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**A Consideration of Cooperative Learning to Enhance  
Pre-service Teachers' Achievement in Tertiary  
English as a Foreign Language (EFL) Classrooms  
in Thailand**

Phanatdao Chantarasiri

A Thesis Submitted for the Degree of Doctor of Philosophy

School of Education  
Durham University

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## ABSTRACT

Cooperative learning has become a popular instructional practice around the world. It requires students working together in small groups to help support each other in maximising their own learning as well as that of others to accomplish a shared goal. A cooperative learning method, especially, Student Teams Achievement Divisions (STAD) developed by Slavin (1982) was implemented in the study. The study investigated the effectiveness of cooperative learning to enhance the English achievement of EFL (English as a foreign language) students in tertiary teacher education in Thailand. It also examined participants' attitudes towards cooperative learning.

The study began with a structured review of existing empirical studies to establish whether STAD could be a promising method to use in developing English proficiency in EFL and ESL (English as a second language) contexts. The review also helped identify the challenges and barriers to implementing the method and informed the primary research in terms of achievement tests, instructor training, time allowance for team study and material preparation. The review and synthesis of 28 studies revealed several beneficial suggestions regarding cooperative learning implementation in normal educational settings. However, the credibility of the overall evidence was weak, with most studies involving key methodological flaws.

To examine the effectiveness of the method, a cluster randomised controlled trial (RCT) at the university level was used. The participants were 13 instructors and 614 students from 13 universities (forming 13 clusters). A total of eight universities that agreed to participate in the intervention were randomly assigned to experimental and control groups with four universities in each group. Another five universities agreed to complete the pre-test and post-test and are described in this thesis as an additional comparison group. The participating instructors were 13 Thai university instructors of English language from 13 Rajabhat Universities in Thailand. Their students were first-year pre-service teachers who were majoring in English in the Faculty of Education. The trial was carried out in one term consisting of 16 class sessions. The research instruments consisted of two parallel standardised English achievement tests, two attitude questionnaires (teacher and student) and classroom observations with *ad hoc* interviews.



The results showed that the use of cooperative learning in tertiary EFL classrooms in Thailand is feasible. In terms of attitudes, both instructors and students were generally positive towards cooperative learning and supported its activities.

Students in the treatment group did slightly better ( $ES = +0.09$ ) when compared to all comparator groups. However, when considering the randomised experimental and control groups, the control group improved their post-test score ( $+0.26$ ) while the experimental group declined ( $-0.20$ ). Overall, cooperative learning showed no clear benefit for students' English language achievement.

The process evaluation revealed the key factors that facilitated the implementation were teacher training and support, preparation and availability of teaching resources and materials, teachers' positive attitudes and the duration of cooperative learning instruction. Some barriers were also found, including students' negative attitudes, inappropriate classroom settings and facilities, and instructors' workload.

Unfortunately, since the study was carried out during the COVID-19 pandemic, none of the universities were able to complete the course of 16 classes as planned. The number of classes students could meet in their normal classroom conditions was approximately 8 to 12. Different modes of lesson delivery (face-to-face, online and hybrid) were also reported. A replication of the study is needed for a more accurate assessment of the STAD method.

Both the structured review and the cluster RCT suggest no strong evidence that the cooperative learning method, namely STAD, led to improved pre-service teachers' English language achievement in Thailand. However, this does not necessarily mean the method does not work. The lack of impact might be due to the challenges faced in the delivery of the intervention during the pandemic. This was compounded by the lack of complete randomisation used in the study. It is, therefore, difficult to draw more definite conclusions about the effectiveness of STAD. It might be wise to conduct further robust evaluations involving a large number of educational institutions before any considerable investment can be made to introduce this method in higher education institutions in Thailand. In the meantime, there may be other approaches with a more promising evidence base which may enhance students' English language achievement.

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### List of abbreviations

Abbreviation	Explanation
ALM	Audio-Lingual Method
CEFR	Common European Framework of Reference
CL	Cooperative learning
CLT	Communicative Language Teaching
CLL	Cooperative Language Learning
EFL	English as a foreign language
ESL	English as a second language
ES	Effect size
GTM	Grammar Translation Method
NNTD	Number of counterfactual cases needed to disturb the finding
RCT	Randomised controlled trial
TEFL	Teaching English as Foreign Language



## Glossary

**Cooperative learning** is the instructional use of small groups that require students to work together towards a shared goal in order to maximise their own and each other's learning.

**Cooperative learning method** refers to a method of teaching under cooperative learning methods, that is, Student Teams Achievement Divisions (STAD) developed by Robert E. Slavin (1982) and his colleagues under the Johns Hopkins Team Learning Project at Johns Hopkins University. In the STAD method, students are assigned by the teacher to a small heterogeneous group of four to five members in order to work together to achieve shared goals and complete given tasks. Everyone in this structured group is responsible for his/her own learning and also helps, motivates and encourages other group members to learn.

**Traditional instruction** refers to the method of teaching that depends on a lecture-based format and individualistic mentality. It involves teacher-dominated approach and is textbook-centred in a whole-class context (Hoxworth, 1999). The instructor's role is giving information and delivering lectures to students, while students work individually or competitively on the assigned tasks to improve their own grades.

**English achievement** refers to a learner's understanding of the English language and the ability of individual learners perform in English. In this study, achievement was assessed by an English achievement test, Cambridge Assessment English, that is the language proficiency test with listening and reading parts.

**English achievement test** refers to two parallel versions of the Cambridge Assessment English Test. These standardised tests are used to evaluate students' English language skills. In this study, the tests consisted of two parts: listening and reading.

**Pre-service teachers** refer to first-year undergraduate students who were majoring in English in the Faculty of Education, Rajabhat Universities in Thailand academic year 1/2020. The pre-service teachers in the teacher education programme in Thailand study three and a half years in the university and do a one-term teaching practicum in local schools.

**Instructors** refers to Thai university instructors or lecturers of English language at university level from 13 Rajabhat Universities. Their mother tongue is Thai, and they were responsible for the module delivered, the teaching lessons and all classroom management.

### **Declaration**

This thesis is the sole work of the author and has not previously been submitted for a degree at Durham University or any other institution.

### **Statement of Copyright**

The copyright of this thesis rests with the author. No quotation from it should be published without the author's prior written consent and information derived from it should be acknowledge.

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## **CHAPTER 1**

### **INTRODUCTION**

In an increasingly interconnected world, knowledge can be widely disseminated, apparently without time and space barriers. The English language plays an important role as an international language; it is a medium of communication between people with different languages and cultures. In fact, English has become one of the strongest tools of global communication. Around 1.35 billion out of approximately 7.8 billion people around the world speak English, making it probably the most-spoken language in the world (Lyons, 2021). Many transactions and processes in business, diplomacy, education, science or technology now require high proficiency in English. This high demand has influenced numerous educational institutions to seek ways to improve the English literacy and proficiency of their citizens. Thailand is a part of global community, and English language has been increasingly highlighted both in schools and in everyday life.

To understand the importance of the English language and to tackle the challenges of English language teaching and learning in Thailand, it is necessary to outline the background and issues of English language education in Thailand. The Thai Ministry of Education has pushed forward many attempts to upgrade English education since the traditional education scenario does not adequately meet the needs of students and teachers in the modern world. It may be necessary to transform teaching and learning methodology in order to support students and give them knowledge and skills that they can adapt and use in their daily lives. Cooperative learning might be an alternative since it is a widely-known method among educational researchers and practitioners in terms of promoting the cognitive and linguistic enhancement of learners of English as a second language (Kagan, 1995).

#### **1.1 Background to the study**

The following sections present background of the study, which is concerned with the English language education and issues of English language teaching and learning in Thailand. An overview of cooperative learning as a possible educational alternative in Thailand is also presented.

### **1.1.1 English language education in Thailand**

Thailand is situated in the heart of Southeast Asia where Thai is the standard spoken and literacy language across the country. Standard Thai is the most important language in education as it is not only being taught as a subject but also used as the medium of instruction in all subjects at all levels of education. This means that English is positioned and classified as a foreign language. English language education in Thailand can be tracked back to the reign of King Rama III (A.D. 1824-1851) (Sukamolson, 1998; Wongsothorn et al., 2002). At that time, English was taught to the Kings' officers and to the royal children.

As the number of foreigners increases in the country, English has become essential and increasingly important. English language teaching in Thailand has undergone several paradigm shifts, from a time when the primary goal was enable students to use English for acquiring knowledge and information to using the language for communication purposes in all four skills (Wongsothorn et al., 2002), from English as an elective subjects to compulsory in primary and secondary schools, and from studying English for academic purposes to specific purposes (Foley, 2005). The education reform between 1996 and 2007 with regard to English language teaching and learning in Thailand concerned four main areas: 1) schools were given more autonomy, 2) school policies and administrative processes included the involvement of families and local communities, 3) an independent and learner-centred approach with analytical learning has been emphasised, and 4) there has been a focus on teacher education, research and teaching development (Wiriyachitra, 2002).

In 2002, the National Education Curriculum, which was based on the 1997 Constitution of Thailand, stated that all Thai citizens have an equal right to 12 years of free education, compulsory from Grade 1 to Grade 9 (Basic Education) and optional from Grade 10 to Grade 12. English language was once an elective course, but it has been made compulsory. The 12-year of basic education enables Thai students to learn English without interruption from primary through secondary school. It is suggested that Thai learners "must [have] a good command of English so as to effectively communicate with the international community and to efficiently handle future business dealings with their foreign counterparts" (Wongsothorn et al., 2002, p. 110). English is the only foreign language in compulsory education as described in the Basic Education Core Curriculum B.E. 2551 (A.D. 2008) (Ministry of Education, 2008b), and it is required for all grade levels. Other



foreign languages are optional or are offered as elective subjects depending on the student's interests and the educational institution's provision of such courses. Moreover, English is one of the main national tests that students Grades 6, 9 and 12 undergo the annual Ordinary National Education Test (O-NET). This test is a large-scale national achievement test required for all Thai students (Wudthayagorn, 2021). According to Thailand's national education policy (as documented in National Education Act of B.E. 2542 [A.D.,1999]), knowledge and skills in language are also emphasised in all types of educational approaches, that is, formal, non-formal, and informal.

Particularly, in 2015, with the integration of the ASEAN community (the Association of Southeast Asia Nations) into regional grouping to promote economic, political and security cooperation, English became the working language between people from different countries in the ASEAN group. According to 'Thailand 4.0', the blueprint of a new national development policy, one of the strategies stated that the promotion of the country's development and innovation was to connect Thailand to the global communities through ASEAN integration (Buasuwan, 2018). Hence, the English language has been emphasised and the demand for English in Thailand has dramatically increased as one of the important tools to gain an advantage in this transition.

To develop the English literacy of Thai citizens, education is the most important factor. Various actions taken by the Thai Ministry of Education (MOE) to enhance the effectiveness of English language teaching and learning include:

- increasing the number of hours of compulsory and elective English language classes (Fredrickson, 2016),
- encouraging schools to create activities that promote English language learning, such as intensive English camps and additional school-time for language learning (Prasongporn, 2016),
- promoting the use of technology, digital media, online courses and language-learning applications (Prasongporn, 2016),
- providing training programmes for Thai English teachers by English specialists to support and strengthen their teaching skills (Bureau of International Cooperation, 2017; Mala, 2018) and

- offering upgraded bilingual educational programmes as an alternative to English language learning (Language Learning and Teaching Unit, 2017; Mala & Raksaseri, 2020).

According to the 20-year national strategy by the Thai Ministry of Education, there also needs to be a focus on the development in the area of human resources: “...to enhance learning skills...encourage teachers of English language to develop their [students] English communicative skills in line with the Common European Framework of Reference (CEFR)” (Bureau of International Cooperation, 2017, p. 2), and rote memorisation of grammatical knowledge should become less significant. The process of English language teaching and learning should emphasise the Communicative Language Teaching (CLT) approach, which focuses on communication rather than structure, meaningful use of language, and values fluency over accuracy.

Several strategies emphasise meeting the goal of human resources development through acquiring language proficiency in both Thai and English, developing skills for life-long learning, raising moral and ethical principles, and recognising rapid change at national and international levels in terms of economic and socio-cultural impacts (Hiranburana et al., 2017). These strategies have influenced the Thai Ministry of Education to announce the use of Common European Framework of Reference for Language (CEFR) in the year 2014 as the standard to be adopted at all levels of education. The CEFR, published by the Council of Europe in 2001, follows a six-point reference scale, from A1 for beginners to C2 for proficient users who have mastered a language (A1 and A2 representing ‘basic’, B1 and B2 ‘intermediate’, C1 and C2 ‘advanced proficiency’). The CEFR provides a description of language used by focusing on an action-oriented approach, dividing language competences into three components: communicative activities, communication strategies and communicative grammar competence (Hiranburana et al., 2017). In Thailand, this framework is considered the international standard for schools to be used as the main principles for English language teaching and learning, the designing of language curriculum, the stating of learning goals, the development of teaching and learning, the testing and assessment of learning outcomes, as well as the developing of the teaching profession (Prasongporn, 2016).

