Tushnet, 1993). Interview respondents mentioned SUP in initial teacher education as sending student teachers to schools for accomplishing their two weeks of practice teaching. Few communications happened between university teachers and mentor teachers to support student teachers in teaching and learning. Quantitative results illustrated that university teachers and mentor teachers rarely communicated with each other. According to this combination of the results, it has been shown that the university contacted schools when it was time to do practice teaching for student teachers. Once in a year, the communication between schools and universities happened when university needed the services of schools in accepting the student teachers for practice teaching. In this SUP practice, the schools are providers of spaces which helps the universities in promoting their initial teacher education. This situation is similar to other functional area of SUPs such as 'research development' where university teachers or post-graduate students came to schools for data collection. This SUP is a one-sided relationship since one partner contacted to the others in need of services or resources. Tushnet (1993) claimed that this type of partnership can grow gradually to coalition partnership from time to time. However, though this SUP had been established in the country several decades ago, the communication status among partners did not grow to coalition or collaboration stages.

Likewise, SUP in continuous professional development area also falls under the category of primary partner/limited partnership. In the Myanmar context, these SUPs for continuous professional development happened without discussing or without having a substantial conversation among participants. Tushnet (1993) suggested that discussing ideas about each partner's task, what practical changes they will require and determine

the content of partnership activities, 'pre-partnership conversations' are needed before establishing partnerships. Few SUPs in Myanmar had followed this suggestion due to the fact that they were established by the government or authorities as top-down processes, instead of emerging from partners' interest. The reason that SUP for continuous professional development is assumed as limited partnership is because of one-sided partnership where universities provide trainings or services for promoting teachers' qualifications. Unlike the ITE SUP, the universities are service providers at this time and the schools play as receivers of knowledge. According to the results, most of the SUPs were university-led training programs, and typically teachers were listening to the lectures of university teachers. Although there were some cases where dialogue and discussion among partners emerged occasionally, the overall concept and purpose of this training was 'university teachers trains schoolteachers' structure.

In the case of curriculum development and implementation, different CDTs will be discussed. First of all, the most intensive communication occurred among CDT developers where university teachers and schoolteachers worked together for developing a new curriculum content. Especially in moral and civics subject of CDT developers, the Tushnet's collaborative partnership could be observed. Tushnet (1993) defined collaborative partnership as follows:

> *A collaborative partnership involves division of labour among equal partners; however, decision making is a continuous process and shared among partners. Each partner is empowered to participate in all decisions.* (Tushnet, 1993; p.16)

Unlike other partnerships, CDTs showed the collaborative partnerships as university teachers and schoolteachers had shared decision-making and equal division of labour during collaboration. The unity among partners had been seen in developing a new curriculum content of this subject group. However, in other subjects such as Mathematics team, the division of labour seemed to be unequal and decision making was influenced mostly by university professors and retired professors. In those group, a very low level of communication had happened.

In the case of training for teaching new curriculum, the nature of partnership was primary/limited partnership since trainings were provided by universities for the knowledge and skills of schoolteachers in teaching the new curriculum. Although

intensive communication happened very frequently, the organization structure was top-down if we look at this from the perspective of Tushnet's classification. For this reason, in this beginning of this section, I highlighted that a poor level of partnership might also produce a fruitful and successful partnership. Further details will be discussed in the section 7.1.3.

Tushnet's (1993) classification of partnerships is applied in reverse way in this study. These types of classification are suggestions for partnerships before they started. Partners need to engage in pre-partnerships conversation for discussing about goals, regulation, responsibilities, and the content of partnership activities. None of the SUPs in the country had been based on such pre-partnership conversions as Tushnet suggested. They happened due to the goal of partnerships such as the needs for trainings pre-service and in-service teachers, and curriculum implementation. Most of the partnerships are of top-down partnerships in the country. Therefore, due to unable to apply Tushnet's (1993) suggestions for the classification of partnerships, the existing established partnerships are analysed in this study.

7.1.2. Level of Interdependency

In another categorization, partnerships can be differentiated regarding to the degree of interdependence. In other words, organizations depend on each other due to resources, knowledge, skills and capacities for accomplishing the objectives. In this study, the conceptual framework by Barnett and his colleagues is also applied to compare the types of partnership based on their interdependency. Barnett and his colleagues (1999) used Intriligator's continuum of partnerships (cooperation, coordination and collaboration) as their theoretical foundation. Barnett and his colleagues proposed five types of partnerships (see ***Figure 7***).

According to their conceptual framework, the current SUPs in Myanmar, particularly in initial teacher education, continuous professional development, represents the vendor model. Technically, this vendor model can be compared to Tushnet's primary/limited partnership as they both claimed that this type of partnership is one-way partnership where one partner needs a specialized resource which can be satisfied by collaborating with another partner for that service (Barnett et al., 1999). However, in some cases of initial teacher education SUP, the role of university teachers as 'brokers or

mediators' appeared. For example, they played as brokers between student teachers and schools for negotiating of lessons to teach, time limitation and rules and regulations which schools expected student teachers to follow. Barnett and his colleagues mentioned two important roles of a broker in a partnership. Firstly, the linking agents must have a high credibility and patience. To negotiate the conflicts and obstacles between partners, the brokers need to be seen as credible in his own organization as well as by other organization. The second role of the broker is the 'ability of listen' (Barnett, et.al., 1999). In this case, university teachers were negotiating for the benefits of both organizations. This kind of SUP can be seen as collaborative model of Barnett and his colleagues (1999).

Speaking of curriculum development and implementation, the symbiotic model of should also be compared. In curriculum development and implementation SUPs, both organizations agreed on common goals and objectives of developing and implementing new curriculum. Moreover, more intensive communications had emerged as the partners collaborated together as this is longer than two weeks or one/two months practice teaching time. The university professors CDT developers and schoolteachers CDT developers built mutual trust and respect and they admitted that they are interdependent on each other's abilities and knowledge for developing this new curriculum.

7.2. Success or Failure: What decides school-university partnerships?

In the findings chapter, we presented a number of factors which can promote and impede the success and quality of SUPs. If we analyse the results of SUPs in all functional areas, two different situations seem to emerge in each area. In other words, we have observed both effective SUPs and ineffective SUPs in each functional area. The success or failure of SUPs seemed to rely on how SUPs reacted to three dimensions: (i) people, (ii) partnership climate, structures and policy, (iii) resources.

7.2.1. People dimension

As Richard Clark said 'if partnerships are to succeed, we need collaborators, not prima donnas' (Clark, 1991). Although 'climate dimension' is assumed as the first factor likely to influence the SUPs (Melaville and Blank, 1991), it was not the first priority factor which determines the success and quality of SUPs in Myanmar. In Myanmar, the results showed that the actors and their ways of handling SUPs practices played the most influencing role in establishing successful SUPs. The people dimension here represents a

holistic view including the attitudes, perceptions and feeling of participants, the ways they collaborate with each other and the way they negotiate or handle conflicts as well as the leaderships and management during collaboration. In this people dimension, two elements played crucial roles: leadership and attitudes.

7.2.1.1. Leadership

> *Most partnerships, particularly those which are stable and have impact, receive sustained attention from leaders*. (Grobe, 1990: p.34)

Effective SUPs in this study meant that the learning and professional development of their participants are optimized. According to our results, the learning and professional development of participants maximized when they were led by leaders who were supportive, open-minded and experts in managing, negotiating and organizing things. In addition, the knowledge and skills required to understand the educational contexts are also essential leadership skills to implement effective partnerships. The category of leaders contains district and township education officers (DEOs and TEOs), school principals, heads of departments of teacher training institutions, and university teachers, rector and academic board of the university.