At tertiary level, English language is one of required courses as part of general education. Twelve credits of English are requested for non-English major students to enrol (Wudthayagorn, 2021). The first six credits are the basic foundation of English in four skills while the other six credits can be English for Specific Purposes or English for Academic Purposes. The Office of the Higher Education Commission (2016) introduced several policies to improve university students' English language proficiency in higher educational institutions in Thailand. They are as follows:

- establish policies and goals to enhance English language proficiency for all programmes of study at all higher education levels, which are to be used as guidelines for the development of language skills and abilities so that students graduate fully equipped with academic, professional and communicative English skills that can be readily applied,
- make a plan for implementing policies and goals with clear indicators and evaluations,
- improve teaching and learning management in English language courses by focusing on the achievement of specified learning objectives,
- design extracurricular activities, media, learning processes and/or environments that provide opportunities for English language skills to be fostered and improved, and
- administer standardised English language tests before graduation, which can be developed by the institutions or selected from appropriate ones, and align scores to the CEFR or other standards and reported on transcripts or certificates, starting from academic year 2016. (Wudthayagorn, 2021, p. 3)

Regarding the standardised English examination (exit examination) provided by the university, the score should be aligned with the CEFR. This is the first time that CEFR framework will be applied officially in Thai higher education policy. As stated in Thai educational policies by Office of the Basic Education Commission (2017) on the expected CEFR level of Thai students, non-majors of English are expected to demonstrate English proficiency of B2 and C1 for English majors. Thus, in a large number of higher educational institutions in Thailand, English is not only important as one of required to gain admission, it also plays a role as an exit ticket. Clearly, in Thailand, CEFR is used as a theoretical

benchmark for references of English proficiency for all grade levels as well as in teacher education programmes (Wudthayagorn, 2021). CEFR has been integrated into and plays an important role in Thai educational system (Savski, 2020).

All policies and practices are promoted and applied to help enhance English language abilities of Thai learners to cope and perform effectively in today's interconnected world. At the very least, they hope to raise awareness as to the importance of the English language and help motivate Thai students to improve their English proficiency.

### **1.1.2 Issues of English language teaching and learning in Thailand**

Thai education generally emphasises the transmission of knowledge, testing and accreditation, which might obstruct meaningful learning, creativity and thinking ability (Buasuwan, 2018). English language teaching in Thailand still relies largely on rote memorisation of vocabulary and grammar structures in mostly text-based instructional materials (Kirkpatrick, 2012; Mala & Raksaseri, 2020; Saengboon, 2004). Many English language teachers primarily base their teaching on a lecture format; this mode of teaching is found not only in secondary English classes but also in university English classes. Lecturing remains the dominant method of instruction in higher education classes throughout the world (Bonwell & Eison, 1991; Faust & Paulson, 1998; McKeachie & Svinicki, 2011; Millis, 2012) even though this type of instruction generally does not promote active independent learning (Macdonald, 2000, as cited in Watanapokakul 2006). It appears that English language teachers in Thailand do not use a variety of language inputs, activities and/or materials in their classes.

Over the past decades, Thai learners of English have been exposed to rote memorisation in a traditional instructional method where the teacher plays the main role as knowledge giver. Students tend to be taught new words, sentences and grammar structures in the pattern of memorising, repeating, translating to Thai and then completing exercises. Most of the educational activities focus mainly on grammar-vocabulary memorisation and text-based materials. This traditional learning approach is linked to lack of motivation, low participation and boredom among Thai students learning English. It seems that many Thai students do not progress beyond basic grammar and are not able to communicate with foreigners in English even at a basic level. In addition, the numbers of students in each class also exceeded the size of the classroom which made it difficult for the students to

practice the English language as well as problematic for teachers to control the classroom (Chantarasiri, 2014).

Furthermore, because the English as a foreign language (EFL) context in Thailand mostly emphasises the importance of learning about the language, culture and society of native speakers, it positions ‘the learners as an outsider, as a foreigner’ (Graddol, 2006). The English learners lack opportunities to be exposed to and interact in the target language of study; English is not needed in order to survive or communicate in their daily lives. Thai language is basically spoken and written in everyday life, which places a great importance on English learning in the classroom. However, most Thai students do not see the importance and real use of English language, which results in low intrinsic motivation in learning English. Generally, most of them only learn English language in the classroom for couple hours each week and use Thai language in their daily life outside the classroom. In 2018, even the education minister mentioned that “each Thai student studies English for at least 12 years at primary and secondary school, but most remain unable to communicate in English. This is the main obstacle to global competition” (Mala, 2018). English proficiency of Thai students seems to be far beyond satisfaction. This low level of English proficiency poses a challenge for Thailand (Buasuwan, 2018).

With the traditional methods of rote memorisation and the resulting lack of intrinsic motivation in learning English, most Thai students will only remember the content of English lesson for a short period of time in order to pass an exam or score good grades; it is soon forgotten. Despite a number of years Thai students spend on English language learning, many of them still have difficulties applying what they have learned into real-life contexts.

According to the Education First English Proficiency Index (EF EPI), which studies the acquisition of English skills of students from the secondary and tertiary levels, in 2015, Thailand ranks ‘very low’ in terms of English proficiency, far behind many of its neighbouring countries and most of the world (Fredrickson, 2016; James, 2015). Thailand is the third worst in Asia (14<sup>th</sup> out of 16 countries) and ranks 62<sup>nd</sup> among the 70 nations included in the index. In 2018, EF EPI released English proficiency scores across five regions and over 400 cities around the world. Thailand ranked at ‘low’ proficiency, setting at ‘slight decrease’ group, 64<sup>th</sup> out of 88 countries and position in Asia standing at 16<sup>th</sup> out

of 21 countries (EF Education First, 2018). In 2020, EF EPI presented the English proficiency scores of 2.2 million non-native English speakers in 100 countries. Thailand is the fifth worst in Asia (20<sup>th</sup> out of 24 countries) and ranked 89<sup>th</sup> out of 100 nations included in the index (EF Education First, 2020). The most recent index by EF EPI, with a ranking of 112 countries done in 2021, Thailand is ranked at the 100<sup>th</sup>, still, at the ‘very low proficiency’ level (EF Education First, 2021). For the position among countries in Asia, Thailand falls further to the third worst in Asia (22<sup>nd</sup> out of 24 countries). English language proficiency in Thailand is low to relatively low as seen in the following table (Buasuwan, 2018; Mala, 2018; “Thailand falls in English proficiency index: What’s wrong with Thai education system?”, 2019).

Table 1.1 Results of EF EPI for Thailand (2015 - 2021) compared to other countries

Year	2015	2016	2017	2018	2019	2020	2021
Proficiency Band	Very Low	Very Low	Low	Low	Very Low	Very Low	Very Low
Rank	62	56	53	64	74	89	100
Total Countries	70	72	88	88	100	100	112

(Sources: EF EPI’s reports from 2015 to 2021)

Table 1.1 shows the trend of English proficiency in Thailand for the past seven years, which is decreasing relative to other countries. Furthermore, Thai educational policies expect that Grade 12 students should perform at B1 on the CEFR. For the tertiary level, non-English major students should be able to demonstrate B2; C1 is expected for English majors. These high levels may be possible for students who graduated from international schools or English programmes in Thai schools with the opportunity to be exposed to English (Wudthayagorn, 2021). Waluyo (2019) assessed English proficiency on CEFR level of 2,248 first-year Thai EFL students by using university-created test. The study revealed that 77.3% of the students were at A1 and A2, that is, basic levels. These levels are considered equal to the English ability of primary and junior high school students in the Thai educational system (Waluyo, 2019). However, general English proficiency scores of pre-service teachers in Thailand are not recorded or analysed separately. The general English proficiency scores of students in secondary and tertiary levels are presented instead.

Clearly, English teaching and learning in Thailand are in difficult and challenging situation. Consequently, improving the English proficiency of Thai students is considered a must and needs serious attention.

### **1.1.3 Overview and significance of cooperative learning in English language teaching and learning**

In Thailand, one of the important wider educational reforms by the Ministry of Education is to encourage and promote student-centred education (Kantamara et al., 2006; Ministry of Education, 2008a, 2012; Office of the National Education Commission, 1999; Wongsothorn et al., 2002) as it is the recommend teaching and learning practice for the twenty-first century (Trilling & Fadel, 2009).

The Active Learning Approach is evidence-led, and is suggested as one of the most productive approaches that can create and “provide [a] natural environment for learning the English language” (Trivedi, 2013, p. 30). If teachers attempt to increased student learning, then active learning is a crucial component of effective teaching (Bonwell & Eison, 1991; Millis, 2012). Faust and Paulson (1998) proposed a number of active learning techniques and activities for applying in college classrooms, and cooperative learning strategies are recommended for more complex tasks. Cooperative learning has become one of the dominant instructional practices around the world (Johnson & Johnson, 2009), especially in higher education (Chiriac, 2014) and research suggests promising results (e.g. Khan & Akhtar, 2017; Kurniawan et al., 2017; Mudofir, 2017; Munir et al., 2017; Anwer et al., 2018; Syafiq & Rahmawati, 2017; Upa & Ridho, 2019).

Cooperative learning requires students to work together in small groups to help support each other in order to maximise their own learning as well as that of others to accomplish a shared goal. When students work cooperatively in their small groups, they learn how to communicate, give and receive help, express their ideas and listen to other ideas and perspectives, handle their differences and solve problems democratically (Gillies, 2007). In cooperative learning, “the success of one student helps other students to be successful” (Slavin, 1982, p. 6) as opposed to traditional classroom where students compete for grades.

It is known that in the twenty-first century where people’s lives have become international, multicultural, diverse and inter-connected, new skills are necessary in order to succeed in

education and the workplace. Education has to shift teaching and learning practices to meet the current demand. The twenty-first century skills can be grouped into four broad categories: ways of thinking, ways of working, tools for working and skills for living in the world (Griffin & Care, 2015; Suto & Eccles, 2014; Trilling & Fadel, 2009). Communication and collaboration are listed in the ways of working category. In *21<sup>st</sup> Century Skills: Learning for Life in Our Times* by Trilling and Fadel (2009), students should be able to demonstrate the following skills:

- demonstrate an ability to work effectively and respectfully with diverse teams,
- exercise flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal and
- assume shared responsibility for collaborative work, and value the individual contributions made by each team member (Trilling & Fadel, 2009, p. 55).

These twenty-first century skills can be promoted and encouraged through cooperative learning instructional methods where, of course, collaborative and communicative skills are practiced. Furthermore, according to United Nations Educational, Scientific and Cultural Organization (UNESCO), education is the top priority because “it is a basic human right and the foundation on which to build peace and drive sustainable development” (UNESCO, 2017, p. 2). UNESCO, as the United Nations’ specialised agency for education, indicates that the Education 2030 Agenda through Sustainable Development Goal by 2030 aims to ‘ensure inclusive and equitable quality education and promote lifelong learning opportunities for all’ (UNESCO, 2015). UNESCO’s Sustainable Development Goals (SDGs) for Quality Education provides guidance and describes relevant skills for decent work, effective learning environment for the implementation of this ambitious goal and commitment. UNESCO also recommends a framework for transformative sustainability education by Wageningen University concerning theoretical knowledge and practical skills as well as guiding students to question their values, attitudes and behaviours, enabling them to empower themselves. One dimensions of the framework focuses on social learning for sustainable development and suggests the transformational learning that “embrac[es] diversity in the classroom and practic[es] mutual respect and understand[s] why people



interact the way they do, and learn[s] to facilitate constructive interaction” (UNESCO, 2017, p. 25). It is possible that cooperative learning can address and support these social learning skills since it encourages the use of small heterogeneous groups.

In addition, one non-conventional form of learning, which is relevant to capacity building for sustainable development, is participatory/collaborative learning (UNESCO, 2017). It is described thus:

Although not identical, both [participatory and collaborative learning] emphasise the interaction between learning, on the one hand, and the active participation of learners in the learning process, on the other. Such approaches tend to focus on resolving a joint issue of task, which can be determined either by learners themselves, or be decided in advance by others. (UNESCO, 2017, p. 21)

All teaching and learning processes should enhance the quality of learning, improve the learning opportunities for all different learners and help strengthen social interaction and communication. Cooperative learning can be a suitable instructional practice to promote equal opportunity in learning in order for learners at every level to succeed (Slavin, 2010b).

Learning environments in twenty-first century face many changes and diversity in today’s interconnected world. To tackle these challenges, cooperative learning can play a crucial role because it depends on students’ active engagement in their own learning and that of others (Slavin, 2010a). Cooperative learning provides not only practical methods for students to acquire traditional skills and knowledge but also offers the opportunity to practice creative and interactive skills. Applying cooperative learning to teach the competency and value to learners in order to deal with the inevitable challenges will always be presented in twenty-first century educational practice (Johnson & Johnson, 2014).

Especially in English as a foreign/second language classroom, implementation of cooperative learning is believed to enhance students academically, socially and emotionally. It offers students opportunities to increase their usage of the target language (Haidari, 2013; Jacobs & McCafferty, 2006; Lucha et al., 2015; Marzban & Alinejad, 2014; Nan, 2014; Richards & Rodgers, 2001), enhance academic achievement in general (Maden, 2011; Marzban & Alinejad, 2014; Nan, 2014), develop communication strategies through

socially interactive pair and group activities that foster natural second language acquisition (Richards & Rodgers, 2001) and improve students' English language proficiency (Azizinezhad et al., 2013; Fekri, 2016; Nan, 2014; Saltymakov & Frantczuskaia, 2015). Cooperative learning is a priority in the teaching language (Maden, 2011).