According to literature, most of the partnerships were created when the leaders of the organizations came up with an idea or a vision (Grobe, 1990). Although most of the partnerships started from a top-down procedure in Myanmar, their success and quality has been influenced by the knowledge and management skills of leaders. As suggested by Grobe (1990), leadership consists of talking up the initiative, making others interested and getting involved, and providing and arranging required resources. In addition, leaders also encourage staffs to innovate and support to develop their staff's confidence for speaking up for the organization (McQuaid, 2010). First and foremost, in this study, the leadership behaviours of encouraging for innovation together with supporting confidence can be observed in school principals in initial teacher education SUPs. For example, one ST mentioned that he like the school principal's way of giving him autonomy and freedom in teaching and learning. The principal encouraged him to try his best for successful learning of school children. The ST mentioned that:

> *I had a great time at school. I had freedom to do whatever I wanted or create in my teaching for the achievement of school children. I like the principal so much. I wanted to be like him when I become a principal one day (ST4)*

This is one example of how leadership plays a substantial role in supporting learning and professional development of STs. Another example is when a principal clearly said that she has very clear rules and regulation along with openness and transparency. This has been discussed in the results section, where principal presented her school's rules on the first day the STs arrived. Another school principal also mentioned how she helped STs' planning a lesson and teaching intensively when he came to ask him. This principal also asked STs to observe her teaching and took efforts to observe STs' teaching. This is the ways of leaders making people to get interested and getting involved what they are doing. By comparison, STs had difficulties when they were with unsupportive principals. One ST recalled his friends' experiences as their principals always absented and never be with STs at all.

Leadership also had impacts on SUPs in the curriculum development and implementation area. Particularly in the case of CDT trainers supporting the implementation of the new curriculum, the success of trainings mainly depended on the interest, support and initiatives of TEOs and DEOs. In the trainings which received the support of TEOs in arranging necessary resources such as projectors, laptops for PowerPoint presentation, CDT trainers were more satisfied with their work and claimed that they did a great job for distributing the knowledge and skills to CDT trainees. On the other hand, CDTs trainers felt disappointed of the trainings when they did not receive encouragement from TEOs in arranging resources.

> *I wanted to cry out loud. I was so disappointed. TEOs were not interested in the trainings. Here I am saying that I can do, I have energy, eagerness and willingness to do. But what I got is such ignorance and unsupportive supervisor. (MT6)*

She compared the difference between supportive TEOs who provided everything she needed for the curriculum trainings. What this teacher noted was as follows:

> *You know what? It is very important to have a superior who are interested and willingness to support what staffs are trying to do promoting education. If not, no collaboration will be successful. (MT6)*

At the same time, the leaderships of TEOs also had an impact in selecting the CDT trainers from each township schools (see 6.2.2. Influencing actors). As we have seen in the results section, the SUPs could go wrong if the TEOs did not select the right person for the role of CDT trainer. CDT trainers are the 'brokers' of the two entities (schools and universities) because they received trainings from UTs and then they trained their colleagues (schoolteachers) in their respective township. Therefore, the selection of these brokers is extremely important to have a successful collaboration between schools and universities. These CDT trainers are the ones who directly communicated with university teachers in SUPs for curriculum implementation.

The above are few examples extracted from the findings of this study. Besides these examples, there were several occasions which showed the leaders' management in organizing SUPs such as arranging flexible time schedule for STs' practice teaching, rectors and academic bodies' decision of selecting the experts for the SUP research projects, a shared decision-making process among CDT developers and so on. Clarification of roles and responsibilities for each staff assigned by leaders played important roles in SUPs. The findings of both qualitative and quantitative also showed this aspect as one important responsibility of leaders in SUPs. As Melaville and Blank (1991) mentioned, the partnership's situation of 'sink or swim' depends largely on the urgency of the problems and the willingness of somebody to take the leadership. In other words, leaders are one of the essentials actors in people dimension to decide these situations of SUPs in education.

7.2.1.2. Attitudes and perception

Besides the leadership element under 'People Dimension', attitudes and perceptions towards partners in SUPs is another essential element. This is an overarching element which includes attitudes of participants towards their partners such as mutual understanding and respect, trust, desire to learn, being passionate about profession and awareness of knowledge or skills limitation, power relationship.

According to Karasoff (1998), attitude is a critical variable in the early stages of partnership development. The new partnership program makes participants engaging in a paradigm shift from working independently to jointly, from a singular to collaborated structure; from competition to collaboration (Karasoff, 1998). These paradigm shift can cause feelings of fear, apathy and cynicism among participants while they are trying to adapt to the partnership framework (Karasoff, 1998). There are several reasons why these negative feelings may appear. According to Karasoff (1998), these reasons might be different philosophies and organizational styles among partners, lack of understanding of partners' profession as well as cultural and racial differences among organizations. In addition, the professional ego or to protect their turf should also be taken into account for appearing those negative attitudes. Attitudes are important to handle these differences and negative feelings during partnership activities. And the success and quality of partnership depends on how the partners handle these negative attitudes and how they overcame these situations to build mutual trust and understanding (Islam, 2010).

The attitudes of the paradigm shift were obvious in CDT developers when academic university professors and schoolteachers came together for developing new curriculum. The need to protect their turf has been seen in the academic professors' sides of mathematics group as they did not really want to include many discussion activities and group works which are assumed important activities by schoolteachers (see 6.3.1. Power relation and different professional background). On the other hand, schoolteachers were more knowledgeable in curriculum content knowledge than academic professors who are experts in academic subjects mainly. For example, as we have seen, schoolteachers knew the concept of spiral connection of concepts across grades in developing curriculum. Furthermore, schoolteachers are specialized in educational subjects which made them proficient in arranging lessons with learner-centred methods using several group activities, discussion, and open-ended questions. On the contrary, academic professors were more proficient in subject matter knowledge than schoolteachers. This also showed differences in philosophies and professional backgrounds. In the moral and civics subject in which mutual understanding and respect had been built among participants, university professors listened to schoolteachers' opinions and ideas. When schoolteachers corrected or pointed out the professors' limited

knowledge about the subjects, they happily accepted it. The other thing having an influence in these two groups has been professional background knowledge. In the moral and civics group, academic professors had basic background knowledge about curriculum content knowledge. This made them understand what schoolteachers were proposing in developing curriculum. Therefore, by looking at these examples, necessary trainings should be provided or 'pre-partnership conversation' should have taken before starting SUPs as discussed earlier in 2.3. Partnership theory. These trainings or 'pre-partnership conversation' will help participants to understand their differences as well as their negotiations for different activities. As mentioned earlier, Myanmar SUPs are top-down institutions as authorities or government initiated them, and schools and universities took responsibilities for implementing the SUPs. Therefore, 'pre-partnership dialogue' were rarely happened between two entities (Tushnet, 1993).

Accepting of limitation of our knowledge is also very essential to establish a successful SUP. Needless to say, schoolteachers, university teachers and student teachers possess different unique knowledge and abilities which each doesn't. In initial teacher trainings, university teachers (UTs) understood that schoolteachers possess the knowledge and ground experiences which university cannot provide. These attitudes of accepting limitation of their own knowledge made UTs encourage STs to do practice teaching effectively at schools. Although the essence of partnership (the collaboration between UTs and MTs to support STs) is missing in ITE SUP in Myanmar, this acceptance of limitation of knowledge made ITE SUP to become the most long existed and sustainable partnership in education. Meanwhile, MTs also acknowledge their weakness in using learner-centred methods and teaching strategies. This acknowledge made MTs to realize that they need to learn from STs.

> *We have different experiences. STs know a lot about teaching methods, strategies and learner-centred approach. They came from universities, so they have a lot of theoretical knowledge about teaching and learning. So, I want to observe their teaching and learn from them. (MT6)*

These acceptance of limitation of knowledge lead to mutual understanding and respect among partners. There are still a lot of examples in this study where partners showed mutual respect such as MTs never criticize STs' teaching in front of children during their

teaching, UTs respect schoolteachers' ideas and opinion during discussion, etc. Comparison between these two situations highlighted that SUPs are more effective and efficient when partners understand their limitation of knowledge and acknowledge the different professional backgrounds.

In addition, the power relations and status should also be considered in establishing successful SUPs. Among CDTs developers, the power relation was the most influencing obstacle that inhibited building mutual understanding and respect. University professors held the higher status while schoolteachers were sometimes treated like children since they were young and had less experiences in teaching than academic professors. These hierarchical power relations stopped participants to discuss openly and collaborate as colleagues in the mathematics curriculum development group. This is also connected to the structures and policies of SUPs which will discuss in the later section.

7.2.2. Atmosphere, partnership structure and policy dimension

First and foremost, the climate or working atmosphere is very important in determining the success and failure of SUPs. Melaville and Blank (1991) reported that this is the first factor likely to influence SUPs initiatives. When participants are collaborating in a supportive environment, the sustainability and success of partnerships has a higher possibility than in a less encouraging environment. According to Melaville and Black (1991), climate means '*the external environment in which interagency initiatives exist can range from non-supportive to highly favourable*'. This dimension is obvious in every SUP, and it is also related to the leadership component of the people dimension. The atmosphere dimension is related to people dimension because the attitudes and behaviours of people in a partnership and the ways they feel, act and create the working atmosphere. In this study, this dimension can be seen mostly in the curriculum development and implementation functional area of SUPs. In addition, in school environments in which teachers and school principal are supportive and friendly, the teaching and learning of student teachers were more productive. For example, when student teachers are with a principal who is supportive and open-minded, their stay in the school is more productive and their learning produce higher quality. The SUPs for curriculum implementation were very successful when university teachers encouraged different opinions, ideas and attitudes of CDTs trainers. In these partnership atmospheres,

partners were showing mutual respect as well. This positive atmosphere made partners to discuss openly about their difficulties as well as their experiences which will be valuable for the whole SUPs.

As already stated, SUPs in Myanmar are mostly government-initiated activities. Therefore, the structures are more like a hierarchical order than a horizontal collaboration. This was very obvious in the case of continuous professional development. Regarding the professional development of schoolteachers, UTs were given duties to teach and train schoolteachers by the ministry of education (MOE). Therefore, the concept is that UTs play the role of lecturers while schoolteachers listen to them. Although there were cases where mutual understanding and dialogue occurred, most of the SUPs are university-led in continuous professional development. Since the structure and the concept of partnerships are one-sided, the intensive communication rarely occurred in those SUPs. In initial teacher education, the structures of SUPs also impede collaboration. For example, the period where SUPs practices happened in the 4th year of studies was the time where most schools did their traditional celebration. Two teachers complained about the time schedule for STs which made difficult for them to arrange STs' teaching.

On the other hand, lack of policy for encouraging the intensive collaboration between schools and universities led to the lack of interest in collaboration. There were no clear policies for schools and universities to collaborate together in education. Moreover, as until now, there was lack of research interest in SUPs, this has remained a totally untouched area of research in the country. Due to this lack of research, there were no documents explaining why partnerships is needed between schools and universities as well as its benefits and obstacles. As a result, participants who were participating in current SUPs practices in the country did not have a higher-level understanding of the SUPs and their essence and importance in education.

7.2.3. Materials or Resources Dimension

Many researchers of SUPs stress that resources are one of the essential elements that determine its success and failure (Grobe, 1990; Melaville and Blank, 1991; Tushnet, 1993; Karasoff; 1998; Barnett, et.al., 1999; Islam, 2010; McQuaid; 2010; Botha & Beets, 2015). In an advanced partnership, resources are shared among the partners' organization. In this study, the resources also took a significant role in shaping the success and failure

of partnerships. SUPs in the country were under-developed partnerships, hence, the resources among partners were not shared as common properties. However, the resources within each partners' organization influenced the whole partnership processes in this study.

Time was the most frequently mentioned resource, especially in initial teacher education, STs often complained about the short period of time for their practice teaching. Although in some cases, STs got more than two weeks of practice teaching due to the flexibility of school principals, the usual practice teaching assigned for them is only two weeks. STs who got only two weeks period of time said that this time was not enough to get to know the school's culture as well as the characteristics of children in their learning. More importantly, they said that it was difficult to build trust and mutual understanding when they did their practice teaching in new schools in their 4th year of studies. On the other hand, only one UTs said that she went to schools twice to observe STs' practice teaching. Other UTs said that they could only go to schools one time during STs' practice teaching. UTs reported that they had no time because of workload and teaching at the university. STs who got a longer practice teaching period such as one month or two months at schools, they reported that they were more confident and more experienced than their friends who did only two weeks of practice teaching. CDT trainers and trainees also reported about the very limited time they got for the trainings of new curriculum implementation.

The second resource lacking was human resources and materials. The issue of human resources emerged when STs did their practice teaching where no sufficient teachers were present. They had struggles for arranging too many classes and activities which became an overload for them. SUPs showed more effective when schools had enough teachers, and principals took care of STs more attentively through observation and planning and discussion of lessons together. However, when the schools did not have enough resources, the school principals and schoolteachers were not able to pay attention to STs' teaching and learning.

Lack of material resources appeared in initial teacher education, curriculum development and implementation as well as in research data collection by UTs. STs reported that the schools did not have enough practical experiment instruments for

teaching science lessons. And in some cases, there were conflicts between schools and STs when schools asked STs to prepare teaching aids which are expensive for STs. Sometimes, UTs had to negotiate with the schools and did the necessary agreements with them. Lack of material resources such as teaching aids (colourful charts and graphs) led the schools to ask STs to prepare colourful and expensive staffs for compensating their schools' lack of resources. There is one assumption here. These conflicts may also appear because of teachers' lack of capabilities and skills to create different teaching aids and strategies. One of the student teachers mentioned that he had to teach one schoolteacher because she did not know how to use google and YouTube for searching tutorial videos and teaching aids for some lessons. It is my assumption only that teachers who asked STs to prepare colourful teaching aids might not have knowledge and skills like the schoolteacher whom I previously mentioned. This led to teachers asking STs to prepare for those teaching aids which they can apply in the future in their teaching. The lack of mutual understanding has also appeared here because the schoolteachers did not understand that STs could not afford that amount of teaching aids. This example showed different factors such as short period of time (to build trust and understanding), lack of resources (money and materials), lack of necessary skills (teaching strategies), lack of transparency to discuss each other's difficulty, etc. As I mentioned earlier in the section of people dimension, TEOs did not always provide the necessary resources for CDT trainers in their training for the new curriculum. Besides the lack of interest and leadership/management capabilities, the lack of necessary materials such as projectors and laptops impeded the successful implementation of curriculum.

Melaville and Blank (1991) said that the availability of resources can determine two things; (i) whether or not the outcomes or results intended by partnership will be achieved or permanently institutionalized; and (ii) the size of the population that will eventually benefit from these outcomes and results. In Myanmar, although there were not procedures or rules for sharing of resources among partners, resources seem to contribute a significant role in determining the success and quality of SUPs.

7.3. The roles of SUPs in promoting teacher learning

One of the objectives of this study is to explore the role of SUPs in promoting teachers' learning and professional development. To fulfil this objective, it is important to analyse

the nature of SUPs in which teachers' learning, and professional development occur. Much research has claimed that teachers develop professional knowledge, skills and attitudes through SUPs (Cornelissen et al., 2011, 2015; Day, 1998; Erskine-Cullen, 1995; Herbert & Hobbs, 2018; Hobbs et al., 2013; Jones et al., 2016; Saito et al., 2007; Smith, 2016; Suratno & Cock, 2008; Tsui & Law, 2007; Waddle & Conway, 2005; Wong & Chuan, 2002). As we have seen in the findings section, all teachers showed significant improvements in their professional knowledge and skills as well as experiencing positive impacts on their emotions and attitudes. In both qualitative and quantitative findings, teachers showed that their professional knowledge about learners, classroom management, pedagogical knowledge and content knowledge have significantly improved. Furthermore, their curriculum content knowledge, reflective skills, analytical skills, teamwork and collaboration capacities also showed improvement. Moreover, when two or three groups of teachers are compared based on their level of communication and their roles in partnership activities, teachers who had intensive communication with their partners showed significant improvements in their learning and professional development. This all have been described in the result section. Through all of these findings have proved the clear concept that 'SUP can promote teacher learning and professional development'. As we have explored different professional knowledge and skills improved in teachers within the context of SUP, now it is time to shift our focus on the roles of SUPs in creating these teachers' learning and professional development. This means that we are going to look at further step of how SUPs create learning opportunities for teachers' professional development.

First, engagement in social participation occurred in every situation where mutual learning happened between partners. According to the interview responses, teachers' professional learning and development occurred whenever they tried to communicate with each other and engage in social dialogue with one another. This is most obvious in initial teacher education when student teachers or mentor teachers tried to communicate in conversation about teaching and learning. According to Wenger (1998), this can be called 'active engagement in social activities as he illustrated as follows:

> *We are social beings. Far from being trivially true, this fact is a central aspect of learning. Knowing is a matter of participating in the pursuit of active engagement in the world. (Wenger, 1998)*

Through the above quote by Wenger (1998), we can see that engaging in the social world is essential for learning. The role of SUP in encouraging participants to engage in social dialogue is obvious not only in initial teacher education but also in curriculum development teams as well as in the research development area. Interview respondents explicitly reported that learning or acquiring new knowledge occurred whenever teachers engaged in social communication with their partners. Another example is in the case of continuous professional development and research development. The obvious case is when university teachers go to school for data collection of their PhD dissertation. Due to this data collection, UTs got the chance to engage in conversation, which gave them new concepts in their teaching and learning. In the case of continuous professional development, university teachers engaged in conversation with schoolteachers, giving her another perspective of teaching and learning.