According to Brown (2001), cooperative learning or group work offers four major advantages for English language classrooms: group work generates interactive language, offers an embracing affective climate, promotes learner responsibility and autonomy and is a step toward individualising instruction. Instead of whole-class discussion and large classes, which reduce students' chances to use the target language, group work increases individual practice time, offers opportunities for students to initiate communication, to speak, to practice face-to-face give and take conversations, to exercise negotiating meaning and to expand conversational exchanges (Brown, 2001). Long and Porter (1985) asserted that small group work provides more opportunities, more variety and more negotiation (conversational adjustment) for individual language practice than traditional teacher-centred, whole-class instruction.

In addition, regarding the ideas of education reform, supporting twenty-first century skills and UNESCO's Sustainable Development Goals, teacher education plays a crucial role. Niemi (2002) proposed that "teacher and teacher education are considered as a key factor in promoting active learning" (p. 763). Therefore, in order to initiate any shifts of the educational scenario and instructional practices, teacher education may be the most suitable place to initiate adjustments. In addition, teacher education can also spread the transformation widely, especially in the process of producing English language teachers with the hope that they will be the future English teachers in Thailand. Since it is common for students to follow in their teachers' footsteps and tend to use the same teaching style as their teachers (Haidari, 2013), "CL [cooperative learning] skills must be modelled and practised during teacher education to prepare prospective teachers for the use of these skills in their future classrooms" (Veenman et al., 2002, p. 88). Teacher education programmes should equip students with various methods to be used in their future occupation as teachers. As a result, a change can be achieved through teacher education in which any adjustments are made in the classroom environment, activities and materials, which will help enhance student achievement.

## **1.2 Rationale for the study**

For decades, teacher-centred instruction has been employed as traditional method of teaching the English language in Thailand. In conventional classes, the lecture format is generally used by teachers of English language at all levels, especially in college and university English classes. Thai teachers of English language have mostly relied on course books and presented the content via lecturing (Watanapokakul, 2006), especially in Thai higher education institutions (Buasuwan, 2018).

This format emphasises presentation of content involving an explanation of the topic; the teacher or lecturer orally clarifies and summaries the content to the students who basically listen to the content and take notes if necessary. Long and Porter (1985) reported that in typical teacher-centred language classrooms, teachers normally talk at least half (or up to two thirds) of the class time. In the process of lecturing, the students are more passive than be active in class, and there is no cooperation and interaction between teacher and students and the students themselves (Kaur, 2011).

As a result of the aforementioned issues in English language teaching and learning in Thailand, the English proficiency of most Thai students is ranked as low to very low (Buasuwan, 2018; EF Education First, 2020; Mala, 2018). Since the future of the nation rests on the quality of its people, the future of Thailand depends on how well the Thai citizens can help the nation innovate, grow and survive global challenges by becoming proficient in English (Buasuwan, 2018). English language is believed to be one of the important tools to tackle these challenges. Thus, following the education reforms by the Ministry of Education, English language teaching and learning in Thailand must shift to new techniques, methods and approaches.

Cooperative learning, one of the strategies under Active Learning Approach, is believed to play a crucial part in shifting learners' roles from passive to active (Henson, 2003; Johnson & Johnson, 2008). Especially, in colleges and university classrooms, cooperative learning is being increasingly introduced (Phipps et al., 2001). Students are expected to take an active role in their learning rather than passively listening to lectures. A different learning dynamic is created when students with different experiences work together (Gottschall & Garcia-Bayonas, 2008). This cannot be established through lectures or by working alone. Group work as an instructional mode in the classroom is frequently used in higher

education, and it is viewed as equivalent to any other pedagogical practices (i.e., whole-class lessons or individual work) (Chiriac, 2014).

One of cooperative learning methods, Student Teams Achievement Divisions (STAD), was developed by Slavin (1982). In this method, students are assigned by the teacher to a small heterogeneous group of four to five members, mixed with regard to gender, ethnicity, academic performance and so on (Balfakih, 2003). The groups work together to achieve shared goals and complete given tasks. Everyone is responsible for their own learning, and they also help, motivate and encourage other group members to learn. Therefore, the primary goal of the group is for each student to learn the material and make sure that other group members also master the material (Khansir & Alipour, 2015).

STAD has been extensively researched with apparently with successful results in terms of English achievement (Al-Zu'bi & Kitishat, 2013; Alijanian, 2012; Anwer et al., 2018; Araban et al., 2012; Glomo-Narzoles, 2015; Jalilifar, 2010; Khan & Akhtar, 2017; Khansir & Alipour, 2015; Kurniawan et al., 2017; Motaei, 2014; Mudofir, 2017; Munir et al., 2017; Nikou et al., 2014; Ritonga et al., 2016; Saniei & Ghadikolaei, 2015; Slavin & Oickle, 1981; Syafiq & Rahmawati, 2017; Upa & Ridho, 2019). Armstrong and Palmer (1998) found that the STAD method was easy to implement, especially in block schedule classes where the instruction period is lengthy. Furthermore, adaptation of this method is recommended in many subject areas, such as mathematics, science, language arts and foreign language, especially in English language classes (G. M. Ghaith & Yaghi, 1998). Accordingly, Khan and Akhtar (2017) highly recommended that STAD to be applied to teach English grammar to help second language students obtain linguistic knowledge (G. M. Ghaith & Yaghi, 1998) by giving students chances to communicate and negotiate ideas with others in target language (Khansir & Alipour, 2015; Kurniawan et al., 2017). This can foster deeper understanding of the material (Saniei & Ghadikolaei, 2015; Sunarti & Rachman, 2018) and afford a positive impact on language skills (Kurniawan et al., 2017). Despite the promising results, there are only a few studies (Malelohit, 2016; Warawudhi, 2012; Wichadee, 2005) that implemented STAD cooperative learning in tertiary English language classes in Thailand. However, none of these studies were conducted in a teacher education programme.

The current study investigated the effectiveness of the cooperative learning to enhance students' English achievement in teacher education programmes. The main participants were pre-service teachers who majored in English. Therefore, this study is unique and attempts to fill a gap in current research. The findings of this study will contribute to existing knowledge about the use of cooperative learning to teach English in teacher education programmes where traditional instruction is dominant.

### **1.3 Aims of the study**

With the implementation of cooperative learning in tertiary EFL classrooms in Thailand, the aims of the study were therefore to:

- Test the feasibility of cooperative learning as an instructional method that can help enhance pre-service teachers' English achievement
  - pilot the cooperative learning method to English language learners in a teacher education programme in a university in Thailand,
  - identify factors that facilitate the implementation of cooperative learning and
  - determine the barriers/challenges to the implementation.
- Test whether the cooperative learning method can enhance pre-service teachers' achievement in English language
  - establish evidence of the effectiveness of cooperative learning to enhance student achievement in English language.
- Establish pre-service teachers' and university instructors' attitudes towards cooperative learning.

### **1.4 Research questions**

The research questions were as follows:

- 1) Is it feasible to implement cooperative learning in Thai tertiary EFL classes?
  - a. What are the factors that facilitate the cooperative learning implementation?
  - b. What are the barriers/challenges to the implementation of cooperative learning in EFL classrooms?
- 2) To what extent does the STAD method of cooperative learning enhance pre-service teachers' achievement in English language?
- 3) What are the participants' attitudes towards cooperative learning?

- a. What are pre-service teachers' attitudes towards cooperative learning implemented in EFL classrooms?
- b. What are university instructors' attitudes towards implementing cooperative learning in EFL classrooms?

RQ1 was answered using a pilot study conducted in a teacher education programme in a university in Thailand and by an ensuing intervention conducted as part of a randomised controlled trial (RCT). The data comes from observation, questionnaires and interviews (semi-structured interview during the pilot study and *ad hoc* interview during the main study).

RQ2 was addressed by two approaches. First, a scoping review of empirical existing studies was applied to determine the evidence base for the effectiveness of cooperative learning in English as foreign/second language classes. Second, an RCT was included to assess the impact of cooperative learning in the teacher education programmes.

RQ3 was addressed through students' attitudes and teachers' attitudes questionnaires and an *ad hoc* interview.

### **1.5 Research setting**

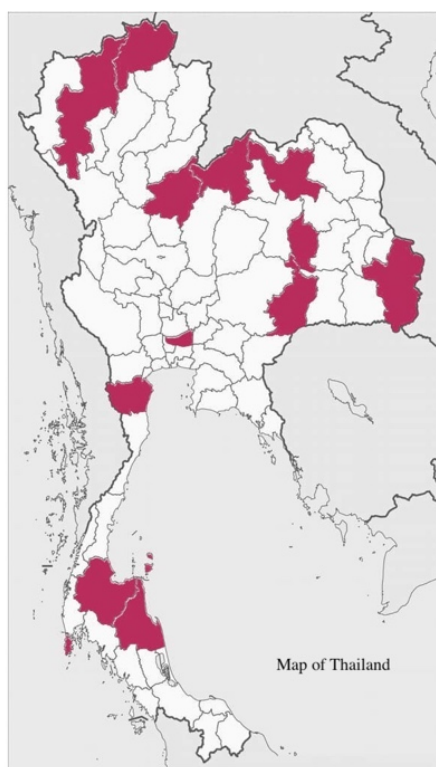
In Thailand, there are several types of universities and colleges. The Rajabhat Universities are under one of the university systems and partially operated by the government. Originally, they were teacher training colleges located in the centre and in several regions aiming to provide standard knowledge and skills in many disciplines for prospective teachers. In 2005, they were elevated to university status offering degrees at the undergraduate, postgraduate and doctoral levels. There are 38 Rajabhat Universities across the country and they all shared the same name of Rajabhat University as their so-called last name. The primary purpose of these higher educational institutions is the development of local communities (Michael & Trines, 2018). With the historical foundation of teacher college, administration, university culture, ranking and curriculums are different than other types of universities. The Rajabhat Universities are currently supervised and provided with the Qualification Framework for Higher Education by the Ministry of Higher Education, Science, Research and Innovation as a guideline following the National Education Act for academic standards to assure education quality.

For the Education Faculty under the Rajabhat University system, it is also a must to follow regulations by Ministry of Education and Teacher Professional Standards required by the Teachers Council of Thailand. Their main role and responsibility are producing pre-service teachers and future in-service teachers for primary and secondary educational levels. There are several majors offered in the Faculty of Education such as English, Thai, science, mathematics, social sciences, computer, arts, psychology and primary education. The instructional practices of each major are organised under the same curriculum across the country. In the teacher education programme, students are required to study all the contents and skills related to their discipline for three and a half years in the Faculty of Education, and complete a one-term (four months) teaching practicum in local schools. The teaching practicum can only be in a primary or secondary school. After the pre-service teachers have completed all required courses, activities and teaching practicum, along with their degree in education, they also receive teaching license issued by the Teachers Council of Thailand.

To develop and improve students' English language skills and proficiency in tertiary English classes in Rajabhat Universities, generally, undergraduate students must complete two to four basic to advanced English language courses as a requirement in their coursework. Six credits of English language are requested as a part of general education. Basically, students take the English classes in the first year of their undergraduate degree, that is, basic English in the first term and advanced English in the second term. Nevertheless, for pre-service teachers majoring in English, additional required English courses are broken down into skills or specific contents to ensure students' English language ability and to meet the standards of English language teachers. For example, the 'English Structure for Teacher of English' module is a compulsory course required as a foundation course for the first-year English majors in the first term of their undergraduate degree. Hence, all English majors of Education Faculty in Rajabhat Universities across the country complete the same course in the same term.

This study was carried out in 13 Rajabhat Universities located in the centre, northern, southern and north-eastern regions of Thailand as shown in Figure 1.1. All participants, both pre-service teachers and university instructors, were all non-native speakers of English, and Thai language is their mother tongue.

Figure 1.1 The location of the 13 universities in this study



## **1.6 Significance of the study**

As this study evaluated the impact of the cooperative learning method, the results will shed light on how it can be developed to enhance pre-service teachers' English achievement at the tertiary level in the EFL context. The study not only investigated the impact of cooperative learning in terms of increasing of test scores but also explored the feasibility and the factors facilitating and challenging its implementation in tertiary English classes.

The findings and conclusions, therefore, have significance in several aspects: national education policy, teacher education action plans, and English language teaching. The details are described below.

### **1.6.1 Thailand's national education policy**

The information derived from this study may support and reaffirm Thai education policy that encourages a change in the classroom scenario and to apply active learning/cooperative learning to teach English language to Thai students in the EFL context. The findings could lead to more effective English language instruction using cooperative learning to enhance students' English achievement.



### **1.6.2 Teacher education action plan**

As mentioned, teacher education may be the most suitable place to start any shift in adjusting the classroom environment, activities and materials to help enhance student achievement in the English language. Thus, the research outcomes could help initiate meaningful English courses that integrate the use of cooperative learning. Teacher education programmes could promote cooperative learning in other English courses to support students' English achievement.