Besides having social engagement within the SUPs, they also support to look at the other communities' perspectives by crossing boundaries. Mostly, boundaries are seen as '*sources of difficulties or communication among organizations'* (Tsui & Law, 2007, p.1290). However, they can also be sources of innovation and change. Boundary crossing becomes a source of innovation and change when participants try to reflect on their communities and have a fresh look at other communities (Tsui & law, 2007). In this study, this boundary-crossing happened when participants got a chance to observe other communities from their long-standing practices. This boundary crossing appeared mostly in CDTs and in the research development area when university teachers went to school for science projects or in other cases, to collect data. One interview response of a university teacher explicitly mentioned that:

> *I was a schoolteacher for some years. But now, I am a university professor and have not experienced as schoolteachers for decades ago. So, because of this research project, I paid a visit to schools, and I realized that there are a lot of changes and a lot of things I do not know about the schools in nowadays. (UT3)*

This having a fresh look at other communities and reflecting on their communities appeared in several interview responses. Furthermore, teachers showed that knowledge and attitudes changed after they tried to accept or look at partners' views and practices with open minds. Here, the role of SUP is more than allowing participants to engage in social dialogue, but it also encourages participants to cross boundaries with bravery.

According to the results, SUPs in teacher education in Myanmar are not reaching to advanced level yet. However, in this study, participants showed significant improvement in their professional knowledge and skills, although they are engaging in these low-level SUPs in teacher education. For example, in initial teacher education, participants such as university teachers and mentor teachers have not yet developed a sense of collaboration in supporting student teachers' learning. University teachers and mentor teachers did not collaborate intensively to help student teachers' learning in schools. SUP for practice teaching stagnates at the stage in which student teachers go to schools for practice teaching with no fixed collaboration routines and responsibilities with mentor teachers. Particularly, university teachers rarely have the mindset to talk to mentor teachers to help student teachers' lesson planning and teaching. The same happened with mentor teachers who thought there was no need to communicate with university teachers.

Meanwhile, student teachers also do not understand that their practice teaching in schools is not just about teaching and gaining real school experiences, but also to learn together with and from the mentor teachers. In Myanmar, as we discussed earlier, SUP in teacher education was a long-existed and top-down partnership where all partners do not have a clear understanding of the roles, and responsibilities, especially the essence of SUP in ITE. The essence of SUP here means that all partners forgot about the need of intensive collaboration between partners to support STs' learning. In this situation, the role of SUP in bringing the two partners together is prominent. This is why the roles of SUP in bringing participants to engage in social dialogue, stepping out from their communities and taking a fresh look at others, and reflecting, analysing and accepting differences with open minds are essential.

7.4. Can a lower-level SUP foster learning and professional development of participants?

> *There are any number of existing partnership typologies and no single model is entirely adequate to explain the complexities of the process*. (Grobe, 1990, p.11)

Although the current SUP practices had been discussed from the theoretical perspectives of different scholars, it is necessary to keep in mind that partnership should be seen as a process, not as a fixed defined event. For that reason, different scholars had placed their definitions of partnerships in a continuum. Nevertheless, few scholars had discussed that relatively high level of learning could emerge, or outstanding professional development could appear in underdeveloped partnerships. Most of the literature directly or indirectly argued that higher level or more complex partnerships foster mutual learnings and professional development, trust building and understanding. It may be because of the lack of interest in observing lower-level partnerships or because of the assumption that only higher-level partnerships can bring mutual learning and development within the organizations. As a result of this, this section will discuss whether poor levels of partnerships can foster mutual learning and professional development even within a limited time.

In initial teacher education, results have shown that both mentor teachers and student teachers claimed that they have developed their professional knowledge, skills and attitudes. As we can see in the previous chapter, SUPs in initial teacher education were in the lower level of partnership models as defined by different scholars. Nevertheless, both qualitative and quantitative results had proved that teachers' learning, and professional development were significant even through in limited partnership practices. In the case of curriculum development and implementation, there were also evidences that partners learnt a lot from each other. Despite the fact that partnership was a top town process in which power distance is significant, mutual understanding and trust had been built among CDT developers in moral and civics team. Likewise, in continuous professional development and research development functional areas, SUPs had shown some cases of mutual learning among partners. These partnerships were also limited partnerships; however, dialogue and communication have emerged during collaboration which led to mutual learning and understanding among partners.

It is true that it needs time to build trust and understanding among partners at the earlier stage of partnerships (Tushnet, 1993; Barnett, et. al, 1999). Most of the lower-level partnerships did not create a higher level of mutual understanding and trust at their initial stage of establishment. However, partnerships processes grow gradually depending on their human dimension (Grobe, 1990). This also highlights the fact that 'partnership is a process' and it also shows that people's understanding and trust will develop slowly if enough time is given to the participants to develop their partnerships. In Myanmar case, despite the low-level partnership, the awareness of the importance of partnership has risen in participants. Within a limited time of collaboration, participants have shown that their mutual understanding and trust have developed gradually. Mutual respect and paying attention to others have occurred than their initial period of participation.

CHAPTER 8: CONCLUSION

Most of the literature about SUPs has been discussing on their roles in teacher education and teachers' professional development, especially on how teachers develop, what knowledge or competences they gain or how their communities adopt various practices. This study has paid special attention to the multi-functionality of SUPs, exploring how they can be used as a multi-functional tool to promote educational development. This does not mean that the outcomes of SUPs related to teachers' learning and professional development have been neglected. In the results section of this study, the nature of SUPs in the Myanmar context has been presented, including the factors determining their success and failure and the impact of SUPs on teacher learning and professional development.

In the theoretical perspectives chapter, seven functions of SUPs have been identified: (i) teacher learning and professional development, (ii) education research and research development, (iii) facilitating change and spreading educational innovations, (iv) school improvement, (v) university improvement, (vi) curriculum design and reform implementation, and (vii) enhancing participation and engaging in social dialogue. The exploration of the multi-functional nature of SUPs and the use of this multi-functionality framework in educational development in Myanmar is one of the notable outcomes of this study. Based on our research findings, one can state that SUPs in Myanmar, despite their lower level, have active roles in all of these functions, especially in enhancing teacher learning and professional development, supporting national curriculum reform and implementation, and, finally, facilitating educational change in the country.

Although the seventh functional area (enhancing participation and social dialogue) did not receive much emphasis in the analysis above, this also has to be underlined here. The first and last functions of SUPs, that is, supporting teacher learning and enhancing participation and social dialogue, should be seen together. According to our research findings, SUPs have promoted teacher learning and professional development in Myanmar by encouraging social engagement and social dialogue. As stated earlier in the discussion section, most of the learning and professional development happened through participants engaging in formal or informal conversations or when they approached each other in a concrete activity. In this study, one could observe the

significant role of SUPs in engaging the members in social participation leading to mutual learning and the development of professional competencies.

Another noteworthy contribution of this dissertation is the application of general partnership theory to the analysis of SUPs. A key element of this is looking at partnerships as entities reaching specific levels of cooperation and placing them on a scale from lower to higher development levels.

Another prominent role of SUP is facilitating the country's education reforms as a change catalyst. Describing SUPs as change catalyst implies a holistic approach: in this perspective, all functional areas of SUPs appear simultaneously, especially 'facilitating change and spreading educational innovations' and 'supporting curriculum design and reform implementation'. School-university cooperation supporting curriculum development and implementation seems to be the most successful SUPs in the country.

In the area of curriculum development and implementation, we can see other crucial roles of SUPs and their significant benefits. Firstly, SUP for curriculum development and implementation raises the awareness of all teachers and university teachers to acknowledge the benefits of partnerships in promoting their professional development. Moreover, it might have also raised the awareness of educational authorities and policymakers since significant feedback has been given by participants. This might be the first step of SUPs to generate innovation in education across the country. Secondly, without school-university cooperation, the national education curriculum reform could not have been implemented successfully. Therefore, the third essential point of SUPs, perhaps the most important one, is 'giving the opportunities to university teachers and schoolteachers to communicate, discuss and collaborate intensively', which had never happened before in the country. SUP as a change catalyst can be seen not only in curriculum development but as shown by some interview responses, SUP also facilitated teacher education reforms through professional development programs and developing the teachers' competency standard framework. Finally, yet importantly, this study shows the use of SUP as a *developmental tool* in building educational reforms in the country. The role of SUP in facilitating educational change has been spotlighted in this study.