### **1.6.3 English language teaching**

It is expected that the proposed cooperative learning method can be an alternative instructional method for lecturers and instructors who teach English at the tertiary level. Instructors and teachers can adjust and adapt the cooperative learning method to be more localised for their content, subject or the country context. Furthermore, this research will hopefully raise awareness among Thai lecturers, instructors and teachers of English and prompt them to consider modifying their English classroom environment, activities and materials to help enhance student achievement.

Last, but not least, it is common for pre-service teachers follow in their own teachers' footsteps and tend to use the same teaching style that has been modelled for them by their teachers (Haidari, 2013). Pre-service teachers can apply some of the cooperative learning methods and techniques they may have learned in their English classes in university to their own classrooms both in practicum teaching classrooms and future classrooms after they graduate.

## **1.7 Structure of the thesis**

This thesis, entitled 'A Consideration of Cooperative Learning to Enhance Pre-service Teachers' Achievement in Tertiary English as a Foreign Language (EFL) Classrooms in Thailand' consists of 10 chapters.

The first chapter presents the background of the study, a discussion of the rationale, research questions, research context and the significance of the study. It explains the English language education in Thailand as well as the issues of English language teaching and learning. Then the topic of cooperative learning is introduced.

Chapter 2 provides a literature review of theories and studies of cooperative learning related to English as a foreign/second language (EFL/ESL) contexts in terms of academic achievement. The relationship between cooperative learning and attitudes and perceptions are also discussed in this chapter.

In Chapter 3, the intervention method implemented in this study is presented. Related studies of the method in EFL/ESL are discussed.

Chapter 4 focuses on the research methodologies used in the study consisting of detailed steps of structured review in existing studies and the methodology used in the pilot study and in the main study. Rationale for a cluster randomised controlled trial, the training of instructors, research instruments and the conduct of process evaluation are described.

Chapter 5 reveals the results of the structured review on existing studies of the intervention method implemented in this study. The related studies are categorised and analysed.

Chapter 6 presents the pilot study results. Suggested application of the pilot study outcomes to the main study are provided.

In Chapter 7, the impact evaluation (primary result) of the main findings of the cluster randomised controlled trial are discussed.

Chapter 8 presents the results and analysis of the attitude questionnaires. It is divided into two main sections: students' attitudes and instructors' attitudes.

Chapter 9 provides the process evaluation results of the main trial. Factors that facilitate the implementation of cooperative learning and the barriers/challenges to implementation are described.

The last chapter, Chapter 10, is the conclusion. It consists of summary of the findings, limitations of the study and implications for future research.

## **CHAPTER 2**

### **COOPERATIVE LEARNING**

One of the ideas that many people tend to misunderstand about cooperative learning is that it consists only of placing students into groups and expecting them to work together; however, in cooperative learning, small groups need to be structured in order to foster cooperation between group members. In addition, there are several essential elements, such as positive interdependence and individual accountability, that need to occur during cooperative group work.

To further understand cooperative learning, this chapter provides a review of the related literature and studies on cooperative learning. There are multiple definitions and theories underpinning cooperative learning, and the essential elements to identify the cooperative learning environment are also discussed. Several types of cooperative learning and methods can support the implementation in different situations, contexts and subjects. Then, cooperative learning in terms of supporting students' academic achievement in English as a foreign/second language (EFL/ESL) classrooms are reviewed. The final section in this chapter provides an examination of cooperative learning as it relates to the attitudes and perceptions of students and teachers.

#### **2.1 Cooperative learning**

Cooperative learning is one of the educational fields that has been extensively researched and has become one of the dominant instructional practices around the world (Johnson & Johnson, 2009; Sharan, 2014). It has been developed and grounded on several psychological and philosophical concepts. Advocates and educators have generated a variety of cooperative learning methods as options for classroom implementation in various subject areas.

Cooperative learning is believed to play a crucial part in shifting learners' roles from passive to active (Henson, 2003; Johnson & Johnson, 2008). Especially, in college and university classrooms, cooperative learning is being increasingly introduced (Phipps et al., 2001). Students are expected to take an active role in their learning, rather than passively listening to lectures. There is some controversy regarding how, why and under what conditions cooperative learning methods affect student achievement (Slavin, 2014).

## **2.2 Definition of cooperative learning**

Cooperative learning most commonly refers to “a method of instruction that organises students to work in group toward a common goal or outcome, or share a common problem or task in such a way that they can only succeed in completing the work through behaviour that demonstrates interdependence while holding individual contributions and effort accountable” (Brody & Davidson, 1998, p. 8). Slavin (1982) proposed that cooperative learning refers to “instructional methods in which students of all levels of performance work together in small groups toward a common goal” (p. 6). Similarly, Johnson and Johnson (1993) defined cooperative learning as “the instructional use of small groups so that students work together to maximize their own and each other’s learning” (p. 62).

For Gillies (2007), cooperative learning is a teaching strategy involving “students working together in small groups to accomplish shared goals” (p. 1). While, Jolliffe (2007) also provided a similar definition of cooperative learning: “[it] requires pupils to work together in small groups to support each other to improve their own learning and that of others” (p. 3). Kagan (2010) describes cooperative learning as “a teaching arrangement that refers to small, heterogeneous groups of students working together to achieve a common goal” (p. 85). He also added that in cooperative learning, students work together to learn and are responsible for their teammates’ learning as well as their own. Likewise, Sharan (2014) defined cooperative learning as a generic pedagogy in which students “achieved learning outcomes, based on a common learning goal, that reflect each group member’s unique contribution” (p. 802).

Thus, to conclude, cooperative learning is a term referring to an instructional method that requires students working together in small groups to help support each other in order to increase their own learning and that of others to accomplish a shared goal. When students work cooperatively in their small groups, they learn how to communicate, give and receive help, express their ideas and listen to other ideas and perspectives, handle differences and solve problems democratically (Gillies, 2007). Cooperative learning has established itself as a practical alternative to traditional teaching. In cooperative learning, “the success of one student helps other students to be successful” (Slavin, 1982, p. 6) as opposed to traditional classrooms where students compete for grades and one student’s success may decrease or obstruct another’s opportunity to succeed. The cooperative learning classroom is structured to foster cooperation among learners rather than competition. Therefore, its activities are

structured in a way that allows every individual in the group to participate, contribute and benefit (Sharan, 2014). Lessons in cooperative learning classrooms are designed to provide students with an opportunity to support, inspire and praise one another and are created in a way that students must cooperate in order to achieve the learning objectives.

Moreover, cooperative learning is considered a tool or an arena for preparing students to work effectively in teams with diverse people towards a common goal as required in various situations and settings in real life, for example, at home, in the community or at their future work place (Johnson & Johnson, 2014; Macpherson, 2015).

### **2.2.1 What is not ‘cooperative learning’?**

These are differences between having students work in groups and structuring groups of students to work cooperatively. Simply placing students in groups, sitting side by side at the same table with learning materials and expecting interaction between them to learn together does not guarantee that they will work together cooperatively.

Johnson and Johnson (1999) described classroom situations that are not considered cooperative learning: pseudo learning groups and traditional classroom learning groups. In the pseudo learning group, students are assigned to work together, but they have no interest in doing so, and they believe they will be assessed by ranking the whole class performance from the highest to the lowest. Even though students sit together in the same group, they may work alone or decline to share information with other group members. As a result, students will attain more as individual than working in group (Johnson & Johnson, 1999).

For the traditional classroom learning group, students are assigned to work together and accept that they have to do so. Assignments are structured so their performance will be assessed and rewarded as individuals, not as a group. Students will seek information from each other; however, they have no motivation to teach what they know to their teammates. There might be some students who will share responsibility for parts of the work and some who do all the work. The result of the whole group performance is higher than some members who are free-ride students (students who receive benefits without efforts or cost) and students who do the assignments may perform higher if they work by themselves (Johnson & Johnson, 2009). In this traditional small group, interdependence and individual accountability are not structured and no group processing and communication skills are

either assumed or ignored (Macpherson, 2015). Basically, after the teachers arrange the groups, the students are left to work on their own with an agreed time to complete the assignment or until the task is finished.

How the small group is structured will determine how effective the group will perform (Johnson & Johnson, 1999; Johnson & Johnson, 2008). The recommended size of a group in order for cooperative learning to be effective is four members (Macpherson, 2015). If pair work is needed, for example in an informal cooperative learning activity, it may be convenient to break the group down into two pairs.

### **2.3 A brief history of cooperative learning**

Cooperative learning has a long history of development. It can be traced back as far as formal education itself and shares similar roots with learner-centred instruction. The two earliest philosophers who proposed the learner-centred education were Confucius and Socrates (Henson, 2003), but they focused on individual development. Around the seventeenth century, John Locke (1632-1740), who also supported the importance of experience in education, introduced ‘experiential education’. He believed that “our thinking is limited by our lack of experience...” (Henson, 2003, p. 7). Later, two educators in Switzerland, Jaen Jacques Rousseau (1712-1778) and Johann Pestalozzi (1746-1827) also agreed with this concept; then came the first school of learner-centred education.

In America, by the mid-eighteenth century, Colonel Francis Parker (1838-1903) began to implement learner-centred education in several schools in Massachusetts. He showed the new teaching techniques to teachers changing from rote memorisation to inquiry and understanding of fact. During his career as an educator, he had worked with John Dewey (1859-1952), one of the most influential Americans in the fields of education and philosophy (Henson, 2003). Dewey believed in experiences and social context and asserted that all human experiences take place within a social environment and the combination of experiences construct knowledge. For education, “The principal that development of experience comes about through interaction means that education is essentially a social process” (Dewey, 1938, as cited in Robert, 2003, p. 2). He believed that “the only way a child would develop to its potential was in social setting” (Henson, 2003, p. 9). In Dewey’s view, schools should provide more opportunities for social interaction. Thus, he proposed ‘Progressive Education’, which aimed to offer learning experiences for students.

Cooperative learning continued to some extent into the early twentieth century where Russian psychologist and sociologist, Lev Vygotsky (1896-1934) studied children's interactions in small groups working to solve problems. He presented a social learning approach that he called 'negotiating meaning', which is now known as 'cooperative learning' (Henson, 2003).

## **2.4 Theories underpinning cooperative learning**

The historical development of cooperative learning and its contribution to education are established under several theoretical perspectives. Among these, there are four foundational psychological theories: social, developmental, cognitive and motivational (Jacobs et al., 2006).

### **2.4.1 Social psychology perspective**

'Social psychology' or 'social cohesion', is also known as 'social interdependence theory'. The theory is built on the premise that "the way in which goals are structured determines how individuals interact, which in turn creates outcomes" (Johnson, 1999, p. 934). Social interdependence can be traced back to the establishment of the school of gestalt psychology at the University of Berlin in the early 1900s. One of the school founders, Kurt Koffka, proposed that a group is 'dynamic whole' so the interdependence among members of the groups can vary (Johnson, 1999; Johnson & Johnson, 2009, 2014) and can change the way the group acts as a whole. In the 1920s, Kurt Lewin, the founder of modern-day social psychology and one of the primary researchers in social interdependence field, extended Koffka's notion and asserted that the most significant aspect of a group is the interdependence among its members. If one member's condition changes, it will affect the other members or the group. For group members to be interdependent, common goals are necessary (Johnson, 1999; Johnson & Johnson, 2014).

To expand Lewin's premise, Morton Deutsch, one of Lewin's students, studied the interrelation of the tension systems of different people and proposed two types of social interdependence: positive and negative. For positive interdependence, if one student is successful, the other students can also be successful. This is the cooperative interdependence state. Negative interdependence occurs if one student is successful, the other cannot be successful. A student can achieve the goal, if and only if, the other students fail to achieve their goals. This state of interdependence is competitive. Deutsch also

emphasised three aspects of cooperation: interdependence, interaction pattern, and outcomes. He finally conceptualised the basic premise of social interdependence theory: “the way in which interdependence is structured determines how individuals interact, and the interaction pattern determines the outcome of the situation” (Johnson & Johnson, 2003, p. 143). Later, his graduate students, David W. Johnson and Roger T. Johnson, extended their work on the premise of Deutsch’s theory.

Moreover, Robert E. Slavin, an advocate of cooperative learning, stated that the effectiveness of cooperative learning on students’ achievement mainly depends on the ‘cohesiveness of the group’ (Slavin, 2010a, 2014; Slavin et al., 2001); therefore, he has called this theoretical perspective ‘social cohesion’. Group cohesion comes from “the quality of group’s interactions” (Slavin, 2014, p. 787). According to Slavin (2001), the social cohesion perspective often focuses on the operation of team-building activities to prepare for cooperative learning and processing or group self-evaluation. Students will be involved in tasks and help other team members learn because they care about the team and want the others to succeed. Cooperative learning methods based on the social cohesion perspective are those in which students divide the individual roles within the group, what Slavin (2001 & 2014) identifies as ‘task specialisation’, such as Aronson’s Jigsaw method.

Social interdependence theory has been utilised in several fields; however, “the most systematic, widespread, and long-term applications have been in education” (Johnson, 1999, p. 942). Organising social interdependence theory in education results in cooperation involving students meaningfully and actively in learning to attain educational goals as well as supporting individual differences (Johnson, 1999).

However, Slavin (2014) presented a review of empirical studies (conducted in 1995) on cooperative learning methods to enhance academic achievement which applied team building and group process but not specific group rewards based on the learning of all team members. The results of those studies with no group rewards were not effective than the traditional instruction.

#### **2.4.2 Developmental perspective**

The developmental perspective mainly emphasises the quality of students’ interaction when engaged in cooperative learning activities and interpersonal influences. Cognitive



perspective asserts that the interactions among students during the group work enhance their achievement which involve students' mental processing of information rather than with motivations (Slavin, 1987, 2014; Slavin et al., 2001). The developmental perspectives believes that "interaction among children around appropriate tasks increases their mastery of critical concepts" (Slavin, 2014, p. 788). The cognitive development premise is outlined by two of the most notable developmental psychologists of the twentieth century, Jean Piaget and Lev Vygotsky (Jacobs et al., 2006), who emphasised the role of social interaction in learning.

Jean Piaget focused more on the learner as an individual and how the individual interacts with the environment to initiate understanding. The Piagetian theory of cognitive development is based on the premise that "when individuals cooperate in the environment, sociocognitive conflict occurs that creates cognitive disequilibrium, which in turn stimulates perspective-taking ability and cognitive development" (Johnson & Johnson, 2002a, p. 10). Piaget proposed that "social-arbitrary knowledge – language, values, rules, morality, and symbol systems – can only be learned in interactions with others" (Piaget, 1962, as cited in Slavin, 2014, p. 788) which, in turn, helps learners acquire higher-order skills and concepts. The emphasis of Piagetian was the value of social contexts that stimulate conflicts. Piaget asserted that the cognitive development of every child occurs in fixed stages. According to Piaget, to accelerate the child's development with the help of others is restricted because, he believed, the development is pre-coded; therefore, learning cannot come before development (Jacobs et al., 2006).

On the other hand, Vygotsky studied children's interactions in small groups and found that by discussing problems in the groups, students could solve the problems more effectively than working alone (Henson, 2003). His theory is based on the premise that "knowledge is social, constructed from cooperative effort to learn, understand, and solve problems" (Johnson & Johnson, 2002a, p. 10). Vygotsky asserted that the sociocultural context and interaction can impact the cognitive development of an individual. Thus, learning leads development (Jacobs et al., 2006). He introduced the concept of Zone of Proximal Development (ZPD). This zone refers to "the distance between the actual developing levels as defined by independent problem solving and the level of potential development as defined through problem solving under adult assistance, or in co-operation with more skilled peers" (Vygotsky, 1986, as cited in Fore III et al., 2006, p. 2). He asserted that it is

“the difference between what a learner can do without help and what he or she can do with help” (Vygotsky, 1987, p. 112). Children of similar ages working cooperatively nourish each other’s development because they tend to operate within each other’s proximal zone of development (Slavin, 1987). If any task is too difficult for children to solve alone, it can be learned with guidance and assistance from parents, adults, teachers or more capable peers.

Slavin (1987, 2001) concluded that motivation to encourage and help others to learn material increases both quality and quantity of peer interaction, which leads to cognitive growth. Students’ opportunity to discuss, argue and hear others’ ideas can lead to student achievement. Therefore, from the developmental perspective, the use of cooperative tasks is the main reason for effective cooperative learning methods. For empirical evidence for the developmental research of cooperative learning from classroom experiments, there is still little evidence that focusing only on student interaction, without group rewards and individual accountability, produces higher achievement (Slavin, 2014; Slavin et al., 2001).

#### **2.4.3 Cognitive perspective**

According to cognitive perspective, what Slavin (2014) calls ‘cognitive elaboration’, in order to retain and integrate the information in the memory, “learners must engage in some sort of cognitive restructuring, or elaboration, of the material” (Slavin, 2014, p. 789). Explaining the material or information to someone else is considered one of the most effective means of elaboration such as peer tutoring methods (Slavin, 2014; Slavin et al., 2001). When peer tutoring occurs during cooperative learning, complicated material has been simplified by learners who are at the similar academic level and language efficacy. They understand where their classmates need help or what they do not understand and have the potential to help with comprehensible explanations in a way that a teacher may not. If the explanation is not effective, the helpers are required to try to find different ways to provide further explanation. These can be using different language, translating unusual or unfamiliar language into familiar language, formulating new examples, linking examples to previous knowledge or completed work and using symbolic representations like pictures, numbers and diagrams (Webb, 1989).

Craik and Lockhart (1972) studied theories of human memory and proposed the ‘depth of processing’ of memory concept, which held that the material tends to be more

comprehended and remembered if deeper elaboration is involved (Craik & Lockhart, 1972). They also asserted that for the information to be retained in the long-term store, rehearsal and repetition are critical. To ensure rehearsal and repetition process peers take the role of teacher, generating peer tutoring.

Furthermore, Webb (1989) studied peer interaction as it influences learning in small groups and reported that students showed greater achievement when they asked for assistance and received explanations from the group members as compared to when there was no response or they received only answers without explanation. High achievers may also enhance their understanding of material by giving an explanation to the groupmates (Webb, 1989).

An example of the elaboration process is as follows:

In this method, students take roles as recaller and listener, they read a section of text, and then the recaller summarises the information while the listener corrects any errors, fills in any omitted material, and helps think of ways both students can remember the main ideas. (Slavin, 2014, p. 789)

#### **2.4.4 Motivational perspective**

Motivational perspective appears to have been developed from the work of Lewin and Deutsch (Slavin, 1987). It emphasises task motivation, which is identified as the most essential part of the learning process. Motivation stimulates the cognitive process and leads to learning. Rewards or goal structure are the focus of motivational perspective on cooperative learning methods (Slavin, 1987, 2010a; Slavin et al., 2001). The students need to be encouraged to value the success of the groups since it is the only one way one can achieve his/her personal goal. Therefore, team members need to assist and encourage their teammates to put in the maximum effort in order to help their team to be successful. The incentive is given to the students to encourage them to help other classmates learn the material and to stimulate the teammates to do whatever it takes to help the group succeed. From motivational perspective, reward structure is considered the key for effective cooperative learning on achievement.

Slavin (2010, 2014) asserted that in order to improve students' achievement outcomes by applying cooperative learning methods, group rewards must be from the individual learning

of all group members. In most empirical research, which mostly found significant greater achievement effect of cooperative learning, group goals and individual accountability need to be presented in order to produce academic achievement (Macpherson, 2015; Slavin, 1987). Instead of ‘doing’ something or simply giving answers to their friends, group goals and individual accountability help motivate students in the group to give and receive explanations to other team members, to ‘learn’ something as a team and take each other’s learning seriously (Slavin, 2010a).

Slavin (1995, as cited in Slavin, 2010b, 2014; Slavin et al., 2001) reported in a review that 64 out of 99 studies of at least a four-week period compared between cooperative learning methods, providing group rewards based on the sum of group members’ individual learning, and control groups in elementary and secondary schools. Fifty studies (78%, significant) found positive effects on student achievement and no study found negative effects. The median effect size of these studies was +0.32. While, few positive effects with a median effect size of +0.07 was reported for studies that gave rewards on single group product or gave no rewards. Therefore, in order to enhance the effectiveness of cooperative learning methods, group goals with rewards based from individual learning is vital (Slavin et al., 2001).

Slavin (1983, 1988) pointed out that not all cooperative learning methods are effective in producing higher achievement. The two essential elements needs to be applied if achievement effects are the primary intention of adapting cooperative learning methods in classrooms: group goals or group rewards that are important to the students and individual accountability and individual learning of all group members (Macpherson, 2015; Slavin, 1983, 1988). Moreover, Slavin (1988) also suggested the research studies on the effect of cooperative learning should be taken into consideration if schools or teachers would like to apply cooperative learning methods.

In the early work, cooperative learning methods consisted of two primary conditions: cooperative incentive structure and cooperative task structure (Slavin, 1983). According to Slavin (1983):

Cooperative incentive structure is that two or more individuals are interdependent for a reward they will share if they are successful as a group...cooperative task

structures are situations in which two or more individuals are allowed, encouraged, or required to work together on some task, coordinating their efforts to complete the task. (p. 431)

For cooperative incentive structure, all group members' efforts are accounted for the success of the group, so they will 'sink or swim together' (Johnson & Johnson, 1987, p. 12). Slavin (1983) gives an example of the use of cooperative incentive and cooperative task structures, contributors to an edited version of books or journal work under cooperative incentive structure which they will benefit from the success of the books or journals. Nevertheless, they might not meet or talk with each other; they are not under cooperative task structure. They might not need to encourage each other to work on the task or even work together to complete the task.

In the classroom, the use of cooperative learning normally involves cooperative tasks; however, some might not involve cooperative incentives. Slavin (1983) proposed that there are two categories of cooperative task structures: task specification and group study. For task specification, each member in the group is responsible for a unique part of the group task, while, all group members study together in the group study and do not have separate parts (Slavin, 1983).

## **2.5 Essential elements of cooperative learning**

According to Johnson and Johnson (1999, 2002, 2008, 2009, 2014; Johnson, 2003), in order to structure a successful cooperative situation, there are five basis elements for a small-group learning to be cooperative: positive interdependence, individual accountability, face-to-face promotive interaction, social skills and group skills.

### **2.5.1 Positive interdependence**

When positive interdependence occurs among group members, students perceive that they are linked with others, so that they will 'sink or swim together' (Johnson & Johnson, 1987; Jolliffe, 2007). Therefore, 'all group members' work benefits you and your work benefit them' (Johnson & Johnson, 1999, 2002b, 2014); they need each other to complete the group's task. Students need to understand that each member's contribution is essential and unique, and they must complete their assigned parts in order to achieve the group's goals (Gillies, 2007). Each member's contribution is important to the success of the group.

Hence, positive interdependence is vital for cooperative learning. This must be established through mutual goals; all group members work together towards the group's goals and care about each other's learning. According to Johnson and Johnson (2009, 2014), there are three major ways of constructing interdependence: 1) outcome interdependence (goal and reward interdependence), 2) means interdependence (resource, role and task interdependence) and 3) boundary interdependence (separation of groups from each other and unification of members of any one group). Achievement is higher when goal and reward interdependence are presented, and the use of goal and resource interdependence together leads to achievement increase (Johnson & Johnson, 2002b). When one individual knows that his/her performance will impact the success of the group, 'forces for responsibility' tend to be created (Johnson, 1999), which helps enhance one's effort to achieve.

### **2.5.2 Individual accountability**

Individual accountability is another crucial element of cooperative learning (Gillies, 2007). Each member is accountable for learning the material and completing his/her part of the work as well as helping other group members to learn. In order to prevent free-loading and make sure that every member contributes, the performance of each student is assessed and the result are for the group as well as for individual (Johnson & Johnson, 1999, 2002b, 2009, 2014). Individual accountability is structured for each student to believe that it is important for him/her to learn the material. Each student feels in charge of his/her own learning as well as that of other group members, so he/she makes an active contribution to the group to achieve their common goal. The purpose of cooperative learning is "to make each member a stronger individual in his or her right" (Johnson & Johnson, 2014, p. 845). Students learn and work together as a group to prepare each other to perform better as individuals. Johnson and Johnson (1999, 2002, 2014) suggested some strategies to establish individual accountability such as giving each student individual tests, asking students to explain what they have learned to the class, observing students' participation or choosing one student's product to represent the group. Teachers should find a way to determine each student's learning and what each group has accomplished. According to Johnson and Johnson (2002, 2009), individual accountability may correlate with a student contribution to the group. The lack of individual accountability may reduce students' personal responsibility, which may result in the decrease of members' contribution to the group's

goals. The larger the size of the group, the greater the tendency for social loafing or free-riding (Johnson & Johnson, 2009).

### **2.5.3 Face-to-face promotive interaction**

Working in a small group where students engage in face-to-face interaction involves both verbal and non-verbal interaction among group members to support the building of personal connection (Gillies, 2007) and provide information relating to a student's performance (Johnson & Johnson, 1999, 2002b). Promotive interaction concerns students encouraging and facilitating each other to learn, complete assignments and accomplish the group's goals by "helping, assisting, supporting, encouraging and praising each other's effort to learn" (Johnson & Johnson, 2014, p. 845). Johnson and Johnson (1999, 2002) described cognitive activities and interpersonal dynamics that occur during promotive interaction involve:

- (a) orally explaining how to solve problems,
- (b) discussing the nature of the concepts being learned,
- (c) teaching one's knowledge to classmates and
- (d) connecting present with past learning.

This 'eye-to-eye and knee-to-knee' interaction supports thinking skills with active involvement in the task and discussion among group members by oral giving and receiving of explanations from their peers and linking it to existing knowledge (Gillies, 2007). The smaller the group, (ideally two to four members), the greater the promotive interaction or significant face-to-face interaction tends to be (Johnson & Johnson, 1999, 2002b).

### **2.5.4 Social skills**

To promote effective cooperation, students need to be taught the appropriate use of interpersonal and small group skills needed for to effectively communicate with each other so they know how to express and exchange ideas, handle disagreement and manage conflicts as well as being motivated to apply these skills (Gillies, 2007; Johnson, 1999; Johnson & Johnson, 1987, 2002b). The important social skills to work cooperatively and successfully are communication, leadership, trust building, decision-making and conflict management. Students need to not only master the material, but also develop and practice these social skills for the groups to work smoothly. Johnson and Johnson (2009) described features of coordination to achieve mutual goals:

- a. get to know and trust each other,

- b. communicate accurately and unambiguously,
- c. accept and support each other and
- d. resolve conflicts constructively.