This study also includes a chapter about Hungary. The Hungarian experiences might support a better understanding of the potential of school-university cooperation in

the Myanmar context. Although the current conditions are not favourable for education development in Myanmar due to political conflicts, these experiences might be used in the future. The two Hungarian school cases presented in this study have shown how bottom-up innovation and bottom-up SUPs can develop and survive during ups and downs situations. To put it differently, the two Hungarian school cases might give 'hope' to Myanmar schools to initiate and implement bottom-up SUPs and pedagogical innovation in schools.

Although partnerships in Myanmar have not yet been advanced and several challenges had to be overcome to build 'symbiotic relationships', there is much hope for the future since progress has been made. The following remark by Richard Clark in 1991 through analysing his own experiences in participating in SUPs reflects the current school-university cooperation status in Myanmar:

> *While truly symbiotic relationships have not been forged yet (...) many exciting efforts have been initiated and, in at least several of the partnerships, there are signs that mutual interests are beginning to be served*. (Clark, 1991, p. 9)

In Myanmar, despite the challenges and the lower level of partnerships, the awareness of participants and mutual interests in establishing SUPs have been raised. Although some areas of SUPs, such as research development and school and university improvement have not yet developed explicitly, we have seen the potential of this in the future. According to interview responses, there had been intensive communication between schoolteachers and universities, and both sides enjoyed participating in SUPs.

Although most SUPs have been top-down initiatives in Myanmar, these activities have also encouraged the participants to take risks by crossing boundaries and exploring what other members are doing. Nevertheless, without these SUPs, the communication and collaboration between the two parties would not have occurred as the difference in power status and professional backgrounds are huge in the country. This study has shown that SUPs can serve as bridges between two entities and can be used as a multi-functional tool to support educational reforms in developing countries like Myanmar.

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Appendix 1: Interview protocol

Title: School-University Partnership in Teacher Education in Myanmar

Description of the Study

The study investigates the collaboration between schools and universities in teacher education in Myanmar. It considers every sector of collaboration between schools and universities, specifically, collaboration in initial teacher education (ITE), continuous professional development (CPD), induction, university improvement and research improvement, etc.

Purpose of the Study

This research main aim is to understand the nature and impact of school-university partnerships in enhancing teachers' learning and professional development.

What will I be asked to do?

The participants are invited to attend the interview by the researcher. I will ask the participants about their understanding of school-university partnership in teacher education and their experiences participating in it. The interview may take approximately from 30 minutes to 90 minutes. The participation is entirely voluntary. The interview will be recorded. The participants can ask for a copy of the transcriptions to edit if they wish, prior to any data being used for the report or other publications.

Will I be identifiable by being involved in the Study?

Any identifying information will be removed. The participants will be anonymized in the study.

Are there any risks or discomfort if I am involved?

Participation is voluntary. You may answer "no comment" to refuse any questions at any time without effect or consequences.

When will I receive the feedback?

On research completion, participants will be asked if they want to read research outcomes. The outcomes will be sent via email if they want to like to see them.

Thank you for taking the time to read this interview protocol and I hope that you will accept our invitation to be involved.

Schoolteachers' interview guide

Background information:

1. Could you please give me your current teacher status at your school?
2. How many teaching services do you have?

SUP:

3. Have you ever seen student teachers' practice teaching in your schools? If yes, what is your roles in training or guiding them?
4. Have you ever experiences working together with university teachers? If yes, could you please tell me your experiences about it?
5. Could you please tell me your opinions or experiences conditions considered in determining the success and quality of SUP?
6. What is your opinion about the challenges of collaboration between schools and universities?
7. Please think about the condition where you and university teachers collaborated for a project or trainings or anything. Any changes happened in you during collaboration and after collaboration with them? Or nothing changed at all?

Suggestion:

8. Do you want to give any suggestions/recommendation for SUP in education?
9. Do you have any questions for me?

Thank you so much for your cooperation.

University teachers' interview guide

Background information:

1. Could you please give me your current position at the university?
2. What is your responsibility in training student teachers?

SUP:

3. Have you ever experiences working together with schoolteachers? If yes, could you please tell me your experiences about it?
4. How is SUP performed or arranged in Teacher Education? What are the current practices of SUP in Teacher Education?
    a. In Initial teacher education
    b. CPD
    c. Induction
    d. School improvement
    e. University improvement
    f. Research
    g. Others
5. Have you ever experiences working together with schoolteachers in any above areas? If yes, could you please tell me your experiences about it?
6. Could you please tell me your opinions or experiences conditions considered in determining the success and quality of SUP?
7. What is your opinion about the challenges of collaboration between schools and universities?
8. Please think about the condition where you and schoolteachers collaborated for a project or trainings or anything. Any changes happened in you during collaboration and after collaboration with them? Or nothing changed at all?

Suggestion:

9. Do you want to give any suggestions/recommendation for SUP in education?
10. Do you have any questions for me?

Thank you so much for your cooperation.

Student teachers' interview guide

Background information:

1. Which year are you in currently?
2. Have you ever had practice teaching experiences?
3. How many times of practice teaching and when and where?

SUP:

4. Could you please tell me about your experiences in practice teaching?
5. How is your communication with schoolteachers, principals and others?
6. Have you ever encountered university teachers and schoolteachers working together for supporting your learning? If yes, could you please tell me your experiences about it?
7. In your opinion, what things made you feel easy to learn or support in your teaching and learning during practice teaching?
8. In your opinion, what are the challenges you faced during your practice teaching?
9. Are there any changes happened in you during collaboration and after collaboration with them? Or nothing changed at all?

Suggestion:

10. Do you want to give any suggestions for SUP in education?
11. Do you have any questions for me?

Thank you so much for your cooperation.

CDTs' interview guide

Background information:

1. Could you please give me your role in CDTs?
2. What is your responsibility in your team?

SUP:

3. Could you please tell me your experiences in collaborating with your partners?
4. What are the challenges you faced during collaboration?
5. What are the ease factors that made your learning and collaboration smoother and easier?
10. Please think about the condition where you collaborated for a project or trainings or anything. Any changes happened in you during collaboration and after collaboration with them? Or nothing changed at all?

Suggestion:

11. Do you want to give any suggestions for SUP in education?
12. Do you have any questions for me?

Thank you so much for your cooperation.

Appendix 2: Schoolteachers/mentor teachers survey questionnaire

The study: "School-university partnership in teacher education in Myanmar (SUP)"

The study investigates the collaboration between schools and universities in teacher education in Myanmar; how the partners work together for their learning and professional development. The study will explore how SUP support teachers' professional development and their learning process (teachers include student teachers, university teachers, schoolteachers, etc.). It considers every sector of collaboration between schools and universities, specifically, collaboration in initial teacher education (ITE), continuous professional development (CPD), induction, etc. Furthermore, it also focuses on the area of national curriculum development where the schoolteachers, university teachers and academic work together to develop curriculum.

This questionnaire has a total of 25 questions, and the answer time may be approximately 30 minutes. In some questions, force response is given, and if you leave the question unanswered, you will not be able to continue. Therefore, if you don't want to answer, you can skip by clicking 'I don't know'. Thank you very much for taking the time to answer the questions.

By answering these questions, I gave my consent for taking part in this study and I allow to use my responded data for this project.

- ☐ Yes, I agree.
- ☐ No, I don't. I don't want to continue to answer.

Part I: Background Information

Question1: Gender:

- ☐ Male
- ☐ Female

Question2: I am:

- ☐ Senior teacher
- ☐ Junior teacher
- ☐ Primary teacher
- ☐ School principal
- ☐ Other
- ☐ Not relevant or I don't want to answer

Question3: Subject currently teaching

- ☐ Myanmar
- ☐ English
- ☐ Mathematics

- ☐ Chemistry
- ☐ Physics
- ☐ Biology
- ☐ Economics
- ☐ Science
- ☐ Geography
- ☐ School health
- ☐ History
- ☐ Other

Question4: Teaching service (in years):

- ☐ 1-2 years
- ☐ 3-5 years
- ☐ 5-10 years
- ☐ 10 years and above

Question5: Have you ever encountered student teachers do "practice teaching" at your school?

- ☐ Yes, I have seen student teachers did practice teaching at my school
- ☐ No, I have never seen.
- ☐ I don't know/I don't want to answer

Question 6: If you answered "yes" in question 5, what was your role for the student teachers?

- ☐ I am a subject head teacher and had to guide student teachers' in their practice teaching
- ☐ I am a subject/class teacher and had to guide student teachers' practice teaching
- ☐ I have never guided student teachers' practice teaching
- ☐ I don't know/I don't want to answer
- ☐ Other, please specify

  ……
  ……
  ……

Question 7: Have you ever been a mentor teacher? (Mentor teacher, here, means the teacher who guides student teachers while they are doing practical teaching at his or her school)

- o Yes, less than 3 times
- o Yes, at least 3 times but no more than 5 times
- o Yes, more than 5 times
- o No, never
- o I don't know/I don't want to answer

Part II: General Information about School-University Partnership (SUP) (or) Current practices of SUP

Question 8: If yes to Question 7, Please answer this question.

What are the current practices of school-university partnership in teacher education? These questions aim to ask the current collaboration practices and communication level between schools and universities in teacher education (especially focusing on teacher learning).

In the following, we describe four situations. Please read them and choose the one that you feel is the closest to your own experience.

Situation 1: Student teachers and I had very close communication. We discussed lessons planning, giving feedbacks, how to teach for interactive classrooms, etc. We also discussed about students' behaviours and learning to improve their learning. I had a very trustful and close collaboration with STs.	
Situation 2: Student teachers and I had not so close communication. When she had something to ask, she came to me, and I helped him/her. But the relationship was good, but we didn't have so much to talk about lessons and students' behaviours.	
Situation 3: STs and I had good relationships. But we never talked about lessons and students' behaviours and educational issues. And she never asked me anything about lessons and classrooms.	
Situation 4: We didn't have good relationship.	
I don't know/I don't want to answer	

Question 9: The following are a list of activities where collaboration between schoolteachers and university teachers can happen. What kind of collaboration in the following you experienced with universities? (Please click on the following bullet if you have experienced any of them) Multiple answers

- I am a subject head teacher/dean teacher for student teachers in initial teacher training
- I helped student teachers while they are doing their practical teaching
- I participated in professional development programs/courses or workshops hold by universities
- I attended the new curriculum development trainings hold by universities
- I worked together and developed new curriculum with university teachers
- I worked together in a project with universities teachers
- I worked together for academic research with universities teachers
- I worked together with UTs in Grade 10 matriculation assessment
- Other. (Please specify)
  ……
  ……
- I have never experienced any of the above collaboration with universities
- I don't know/I don't want to answer

Question 10: In the following, we described four situations. Please read them and choose the one that you feel is the closet to your own experience during your experience with UTs.

Situation 1: UTs and I have very close communication. We discussed things about teaching and learning and student achievement. And we also learnt from each other for our Professional Development. She gave me ideas and methods about teaching. And I also shared my own experiences with classrooms in teaching and learning. We really have an intensive communication.	
Situation 2: UTs and I have good communication. I attended the trainings and workshops done by university teachers. Usually, she lectured to us, and we listen. I learned a lot from their lectures. We didn't have an intensive communication and working together at the trainings/workshops.	
Situation 3: I have no intensive communication with UTs. I joined the professional trainings and workshops by university teachers. But it didn't help me a lot. These trainings and workshops were not effective.	
Situation 4: UTs did not communicate with school at all. I never join the professional trainings and workshops by university teachers. I am disconnected from university and university teachers.	
I don't know/ I don't want to answer	

Question 11: The following are a list of activities where collaboration between schools and universities can happen. What kind of collaboration in the following your school is doing with universities? (Please click on the following bullet if you have experienced any of them)

- My School and university have an alternative teaching activity together (e.g. University teachers teach at my school, and we teach at universities)
- My school has regular meetings with universities for professional development of teachers
- My school is working together with the university in a research activity
- My school is working together with the university in a project
- My school is working together with the university in a curriculum development
- My school has a regular collaboration with university in initial teacher training (student teachers come to us for practice teaching)
- My school has a regular collaboration with university in research development (teachers came to us for research activities)
- Others (please specify)
  ……
  ……
  ……
- I have never experienced any of the above collaboration with universities
- I don't know/I don't want to answer

Question 12: How will you define your school's collaboration with the universities? Please choose one of them from the following.

- □ No communication at all. {Our school has no communication with the teacher training university at all}
- □ Sometimes. {Our school's staffs attend professional workshops and seminar held by universities}
- □ Regular communication. {Our school has some communication with teacher training university (e.g., Student teachers come to us for practicing their practical teaching, university teacher come and see their student teachers while they are practicing teaching, etc.)}
- □ Very close communication {Our school work together with the universities or university teacher educators in a project, research activities, professional development programs
- □ I don't know/I don't want to answer

Question 13: The following items are the numbers of areas and purposes where schools and university collaboration collaborate together. In your opinion, please indicate which areas are more important for collaborating schools and universities by ranking them according to their important level.

Please Rank the following items from 1 to 5 according to their important level. (1=most important to 5=least important)

- *Partnership should lead to quality improvement in schools*
- *Partnership should lead to quality improvement in universities*
- *Partnership should lead to more effective initial teacher education*
- *Partnership should lead to more effective continuous professional development of teachers*
- *Partnership should lead to a better implementation of national curriculum reform*
- *Partnership should lead to higher quality educational research*

Question 14: In this question, we are asking the same questions as previous one but only for your actual experiences. If you or your school has participated in any kind of school-university collaboration, please answer this performance question.

Which purposes or areas in the following are contributed by you and your school collaboration with university? (1=not contributed at all to 7= it contributed a lot, 99= I don't know/I don't want to answer)

The collaboration between my shool and universities contributed:	1	2	3	4	5	6	7	99
Partnership lead to quality improvement in schools								

Partnership lead to quality improvement in universities								
Partnership lead to more effective initial teacher education								
Partnership lead to more effective continuous professional development of teachers								
Partnership lead to a better implementation of national curriculum reform								
Partnership lead to higher quality educational research								

Question 15: In the following, I will enumerate the actors which have an impact for the collaboration between schools and universities. What do you think about the role of the following actors/players in determining the effectiveness of SUP? Who has the bigger role? (Please rank the actors according to the most important level) (1=most important….to 6=least important)

- Policy makers
- Education officers (e.g., Minister or township officers)
- University leaders (e.g., Head of department, rector)
- School leaders (principals)
- University teachers
- Mentor teachers working in schools
- Student teachers

Part III: Professional development and learning

Question 16: In the following, we enumerate a number of areas where SUP might enhance schoolteachers' knowledge and skills. In your opinion, which areas are most important, and which are those that are less important in SUP supporting your learning and teaching? Please put the areas into rank order so that the most important area for you is at the top and least area will be at the bottom.

The collaboration between schools and universities should promote/enhance my:

- SUP should enhance my Pedagogical knowledge and skills
- SUP should enhance my subject matter knowledge
- SUP should enhance my pedagogical content knowledge
- SUP should enhance my knowledge about learners (e.g. Behaviours, their learning and characteristics)
- SUP should enhance my collaboration and communication skills
- SUP should enhance my self-confident and self-efficacy as a teacher
- SUP should enhance my research skills and application the outcomes

Question 17: In the following, we enumerate a number of skills/competences which might have been improved during your collaboration with universities. Please indicate how much these skills/competences improved thanks to your teaching practice? (1=did not improve to 5=significantly improved, 99=I don't know/I don't want to answer)

No.	Item	1	2	3	4	5	99
1.	My subject matter knowledge						
2.	My "How to teach" knowledge (pedagogical knowledge)						
3.	My "How to teach my subject" knowledge (pedagogical content knowledge)						
4.	My knowledge about learners (their behaviours, the way they learn, their personal characteristics)						
5.	My classroom management Skills						
6.	My repertoire of teaching methods and my teaching strategies						
7.	My knowledge about how to assess students and how to use various assessment methods						
8.	My capacity to develop cross-curricular skills (creativity, problem solving, and critical thinking).						
9.	My capacity to trying out new things in my teaching practice						
10.	My teamwork and collaboration skills						
11.	My knowledge about the curriculum and curriculum reform						
12.	My knowledge about up-to-date educational issues in national and global contexts						
13.	My knowledge about how to conduct research						
14.	My commitment to become a teacher						
15.	My professional self-confidence						
16.	My feeling of being a responsible person						
17.	My efforts to reflect on and to analyse my own teaching and learning						

Part IV: Factors determining the success/quality of SUP

Question 18: In the following we enumerate a number of factors that enhance collaboration between schools and teacher education universities and colleges. Please indicate how strong the (positive) impact these factors might have on the quality of collaboration between schools and teacher education universities and colleges according to your opinion. Please use a 1-5 scale "1" meaning "this does not have any impact" to "5" meaning "this has a major impact" and 99 for "I don't know/I don't want to answer" on the quality of collaboration.