Gillies (2007) proposes the interpersonal and social skills that will facilitate student interaction as follows:

#### Interpersonal skills

- a. actively listening to each other
- b. stating ideas freely
- c. accepting responsibility for one's behaviours
- d. providing constructive criticism

#### Small-group skills

- a. taking turns
- b. sharing tasks
- c. making decisions democratically
- d. trying to understand the other person's perspective
- e. clarifying differences

Obtaining social skills not only results in positive relationships among group members, it also promotes higher achievement (Johnson & Johnson, 2002b, 2009).

### **2.5.5 Group processing**

Group processing involves students reflecting on the group experience. Group members frequently reflect on and review how well they managed the process of learning and what they need to do to improve their working processes to complete the group's goals (Gillies, 2007; Johnson, 1999; Johnson & Johnson, 2002b). The main purpose of group processing is to clarify and improve the effectiveness of individual actions to enhance the learning process and achieve the group's goals. Group processing not only help members achieve the group's goals, it also helps maintain effective working relationships among group members by working together to negotiate conflicts, overcome struggles and learn to understand their teammates (Sutherland et al., 2019). Johnson and Johnson (2002) mentioned several keys to promote group processing successfully:

- (a) allowing sufficient time for it to take place
- (b) making it specific rather than vague



- (c) reminding students to use their social skills while they process
- (d) setting clear expectations as to the purpose of processing.

## **2.6 Types of cooperative learning**

Generally, there are three main types of cooperative learning: formal cooperative learning, informal cooperative learning, and cooperative base groups (Johnson & Johnson, 1999, 2002b, 2009). In addition, Johnson and Johnson (2002, 2014) have added one more type of cooperative learning - constructive controversy, which concerns intellectual conflict.

### **2.6.1 Formal cooperative learning**

This exists when students working together for one class up to several weeks to accomplish learning goals and complete assigned tasks and assignments (Johnson & Johnson, 1999, 2002b, 2009, 2014). Any tasks or assignment can be organised into cooperative situation (Johnson & Johnson, 2002b, 2014). Johnson and Johnson (1999, 2002, 2008, 2009, 2014) suggested several teachers responsibilities during formal cooperative learning. Teachers need to make some decisions before the class starts, such as how groups are assigned, how many members in each assigned group and material needed for the lesson. In addition, teachers need to explain the task and the positive interdependence, monitor student learning, provide task assistance, evaluate student learning, and help students with group processing.

### **2.6.2 Informal cooperative learning**

This occurs when students working together but only in temporary or *ad hoc* groups lasting from a few minutes, up to one discussion or one class period. This includes a couple of minutes of 'focused discussion', 'turn-to-your-partner' discussion (Johnson & Johnson, 1999, 2002b, 2009, 2014) or 'think-pair-share' (Jolliffe, 2007). Informal cooperative learning group can be used at any time; however, it is suggested that it be usefully applied, especially during lecture or direct teaching (Johnson & Johnson, 2002b). Johnson and Johnson (1999, 2002, 2009, 2014) described the purposes of informal cooperative learning groups as follows:

- (a) focus student attention on the material to be learned
- (b) create an expectation set and mood conducive to learning
- (c) help organise in advance the material to be covered in a class session
- (d) ensure that students cognitively process the material being taught

- (e) provide closure to an instructional session.

Informal cooperative learning basically encourages students to actively engage and think about what they are learning. Most college learners can focus their attention to a lecture for around 20-25 minutes before they start to drift away; this informal cooperative learning help break up the lecture and give students a chance to process the content (Macpherson, 2015).

### **2.6.3 Cooperative base groups**

This involves students working together in heterogeneous cooperative learning groups with stable members for a long-term, which can last at least a term, up to a year or can be several years (Johnson & Johnson, 1999, 2002b, 2009, 2014; Jolliffe, 2007). The group members will build their relationships as well as work on their academic progress with support and encouragement from each other both cognitively and socially (Johnson & Johnson, 1999, 2002b, 2009, 2014; Jolliffe, 2007). Each member's primary responsibility is to offer other group members the support, encouragement and assistance, which are needed in order to make academic progress (Johnson & Johnson, 2002b). The characteristics of cooperative base groups include: a) heterogeneous membership, b) meeting regularly and c) lasting for the term, year, or until all members have graduated (Johnson & Johnson, 2009, 2014). Johnson and Johnson (2002) reported that creating cooperative base groups tends to improve student attendance, personalise the work required, improve the school experience and improve the quality and quantity of learning.

### **2.6.4 Constructive controversy**

This occurs when one individual disagrees with others' ideas, opinions, information, theories or conclusions, and they attempt to seek an agreement (Johnson & Johnson, 2002b, 2014). Students learn to synthesise the best ideas and reasons from both sides in order to reach an agreement. To organise constructive controversy, Johnson and Johnson (2002) proposed that when teachers assign students to cooperative learning groups of four and then separate them into two pairs, one pair is responsible for pro position while the other holds con position on the topic being learned in class. Each pair is expected to:

- (a) research and organise what is known about their side of the issue,
- (b) make a persuasive presentation of their position to advocates of the opposing position,
- (c) refute the opposing position while rebutting the attacks on one's own position

- (d) reverse perspectives and present the best-case possible for the opposing position and
- (e) create a joint synthesis or integration of the best reasoning on both sides.

Cooperative learning has been a preferable teaching practice around the world because it can be applied in any activity or lesson, in any subject area, with any age group, in any educational setting and can be adapted to any specific situation, different needs or group of students (Johnson & Johnson, 2002b, 2009, 2014; Slavin, 2010a).

Macpherson (2015) affirms that planning and preparation are a vital part of applying cooperative learning activities in the classroom, and it must be composed of the following basic principles:

- (a) Group tasks are designed to be suitable for group work.
- (b) Positive interdependence is built in; that is, co-operation is necessary for students to succeed.
- (c) Attention and class time are given to interpersonal/cooperative skill building.
- (d) Participants learn together in small (2-5 member) groups.
- (e) Students are individually accountable for learning and participation.
- (f) The instructor's role changes from being the 'sage on the stage' to the 'guide on the side.'

There are several reasons why cooperative learning is suggested for adult learners. Not only industry or future workplace requires people who can work cooperatively, social skills are also needed in order to increase more opportunities for them to be able to keep the jobs. Cooperative learning is claimed to help adult learners practice and develop both teamwork and social skills as well as constructive and supportive peer relationships (Macpherson, 2015).

Furthermore, learning environments in twenty-first century are focused on students' active engagement in their learning as well as with each other (Slavin, 2010a). Slavin (2010) indicated that cooperative learning plays a crucial role in the twenty-first century learning environments by providing not only practical means for students to acquire traditional skills and knowledge but also offering practice for the creative and interactive skills necessary in today's economy and society.

Macpherson (2015) stated several ways of assigning students into groups: instructor assigned groups, randomly assigned groups, social integration groups, subject-matter related groups, geographic groups and self-selected groups. However, the most effective cooperative learning groups are usually assigned by the teachers as they tend to be heterogeneous in terms of academic ability, gender, ethnic background or other factors (Macpherson, 2015). Cooperative language learning has been recommended as the solution to a wide range of instructional problems (Slavin, 2010a; Wichadee & Orawiwatnakul, 2012).

## 2.7 Cooperative learning methods

Various cooperative learning methods have been well researched (Sharan, 2014), but what they all have in common is that cooperative learning methods have been designed to structure group activity so that every member, as an individual can participate, contribute and benefit. The table below adapted from the research of Johnson, Johnson and Stanne (2000) and Shaaban and Ghaith (2005). Table 2.1 illustrates several cooperative learning methods, their researchers/developers, date created and possible primary application in the context of English for a foreign language (EFL) and English for a second language (ESL) instruction.

Table 2.1 Modern methods of cooperative learning

Researcher Developer	Date	Method	Primary Applications in ESL/EFL Context
Johnson & Johnson	Mid 1960s	Learning Together	Reading, Writing, Speaking, Culture
DeVries & Edward	Early 1970s	Teams-Games- Tournaments (TGT)	Language Rules and Mechanics
Sharan & Sharan	Mid 1970s	Group Investigation (GI)	Writing, Culture
Johnson & Johnson	Mid 1970s	Constructive Controversy (CC)	Culture
Aronson, Blaney, Sikes, Stephan & Snapp; Slavin	Late 1970s	Jigsaw Procedure	Reading, Literature

Researcher Developer	Date	Method	Primary Applications in ESL/EFL Context
Slavin & Associates	Late 1970s	Student Teams Achievement Divisions (STAD)	Language Rules and Mechanics
Cohen	Early 1980s	Complex Instruction (CI)	Social Skills, Culture, Reading, Writing, Language Rules and Mechanics
Slavin, Leavey & Madden	Early 1980s	Team Accelerated Instruction (TAI)	None
Kagan	Mid 1980s	Cooperative Learning Structures	Speaking, Listening, Reading, Writing
Stevens, Slavin & Associates	Late 1980s	Cooperative Integrated Reading & Composition (CIRC)	Reading, Writing, Spelling, Vocabulary, Literature

(Adapted from Johnson, Johnson and Stanne (2000) and Shaaban and Ghaith (2005))

Many cooperative learning methods, which are widely applied, are described as follows:

### 2.7.1 Learning Together

This method emphasises four elements: face-to-face interaction, positive interdependence, individual accountability and interpersonal and small-group skills. Learning Together is based on the heterogeneous learning group and is highlighted by positive interdependence and individual accountability. Furthermore, Learning Together also focuses on team building, group self-assessment, team grades rather than certificates or other recognition and rewards based on the group product (Slavin, 1995). Positive interdependence can be structured via setting common goals, assuming a common identity, using the same space and resources, receiving the same reward and so on. While individual accountability is structured through individual testing, random responses to teachers' questions and reporting as a representative of the group are also included. Last, but not least, students do group processing or self-assessment to evaluate and reflect on their group progress and

achievement and plan for the future co-operation. For EFL/ESL context, Learning Together may be applied to develop academic and personal support in order to read and comprehend a certain text, write an essay, and/or prepare a group project or presentation about certain aspects of the target culture (i.e. beliefs, conventions of behaviour, attitudes, values and so on) (Shaaban & Ghaith, 2005).

### **2.7.2 Teams-Games-Tournaments (TGT)**

TGT consists of five major components: class presentations, teams, tournaments, individual improvement scores and team recognition. In this method, students are assigned to mixed-ability teams with four or five members. Teachers present a lesson and students work within their teams to make sure that all team members understand the material. Then a tournament is held at the end of a week or a unit in which representative students with similar performance levels from each team compete to earn points for their teams. Finally, team achievement is assessed based on the average improvement scores earned all team members. TGT has documented positive effects on achievement in math, science and language arts (Slavin, 2010b). In terms of the EFL/ESL context, TGT is suitable for teaching spelling and language rules and the mechanics of the target language (Shaaban & Ghaith, 2005).

### **2.7.3 Group Investigation (GI)**

In this method, students form their own groups of two to six members where the group composition is based on interest and heterogeneity. Students are required to work cooperatively to plan and carry out investigations, complete individual specific tasks, discuss work with the team, coordinate with other members on various tasks, and present a final group project. Initially, the teacher presents a problem to the class; then students develop the assignment through six stages: identifying the topic and organising students into groups, planning the learning tasks, carrying out the investigation, preparing a final report, presenting the final report, and being evaluated. GI encourages higher-order thinking skills through comparing, contrasting and integrating ideas, concepts and findings (Jolliffe, 2007). Slavin (1995) reported a positive effect of GI on achievement in language and literature from a study in Israel by Sharan and Shachar (1988). In addition, Shaaban and Ghaith (2005) suggested that in the context of EFL/ESL, GI is appropriate for completing complex tasks, such as writing a research paper, preparing a presentation on a

particular theme or issue, developing culture capsules, providing mini-dramas and clusters to learn about certain aspects of the target culture.

#### **2.7.4 Constructive Controversy (CC)**

This method occurs when students disagree on a concept and engage in constructive negotiations to reach agreement. In CC, students are assigned into heterogeneous learning groups of four and then are divided into two pairs. The teacher presents an issue and a given position to each pair. Students then research and prepare the best possible ideas for their assigned position, make persuasive presentations to the other members of their team, engage in discussion, reverse roles for the other members of opposite position to present, and finally reach agreement by summarising the best evidence and arguments from both sides. For EFL/ESL instruction, CC is most appropriate for researching and debating certain aspects of the native language culture and target language culture. Especially, the CC method can enhance second or foreign language learners' knowledge of cross-cultural variation in the belief systems, norms, and values as well as developing learners' general research and communication skills (Shaaban & Ghaith, 2005).

#### **2.7.5 Jigsaw**

Generally, this method can be applied whenever the material to be studied is in written narrative or explanatory form. First, students are assigned to six-member teams to work on academic material that has been broken down into sections. Each member reads his/her section then students with the same section from different teams meet in 'expert groups' to discuss on their sections. Later, the students return to their teams to take turns teaching their teammates what they have learned from the expert group. The Jigsaw method is well-suited for social studies, literature, sciences and related areas where the concepts or learning are derived from a text and skills development is not the learning goals (Slavin, 1995). Shaaban and Ghaith (2005) recommends that Jigsaw is for teaching literature, biography, a chapter in a book or any other similar narrative, expository writing or descriptive textual material.

#### **2.7.6 Student Teams Achievement Division (STAD)**

STAD is very similar to TGA; however, instead of the tournament, STAD uses individual quizzes and tests in order to determine student mastery of class content and material. STAD had been applied in various subject areas, for example, mathematics, language arts and social studies. It is suggested to be suitable for teaching aspects with well-defined

objectives, such as mathematical computations and applications, language usage and mechanics, geography and map skills, and science facts and concepts (Slavin, 2010b). In the context of EFL/ESL, STAD is most appropriated for teaching language rules and the mechanics of the target language (Shaaban & Ghaith, 2005).

### **2.7.7 Complex Instruction (CI)**

CI is based on inquiry and investigation and is specially designed to foster the development of higher-order thinking skills. According to Cohen (1994), students in CI work together in a small group engaging in open-ended discovery or conceptual tasks that require higher-order thinking skills. Each group in the same class carries out a different task that are all related to a central intellectual theme or concept. Students in CI have the opportunity to experience more than one of these tasks. This method emphasises learning tasks that require the involvement of students with multiple abilities; students with diverse abilities and backgrounds can make meaningful contributions to the tasks. Learning tasks in CI are challenging and open-ended, without one specific solution. Therefore, students can explore many solutions and examine the solutions from different perspectives based on the various abilities and backgrounds of the team members (Sharan, 2015). For EFL/ESL instruction, CI can be applied to teach all the language skills and “is not designed to suit any particular type of knowledge or skills apart from social interaction and group participation” (Shaaban & Ghaith, 2005, p. 19).

### **2.7.8 Team Accelerated Instruction (TAI)**

This method is the combination of cooperative learning and individualised instruction, which is specially designed to teach mathematics to students in Grades 3-6 or older. Therefore, this method is not directly relevant to EFL/ESL instruction.

### **2.7.9 Cooperative Learning Structures (CLS)**

CLS is the combination of various methods called ‘structures’ that are used to organise communicative class activities and manage classroom interactions. According to Kagan (1985), the developer, a structure is an instructional strategy describing how teachers and students interact with curriculum that is content-free and repeatable. The structures can be repeated in different curriculum to create new learning experiences. There are about 150 Kagan’s structures, such as Numbered Heads Together, Round Robin, Mixer Review, Talking Tokens, Quiz Quiz Trade and Rally Coach. The structures have different forms



and functions from supporting class building, mastering difficult content and fostering higher-order thinking skills to encourage communication skills. The structures can be integrated to any lesson at any point to create greater student motivation, engagement, achievement and effective classroom management (Davoudi & Mahinpo, 2012). In the context of EFL/ESL instruction, CLS methods can be used to brainstorm a writing task, as a pre-reading technique, to learn words and spellings, to facilitate group discussions, to help students engage in dialogues and many other purposes (Haidari, 2013). Moreover, CLS can be used to organise accountable talks ensuring that all students have equal opportunity to participate and practice the language (Shaaban & Ghaith, 2005).

#### **2.7.10 Cooperative Integrated Reading and Composition (CIRC)**

This is a comprehensive programme designed for teaching reading, writing and language arts in the upper elementary grades. In CIRC, teachers use reading texts and reading groups similar to traditional reading activities. Students are assigned to teams and work cooperatively in pairs including reading to one another, making predictions, summarising stories to one another, writing responses to stories, and practicing spelling, decoding and vocabulary. In general, students work in teams to master the main idea of the readings and other comprehension skills. Moreover, in language arts lessons, students are involved in activities such as writing drafts, revising and editing one another's work and finalising team books. Hence, CIRC is appropriate to teach reading and writing skills through reading and process writing workshops.

### **2.8 Cooperative learning and achievement**

The effectiveness of cooperative learning on student achievement as an instructional method has been well established. Slavin (1983) compares 46 studies of cooperative learning methods on student achievement using three criteria: having comparators of initially equivalent control groups, taking places in normal elementary or secondary classrooms for at least two weeks consisting of ten classes, and fair assessing of learning experience by using individual tests. Twenty-nine (63%) studies found significant positive effects of cooperative learning methods, 15 (33%) found no differences and 2 studies (4%) showed significantly higher achievement in a control group than in one receiving cooperative experience. Each study was different in terms of cooperative incentive structures and cooperative task structure. Cooperative incentive structures involve group reward for individual learning, group reward for group product or only individual reward,

while cooperative task structures are concerned with group study with no task specialisation and with task specialisation. Slavin (1983) concluded that the use of cooperative learning methods can help improve student achievement as long as group rewards from assessing individual learning and high individual accountability are applied.

Johnson and Johnson (2002) reported a meta-analysis of 62% of 117 studies using the Learning Together method on student achievement. They found strong evidence that this method tended to enhance student achievement. When comparing Learning Together with competitive learning, it holds an effect size of 0.07, while Learning Together with individualistic learning yields an effect size of 0.91, which shows that the Learning Together method has a strong impact on student achievement.

In 2009, Johnson and Johnson reviewed studies of social interdependence on achievement over the previous 110 years and found that cooperative experiences promote higher achievement when compared with competitive learning (effect size = +0.67); similarly, with individualistic learning the effect size was 0.64. Not only do cooperative strategies enhance students' academic achievement, they also "positively relate to emotional maturity, well-adjusted social relations, strong personal identity, ability to cope with diversity, social competencies, basic trust and optimism about people, self-confidence, independence and autonomy, higher self-esteem, increased perspective taking skills" (Johnson & Johnson, 2009, p. 372). When comparing cooperative learning to competitive and individualistic learning, cooperative learning suggests greater retention of academic contents, more positive feelings towards their peers and the subjects and greater academic self-esteem (Johnson & Johnson, 2008).

Furthermore, Johnson and Johnson (2014) reviewed 685 studies over the past 195 years of cooperative, competitive and individualistic efforts on productivity and achievement. They found a strong relationship between social interdependence and achievement, which is shown in the effect sizes suggesting that students working together to attain a group goal gain higher achievement and greater productivity than working competitively or individualistically (Johnson & Johnson, 2014). The results also revealed that cooperative learning led to a higher level of reasoning, more frequent in generating of ideas and solutions, and transferring what is learned to other situations than did competitive and individualistic learning (Johnson & Johnson, 2014).

Since cooperative learning is one of the most extensively researched and broadly used in classrooms, and with its promising results related to students achievement, it has always been applied in twenty-first century educational practice (Johnson & Johnson, 2014; Slavin et al., 2001).

## **2.9 Cooperative learning in EFL/ESL classrooms**

Cooperative learning in the foreign language classroom is referred to as Cooperative Language Learning (CLL) and is viewed as a student-centered approach that promotes communicative interactions in the classroom (Richards & Rodgers, 2001). Cooperative learning that emphasises learning through interactions and communication in small groups shares several characteristics of Communicative Language Teaching (CLT), which highlights communicative competence as the ultimate goal of language teaching and learning. Richard and Rodgers (2001) described that to learn the language is to learn to communicate, so in order to communicate, learners need their friends or classmates to practice using the target language. Language is best learned through “the process of struggling to communicate” (Richards & Rodgers, 2001, p. 156).

Even though Stephen Krashen, who established the  $i+1$  theory of comprehensible input in second language acquisition (language which is learnt is a little beyond what the learner already has acquired), he did not reconcile on the influential role of interaction in second language acquisition. Students may use incorrect forms of second language with each other; however, the Natural Approach to language learning counters that if those second language forms learners use to communicate are comprehensible, they appear to do more good than harm as long as they are not only input the learners are exposed to (Jacobs & McCafferty, 2006). Those can be examples of  $i+1$  for many learners. While researchers and educators who advocate the interaction hypothesis of language learning highlight the role of learners in social interaction, they support the importance of language for communication and the learner acquires the second language through the ‘negotiation for meaning’. The ways learners negotiate meaning involve interlocutors asking for repetition or clarification or speakers checking for understanding. Moreover, Swain (1985, as cited in Jacob & McCafferty, 2006) proposed the output hypothesis and asserted that “comprehensible input is a necessary but not sufficient condition for second language acquisition” (p. 20). Therefore, language as sociolinguistic competence developed in the context of the

functions in which it is used, situations needed to be organised for learners to practice the language with various purposes and various people.

Implementation of cooperative learning in foreign/second language classrooms is believed to benefit students academically, socially and emotionally. It offers students opportunities to increase target language use (Haidari, 2013; Jacobs & McCafferty, 2006; Lucha et al., 2015; Marzban & Alinejad, 2014; Nan, 2014; Richards & Rodgers, 2001), enhance academic achievement in general (Maden, 2011; Marzban & Alinejad, 2014; Nan, 2014), develop communication strategies through socially interactive pair and group activities, which fosters naturalistic second language acquisition (Richards & Rodgers, 2001), and improve their English language proficiency (Azizinezhad et al., 2013; Fekri, 2016; Nan, 2014; Saltymakov & Frantczuskaia, 2015). Cooperative learning classrooms help build effective interaction and co-operation (Maden, 2011), reduce stress by promoting a positive and supportive classroom atmosphere (Azizinezhad et al., 2013; Er & Aksu Ataç, 2014; Lucha et al., 2015; Marzban & Alinejad, 2014; Nan, 2014; Richards & Rodgers, 2001; Wichadee & Orawiwatnakul, 2012), encourage students to take a more active role in their learning process (Maden, 2011; Marzban & Alinejad, 2014; Nan, 2014), and increase their participation (Saltymakov & Frantczuskaia, 2015). In addition, it helps build and enhance student motivation (Azizinezhad et al., 2013; Er & Aksu Ataç, 2014; Saltymakov & Frantczuskaia, 2015), increase self-confidence and (Lucha et al., 2015; Maden, 2011; Marzban & Alinejad, 2014; Nan, 2014), self-efficacy (Araban et al., 2012), and decrease learners' foreign language anxiety (Haidari, 2013; Marzban & Alinejad, 2014; Nan, 2014). Students also take more individual responsibility during the study (Er & Aksu Ataç, 2014; Maden, 2011).

When students of similar ages and academic levels interact with each other using the target language, language acquisition is simplified. Speakers will adjust their speech to the appropriate level for the listeners to negotiate meaning (Kagan, 1995). Native speakers or non-native speakers who are more proficient modify their speech in various of ways to make the language input comprehensible for listeners, including clarification requests, confirmation checks, comprehension checks, repetition and rephrasing of their own and interlocutors' speech (Long & Porter, 1985). Maden (2011) asserted that cooperative learning is one of the primary instructional techniques applied in teaching language.

According to Brown (2001), cooperative learning or group work offers four major advantages for English language classrooms; group work 1) generates interactive language, 2) offers an embracing affective climate, 3) promotes learner responsibility and autonomy and 4) is a step toward individualizing instruction. Instead of whole-class discussion and large classes, which reduce students' chances to use the target language, group work increases individual practice time, offers opportunities for students to initiate speech, use face-to-face, give and take interactions, practice negotiating meaning, and it can be expanded to authentic conversational exchanges (Brown, 2001).

In addition, Brown (2001), the author of *Teaching by Principles: An Interactive Approach to Language Pedagogy*, recommends an article, 'Group Work, Interlanguage Talk, and Second Language Acquisition' by Long and Porter (1985) and asserts that "this article is a 'must' for teachers wishing to understand the importance of group work in second language classroom" (Brown, 2001, p. 191). In this article, Long and Porter (1985) reviewed the research involving the effectiveness of group work in second language classrooms and attempts to persuade teachers to apply interactive small group work. They investigated several pedagogical arguments or claims about using group work in second language learning and found that group work 1) increases language practice opportunities, 2) improves the quality of student talk, 3) helps individual instruction, 4) promotes a positive affective climate and 5) motivates learners. More details are as follows.

First, to increase language practice, Long and Porter (1985) proposed that in typical teacher-centred EFL classrooms with lecture-based instruction, in a 50-minute period of 30 students, an average of 30 seconds was given for each student to speak. If students work in groups of three, at least three students talk at the same time, individual practice time will increase from one hour per student per year to about five and a half hours. The quantity of student talk increases over 500 percent.

Second, in order to improve the quality of student talk, "face-to-face communication in a small group is a natural setting for conversation" (Long & Porter, 1985, p. 209). Students need this kind of conversational skill outside the classroom in the real world where communicative competence is more emphasised than accuracy. Working in small groups, students can practice discourse competence, develop conversational skills such as topic-domination, turn-allocation, focusing, summarising and clarifying, and exercise the

information exchange skills needed outside the classrooms when engaging in problem-solving activities.