No.	Items	1	2	3	4	5	99
1.	An intensive communication between schools and universities						
2	School teachers and universities teachers have regular meetings for collaboration activities						

3.	A flexible administrative/management for collaboration						
4.	A clear clarification and assignment of roles and responsibilities						
5.	A clear time allocation and time availability of participants						
6.	Environment which allows you to speak up your opinion and accepts your mistakes						
7.	Environment where people are open to alternative ways of getting work done.						
8.	Environment where people value new ideas and innovation						
9.	Environment where leaders provide time, resources and venues for identifying problems and organizational challenges.						
10.	Having easily flow of information environment						
11.	Both organizations have leadership responsibilities						
12.	A trustful relationship and mutual respect between partners						
13.	Consultation services for reducing stress and workloads						
14.	Work for partnership activities is rewarded or recognized.						

Question 19: What are the most five important factors which affect the success or quality of SUP?

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Part V: Challenges of school-university partnership (SUP)

Question 20: In the following we enumerate a number of factors that impede collaboration between schools and teacher education universities and colleges. Please indicate how strong the (negative) impact these factors might have on the quality of collaboration between schools and teacher education universities and colleges according to your opinion. Please use a 1-5 scale "1" meaning "this does not have any impact" to "5" meaning "this has a major impact" and 99 for "I don't know/I don't want to answer" on the quality of collaboration.

		1	2	3	4	5	99
1.	Lack of interest in teaching and learning						
2.	Limited resources (eg. Time, human, money)						
3.	Lack of professional skills and expert knowledge						
4.	Different opinions, beliefs and attitudes among partners						
5.	Lack of relevant conception of cooperation and external relationships						
6.	Lack of mutual trust and respect						
7.	Lack of suitable educational policy for collaboration						
8.	Lack of leaders' support and encouragement						
9.	Environment where innovative ideas and creativity are not encouraged						

Question 21: Can you name any other obstacles of SUP?

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Part VI: Opinion Questions of SUP

Question 22: what kind of benefits or advantages do you think you can get from collaborating with universities?

- Yes, I think I can get some benefits by collaborating with universities. (Please specify)
  ……
  ……
  ……
- No, I don't think I can get some benefits by collaborating with universities.
- I don't know/I don't want to answer.

Question 23: Is there any other areas or activities that you want to collaborate with universities? If you have, please specify.

- Yes, (Please specify)
  ……
  ……
  ……
- No, I don't have.

Question 24: Which condition would you prefer to work together with university teachers in the following? Please choose one of the following items.

- ☐ It would be great if university teachers give lectures or training to me
- ☐ It would be great if university teachers and I work together as colleagues or partners in a workshop or project or do research together
- ☐ It would be great if I can share my experiences to university teachers in a conference or training (I would like to share information or experiences that the university teachers may not notice yet)
- ☐ None of these. I don't want to collaborate with university teachers.
- ☐ Other. Please specify

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Question 25: What suggestions or advice would you like to give for collaboration between schools and university for the improvement of your learning and your teaching?

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Appendix 3: Student teachers survey questionnaire

The study: "School-university partnership in teacher education in Myanmar (SUP)"

The study investigates the collaboration between schools and universities in teacher education in Myanmar; how the partners work together for their learning and professional development. The study will explore how SUP support teachers' professional development and their learning process (teachers include student teachers, university teachers, schoolteachers, etc.). It considers every sector of collaboration between schools and universities, specifically, collaboration in initial teacher education (ITE), continuous professional development (CPD), induction, etc. Furthermore, it also focuses on the area of national curriculum development where the schoolteachers, university teachers and academic work together to develop curriculum.

This questionnaire has a total of 22 questions, and the answer time may be approximately 25 minutes. In some questions, force response is given, and if you leave the question unanswered, you will not be able to continue. Therefore, if you don't want to answer, you can skip by clicking 'I don't know'. Thank you very much for taking the time to answer the questions.

By answering these questions, I gave my consent for taking part in this study and I allow to use my responded data for this project.

- ☐ Yes, I agree.
- ☐ No, I don't. I don't want to continue to answer.

Part I: Background Information

Question 1: Gender

- ☐ Male
- ☐ Female

Question 2: Year of studies

- ☐ 3rd year
- ☐ 4th year (COE)
- ☐ 4th year (Direct)
- ☐ 5th year (COE)
- ☐ 5th year (Direct)

Question 3: Do you have any "practice teaching" experiences at schools? (Practice teaching means "going to basic education schools to practice teaching" for 2-4 weeks) (note*: I have a translation word for this "practice teaching". If I use this translation term, everybody will understand what I am saying*.)

- ☐ Yes, only one time
- ☐ Yes, two times
- ☐ Yes, more than two times

- ☐ No, I don't have any.
- ☐ I don't know/I don't want to answer

Question 4: How long did your practice teaching take? (or) What kind of practice did you take for your practice teaching?

- ☐ Two weeks
- ☐ One month
- ☐ More than one month
- ☐ Not relevant or cannot/do not want to answer

Question 5: Besides the practice teaching, did you have any other experiences of working together with schoolteachers in workshops or in any kind of activity? You can choose multiple answers. (Multiple answer)

- ☐ Yes, I have worked together with schoolteachers in a project
- ☐ Yes, I have worked together with schoolteachers in professional development workshops
- ☐ Yes, I have done research together with schoolteachers
- ☐ Yes, I have worked together with schoolteachers in leisure activities (e.g. Summer camp, out of school program)
- ☐ Yes, I have worked together with teacher in other forms not listed above (please specify)
  ……
  ……
- ☐ No, I didn't have any experiences
- ☐ I don't know/I don't want to answer

Part II: Current SUP practices

Question 6: In the following, we describe four situations. Please read them and choose the one that you feel is the closet to your own experience during your (last) teaching practice period?

Mentor teachers (MTs) and I had very close communication. We discussed lessons planning, giving suggestions and feedbacks and how to teach interactive classrooms, etc. We also discussed about students' behaviours and learning to improve their learning. I had a very trustful and close collaboration with mentor teachers	
MTs and I had not so close communication. When I had something to ask, I asked her, and she replied to me. But the relationship was good, but we didn't have so much to talk about lessons and students' behaviours	
MTs and I had good relationships. But we never talked about lessons and students' behaviours and educational issues.	
We didn't have good relationship	
I don't know/I don't want to answer	

Question 7: In the following, we describe four situations. Please read them and choose the one that you feel is the closet to your own experience during your (last) teaching practice period?

University and schools communicated intensively. UTs came to school to support our teaching. She gave ideas and methods for teaching. She also discussed with MTs to support in our teaching and learning. UTs and MTs have very close communication.	
University and schools communicate well. UTs came to school. She talked to us and gave ideas and methods for teaching. She also talked to MTs. But they didn't discuss thing for supporting us.	
University and schools communicate rarely or never. UTs came to school to support our teaching. She talked to us and supported us. She never talks to MTs. They didn't discuss things to support our teaching and learning.	
UTs did not communicate with school at all.	
I don't know/ I don't want to answer	

Question 8: Based on your experiences with your practice teaching school. In general, how much collaboration did you see between your university/college and the schools where you were performing your practice teaching? Please evaluate this on a 1-7 scale. "1" means "I did not see any significant collaboration" and "7" means "I saw very intensive and substantial collaboration".

No.		1	2	3	4	5	6	7	99
1.	Partnership lead to quality improvement in schools								
2.	Partnership lead to quality improvement in universities								
3.	Partnership lead to more effective initial teacher education								
4.	Partnership lead to more effective continuous professional development of teachers								
5.	Partnership lead to a better implementation of national curriculum reform								
6.	Partnership lead to higher quality educational research								

Question 9: Again, we present four situations. During your teaching practice, you might have experience more or less similar to each of them. Please read of them and indicate for each of them how much your own experiences were similar to them. "1" = my experience was very different, "5" = my experience was very similar.

	During practice teaching, most of the time, I learned about teaching methods, subject knowledge, classroom management and learners' behaviours, etc. from	1	2	3	4	5
1.	my own reading and from my experiences.					
2.	my friends who were doing practice teaching as me.					
3.	school teachers and MTs.					
4.	UTs who came to us					

Question 10: In the following, we present a number of statements about what might have happened during your teaching practice. Please indicate how often you experienced what statements describe. (1=it never happened to me to 55=it always happened to me)

	1	2	3	4	5	99
I discussed with schoolteachers/mentor teachers before teaching a lesson.						
I discussed with MTs/schTs after teaching.						
We had trustful and mutual respect.						
MTs/schTs asked me about teaching and learnings as well, for example, how to use teaching aids, teaching strategies, etc.						
UTs and MTs discussed together and collaborate to support and help me in my teaching and learning.						

Question 11: In the following, we list a number of statements about goals that can be pursued when schools and university collaborate with each other. In your opinion, which goals are more important, and which are those that are less important in school-university partnership? Please put the statements into rank order so that one referring the most important goal is at the top and the one referring the least important goal is at the bottom.

Please Rank the following items from 1 to 5 according to their important level. (1=most important to 5=least important)

- *Partnership should lead to quality improvement in schools*
- *Partnership should lead to quality improvement in universities*
- *Partnership should lead to more effective initial teacher education*
- *Partnership should lead to more effective continuous professional development of teachers*
- *Partnership should lead to a better implementation of national curriculum reform*
- *Partnership should lead to higher quality educational research*

Question 12: In the following, we will enumerate a number of actors who might have an impact on the quality and effectiveness of collaboration between schools and universities. What do you think about the role of these actors in influencing the quality and effectiveness of school-university partnership? Who has a bigger and who has a smaller role? Please put the actors into rank order so that the one who might have the biggest impact is at the top and the one who might have the smallest impact is at the bottom.

- *Policy makers*
- *Education officers (eg. Minister or township officers)*
- *University leaders (eg. Head of department, rector)*

- *School leaders (principals)*
- *University teachers*
- *Mentor teachers working in schools*
- *Student teachers*

Part III: Professional development and learning

Question 13: In the following, we enumerate a number of areas where SUP might enhance student teachers' knowledge and skills. In your opinion, which areas are most important, and which are those that are less important in SUP supporting your learning and teaching?

Please put the areas into rank order so that the most important area for you is at the top and least area will be at the bottom.

The collaboration between schools and universities should promote my…

- SUP should enhance my Pedagogical knowledge and skills
- SUP should enhance my subject matter knowledge
- SUP should enhance my pedagogical content knowledge
- SUP should enhance my knowledge about learners (e.g. Behaviours, their learning and characteristics)
- SUP should enhance my collaboration and communication skills
- SUP should enhance my self-confident and self-efficacy as a teacher
- SUP should enhance my research skills and application the outcomes

Question 14: In the following, we enumerate a number of skills/competences which might have been improved during your teaching practice (practicum). Please indicate how much these skills/competences improved thanks to your teaching practice? (1=did not improve to 5=significantly improved, 99=I don't know/I don't want to answer)

No.	Item	1	2	3	4	5	99
1.	My subject matter knowledge						
2.	My "How to teach" knowledge (pedagogical knowledge)						
3.	My "How to teach my subject" knowledge (pedagogical content knowledge)						
4.	My knowledge about learners (their behaviours, the way they learn, their personal characteristics)						
5.	My classroom management Skills						
6.	My repertoire of teaching methods and my teaching strategies						
7.	My knowledge about how to assess students and how to use various assessment methods						

8.	My capacity to develop cross-curricular skills (creativity, problem solving, and critical thinking).						
9.	My capacity to trying out new things in my teaching practice						
10.	My teamwork and collaboration skills						
11.	My knowledge about the curriculum and curriculum reform						
12.	My knowledge about up-to-date educational issues in national and global contexts						
13.	My knowledge about how to conduct research						
14.	My commitment to become a teacher						
15.	My professional self-confidence						
16.	My capacity to connect theoretical and practical knowledge about teaching and learning						
17.	My capacity to find enjoyment in teaching						
18.	My feeling of being a responsible person						
19.	My efforts to reflect on and to analyze my own teaching and learning						

Part IV: Factors determining the success/quality of SUP

Question 15: In the following we enumerate a number of factors that enhance collaboration between schools and teacher education universities and colleges. Please indicate how strong the (positive) impact these factors might have on the quality of collaboration between schools and teacher education universities and colleges according to your opinion. Please use a 1-5 scale "1" meaning "this does not have any impact" and "5" meaning "this has a major impact" on the quality of collaboration.

No.	Items	1	2	3	4	5	99
1.	An intensive communication between schools and universities						
2.	School teachers and universities teachers have regular meetings for collaboration activities						
3.	A flexible administrative/management for collaboration						
4.	A clear clarification and assignment of roles and responsibilities						
5.	A clear time allocation and time availability of participants						
6.	Environment which allows you to speak up your opinion and accepts your mistakes						
7.	Environment where people are open to alternative ways of getting work done.						
8.	Environment where people value new ideas and innovation						

9.	Environment where leaders provide time, resources and venues for identifying problems and organizational challenges.						
10.	Both organizations have leadership responsibilities						
11.	Having easily flow of information environment						
12.	Consultation services for reducing stress and workloads						
13.	A trustful relationship and mutual respect between partner						
14.	Work for partnership activities is rewarded or recognized.						

Question 16: What are the most five important factors which affect the success or quality of SUP?

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Part V: Challenges of School-university partnership (SUP)

Question 17: In the following we enumerate a number of factors that impede collaboration between schools and teacher education universities and colleges. Please indicate how strong the (negative) impact these factors might have on the quality of collaboration between schools and teacher education universities and colleges according to your opinion. Please use a 1-5 scale "1" meaning "this does not have any impact" and "5" meaning "this has a major impact" on the quality of collaboration.

		1	2	3	4	5	N/A
1.	Lack of interest in teaching and learning						
2.	Limited resources (eg. Time, human, money)						
3.	Lack of professional skills and expert knowledge						
4.	Different opinions, beliefs and attitudes among partners						
5.	Lack of relevant conception of cooperation and external relationships						
6.	Lack of mutual trust and respect						
7.	Lack of suitable educational policy for collaboration						
8.	Lack of leaders' support and encouragement						
9.	Environment where innovative ideas and creativity are not encouraged						

Question 18: Can you name any other obstacles of SUP?

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Part VI. Opinion Questions

Question 19: In the following, which situations would you like the most for your practice teaching?

- I want both university teachers and schoolteachers collaborate together and guide me together during my practice teaching
- I want only schoolteachers to guide me during my practice teaching
- I want only university teacher to guide me during my practice teaching
- I like to do it by myself. I don't want anyone to guide me during my teaching practice.
- I don't know/I don't want to answer

Question 20: What is the most important thing that you learnt while you were doing practice teaching?

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……
……

Question 21: Do you think schoolteachers learned something from you during practice teaching?

- Yes, I think schoolteachers learned something from me (please specify)
  ……
  ……
  ……
- No, I don't think schoolteachers learned something from me
- I don't know/I don't want to answer

Question 22: What suggestions or advice would you like to give for collaboration between schools and university for the improvement of your learning and your practice teaching?

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Appendix 4: More details of KIP lesson

The KIP lessons are organised in each grade, each subject, even in physical education and they were done in group activity. The school children work in a group for about 45 minutes per lesson. Each group may have four to six children giving each of them a different task such as material manager, time manager, speaker of the group, small teacher, behaviour manager, etc. Every student is given a different role each time, so everyone has played in every role. Students have to organise the work so that everyone involved in the group leads to success (Hunya & Szabo, 2016). Discussion is a major element of KIP lessons with the notion that *'The more the talk takes place in the group, the more learning happens*' (Hunya & Szabo, 2016). The teacher is *'the last one to ask for help, only in case of uncertainty*' (Hunya & Szabo, 2016). All classrooms displayed norms and rules of the KIP instruction and group activities. These norms and rules not only apply in KIP lessons but also affect regular lessons. These norms and rules also enable the students to evaluate their behaviours and others; (i) you have the right to ask for help from anyone; (ii) you have a duty to help anyone who asks for help; (iii) you can help others but do not do their work instead of them; (iv) never leave your task undone; (v) make up after the job was done; (vi) you need to fulfil your responsibilities and role you were given in the group.