Third, small group works helps individualise instruction in terms of students' needs and individual differences in the second language classroom, such as students' age, cognitive/developmental stage, gender, attitude, motivation, aptitude, personality, interests, cognitive style, cultural background, native language, prior language learning experience and target language needs. Even though small group work cannot deal with all these differences and needs, it can help when students in small group working with different sets of materials to suit their needs. Group work "is the first step toward individualisation of instruction" (Long & Porter, 1985, p. 211). Next, to promote a positive affective climate, a small group of peers working together offers an intimate, safe and supportive environment for student interaction to develop and support second language acquisition. Last, in order to motivate learners, small group work provides not only greater quantity but also variety in language practice. Students practice the language in more personalised way that matches their individual needs in a more positive and supportive affective climate. Students engage more in lessons and more at the personal level; hence, group work motivates classroom learners (Long & Porter, 1985).

Long and Porter (1985) concluded that small group work provides more opportunities, more variety and more negotiation (conversational adjustment) for individual language practice than traditional teacher-centred, whole-class instruction. However, many teachers might be concerned about the accuracy of the language as well as errors that occur during students interaction; the level of accuracy in unsupervised groups has been found to be as high as in teacher-monitored, whole class work (Brown, 2001; Long & Porter, 1985). For student errors, in the CLT approach, errors are considered a part of language development through trial and error (Richards & Rodgers, 2001) and in interactive language teaching through group work, errors are necessary for inter-language development (Brown, 2001).

In addition, Long and Porter (1985) also found that "student with mixed second language proficiencies tend to obtain more practice in negotiation than same-proficiency dyads" (p. 223). In other words, students working in mixed-ability groups gain more opportunities in terms of second language practice to negotiate meanings. Similarly, greater amounts of negotiation occur in groups of students with mixed native language backgrounds as well as

in groups of students with the same first language backgrounds but slightly better in mixed language groups (Long & Porter, 1985). Last, task type is also important; two-way tasks, that is, “one requiring information exchange by both or all parties” (Long & Porter, 1985, p. 222) obtain significantly more talk, negotiation work, comprehensible input than one-way tasks do. Therefore, to be highly beneficial to students, there should be the use of both small-group work techniques (as well as pair work) with two-way tasks (Long & Porter, 1985).

However, a few studies revealed some limitations from teachers’ perspectives in implementing cooperative learning in English language classrooms. Mohammad (2018) pointed out some possible limitations, such as conflicts between teammates, uneven workload and assignment and challenges of classroom management. When conflicts occur, the groups may reduce their ability to work together if they cannot be reconciled among the teammates. Uneven workload may lead to a dominance issue where high-ability students may do all the work to gain better scores and save time and ignore the needs of the low-ability students. The challenge for teachers occurs because when students work together, they need to talk to each other; this may lead to off-topic chatters and confusion. Hence, generally, organising cooperative learning lessons requires a skillful instructor (Mohammad, 2018). In addition, it can be time-consuming for both teachers and students. Teachers must plan and prepare the content and material, and organise lessons in cooperative ways, while students need to learn the material in cooperative ways (Azizinezhad et al., 2013; Wichadee & Orawiwatnakul, 2012).

In contrast, Fauziningrum (2012) claimed that cooperative learning methods saved significant time and energy for teachers in dealing with students in groups instead of individually. Wichadee and Orawiwatnakul (2012), who applied several cooperative learning activities in EFL classrooms in Thailand, asserted that in order to ensure that meaningful learning processes occur, the cooperative lessons in English need to be well planned. They also reported other barriers to cooperative classroom. The classroom arrangement with unmovable tables and chairs makes it difficult to organise cooperative classroom activities. Moreover, students often do not receive a clear explanation of what they are supposed to do and/or the objective and purpose of cooperative learning. Students sit together as a group, but they do not work cooperatively. Last, Thai students are shy

about speaking English to their friends; however, they should be encouraged to interact and practice the target language.

## **2.10 Cooperative learning and attitudes and perceptions**

Several studies investigated the effectiveness of cooperative learning methods while examining the attitudes and perceptions of cooperative learning from either teachers' or students' points of view or even both (Armstrong & Palmer, 1998; G. Ghaith, 2004; Tarim & Akdeniz, 2008; Van Wyk, 2012). It is necessary to identify and recognise the attitudes and perceptions of students and instructors towards cooperative learning in order to help evaluate whether cooperative learning is beneficial in terms of affective factors such as enjoyment or boredom.

### **2.10.1 Students' attitude towards cooperative learning**

Felder and Brent (1996) indicated that the proper use of cooperative (team-based) learning can “enhances motivation to learn, retention of knowledge, depth of understanding, and appreciation of the subject being taught” (p. 43). Similarly, Johnson and Johnson (2009) stated that when compared to competitive and individual learning, cooperative learning “tends to promote greater long-term retention, higher intrinsic motivation and expectations for success, more creative thinking, greater transfer of learning, and more positive attitudes toward the task and school” (p. 371). Student attitudes and perceptions can be a motivator as well as a barrier to their learning process. Especially in university classes, students may expect to be exposed to lecture-based format and passive note taking. According to Jones (1984, as cited in Lucha et al., 2015), student learning is related to their attitudes. Thus, what it is learned may depend on the attitude of the learner. Similarly, for language learners, student perceptions about effective language learning tended to lead their actions both consciously and unconsciously, which influenced their positive reaction or resistance towards teaching activities (Tudor, 1986, as cited in Kourieos & Evripodou, 2013). In addition, studies found that students dislike or do not favour working in groups because of their unpleasant past experiences of having free-riders in groups (Chiriac, 2014; Pfaff & Huddleston, 2003). Moreover, students with different learning goals or expectations (i.e. different grade expectations) also can dampen involvement in the class's activities resulting in hindering the learning process (Richard M. Felder & Brent, 1996). These factors may affect how students perceive cooperative learning as ineffective or unsuccessful, regardless the solid research evidences that has supported the efficacy of this method.



Numerous studies have investigated the effect of cooperative learning on students' attitudes towards various subject areas reporting positive results towards cooperative learning (Amedu & Gudi, 2017; Erdem, 2009; Nausheen et al., 2013; Reda, 2015; Veenman et al., 2002). Other studies focused on English language classrooms where positive attitudes were also found (Ali, 2017; Er & Aksu Ataç, 2014; Farzaneh & Nejadansari, 2014; Hidayati et al., 2018; Lucha et al., 2015; Mohammad, 2018).

Pfaff and Huddleston (2003) examined the factors affecting undergraduate students' attitudes towards working in teams. They found the relevance of attitude and learning in teams to be: "positive experiences may reduce the chance of interpersonal conflict within teams and create a more conducive learning environment" (Pfaff & Huddleston, 2003, p. 39). The study found several factors attributing to student attitudes towards teamwork: grade received in the course, amount of class time dedicated to group work, number of assignments work as a team, use of peer evaluation and dealing with free-rider problem. These factors need to be considered if any instructor would like to apply cooperative learning or group work in their classes. For language classes, Farzaneh and Nejadansari (2014) suggested that students' positive attitudes towards cooperative learning may indirectly shift their attitude towards language learning, which may motivate their interests.

A study by Chiriac (2014) investigated 210 students' perceptions, both positive and negative, of group learning in higher education in Sweden. The study examined how university students assessed their learning and what was important for group work to be successfully in higher education. Three abstractions (learning, study-social function and organisation) were reported to facilitate or hinder university students' learning in groups. For learning abstraction, in discussions with peers with different points of views, students experienced enhancement in their academic learning. The majority of the students (97%) stated that working in groups facilitated their learning, either their knowledge, collaborative ability or both. It was noted that academic knowledge was not the only type of knowledge learned from group work (Chiriac, 2014). However, the respondents reported that loss of focus and the presence of conflict could be reasons for ineffective group work. Regarding the study-social function, being a member of a group gave students a sense of belonging and relief, both academically and socially, creating a positive atmosphere in the group, which increased their motivation to learn. On the other hand, negative group climate, insufficient communication and unclear roles might obstruct learning. The last abstraction

is organisation, which involved group composition and group structure, ways of working and the contributions made. This is important to highlight that group size and mix of members is essential for the group success. One of the vital factors behind successful group work is the contributions of all members, but the content contributed might be different depending on each member's ability. In contrast, the study stated that a group that is too small or homogeneous might be negative in terms of heavy workload or lack of various opinions to complete the tasks. Lack of group structure, inadequate ways of working, insufficient member contribution might also lead to a negative experience and affect learning.

Likewise, Gottschall and Garcia-Bayonas (2008) also studied undergraduate students' attitudes towards group work but from different majors (mathematics, education and business administration). The study reported that students showed both positive and negative experiences of group work and were similar across the three majors. On the other hand, students from education had more positive attitudes compared to the other two majors. The top two positive aspects of group work were 'can generate more ideas' and 'learn how to work with others'. For negative aspects, the highest score was on the difficulty to find time outside class to work with their groups because some students had part-time jobs. The other negative aspect was on the problem of free-riders. The study concluded that students' attitude towards group work varied in terms of pedagogy of each discipline, instructors' teaching styles and the culture of the department. Moreover, the study also suggested that positive aspects of group work should not outweigh the negative ones. Group work will be used in higher education continuously; nevertheless, according to this study, improvement is needed in order to provide better experiences and benefits for students (Gottschall & Garcia-Bayonas, 2008).

Apart from the benefits of cooperative learning that research has documented, Lucha, Gameda and Jirenya (2015) reported several potential barriers affecting unfavourable attitudes towards cooperative learning. These factors can demotivate and hinder the active participation of students from learning cooperatively, especially in EFL classes. These include students' unfamiliarity of cooperative learning, lack of sufficient heterogeneity, insufficient monitoring and intervening to provide assistance, lack of assessing students' learning and feedback from teachers and seating arrangement. Often students are unfamiliar with cooperative learning and teachers are unable to demonstrate or ensure the objectives,

benefits or structures of cooperative lessons. Students may feel confused and perceive that cooperative learning is time consuming, especially at the beginning when cooperative learning is new for both students and teachers. The classes may become uncontrolled and boring. The study also indicated that especially in English language classrooms, students' language proficiency (prior knowledge of English) that hinders interaction in the target language can be one of the problems (Lucha et al., 2015).

For English language classes, Er and Aksu Ataç (2014) examined English language students' attitude towards cooperative learning among 166 university students. The study revealed that 92.2% mentioned that cooperative learning classes enhanced positive relationships among friends; 66.9% favoured the use of cooperative learning, while 33.1% enjoyed working alone. The finding from the focus group study reported that students stated both positive and negative viewpoints of cooperative learning. It was also found that female students tended to be convinced by cooperative learning while male students favoured individual learning (Er & Aksu Ataç, 2014). The negative aspects of cooperative learning were mentioned as group organisation, distribution of task carefully and equally and physical conditions, such as inappropriate desks. Most of the negative views of cooperative learning were stated by male students (Er & Aksu Ataç, 2014). Similarly, Ali (2017) found that female students had better attitudes towards cooperative learning in English writing class when compared to male students. Reda (2015) confirmed that university students who are female from psychology department demonstrated positive attitudes towards cooperative learning than male students. However, others studies (Haidari, 2013; Nausheen et al., 2013) documented no differences of attitudes between male and female students; Nausheen, Alvi, Munir and Anwar (2013) found that female students were more pleased with personal support they gave and received when working in groups. Females tended to be more oriented toward connection, relatedness and affiliation with others (Beer & Darkenwald, 1989; Ellison & Boykin, 1994, as cited in Er & Aksu Ataç, 2014; Fultz & Herzog, 1991; Rodger et al., 2007). Female students tended to be more satisfied with cooperative learning than male students.

In contrast, Lucha, Gameda and Jirenya (2015) reported several students' negative attitudes towards cooperative learning activities in English language classes, especially low achievers. High achievers showed familiarity with group interaction towards learning the language and also had positive attitudes. Accordingly, Reda (2015) affirmed that low

achievers indicated more positive attitudes than the medium achievers and the medium achievers more than the high achievers. High achievers perceived that they did not receive any benefit from lower achievers.

### **2.10.2 Teachers' attitude towards cooperative learning**

In order to support the application of cooperative learning and achieve as the promising results claimed, not only do student perceptions and attitudes need attention, teachers' views of cooperative learning also need to be examined. Students' negative attitudes and perceptions towards any learning methods occurring in their class may negatively impact the course in general as well as the instructor's evaluation at the end of the course. Students' concerns will later affect instructor concerns, which will then become faculty or administrators' concerns. Pfaff and Huddleston (2003) asserted that "positive student teamwork experiences can be fostered by instructors who are willing to tend to student needs and interests so as to carefully situate group work in their course and to monitor group dynamics and student attitudes" (Pfaff & Huddleston, 2003, p. 44). Students' positive attitudes towards teamwork experiences can be provided by instructors who carefully consider student needs and interests while monitoring group dynamics and students' attitudes.

Various studies have attempted to identify teachers' attitudes towards cooperative learning reporting with positive findings to favour the use of cooperative learning (Alias et al., 2018; Burgić et al., 2017; Haidari, 2013; Saborit et al., 2016; Taufik & Maat, 2017). When teachers have a positive attitude towards cooperative learning, they are confident and make an effort to practice it. Teachers play a crucial role in ensuring that cooperative learning methods can be properly, successfully and effectively implemented (Alias et al., 2018; Saborit et al., 2016). It is important for the teachers to realise that "the good quality of the implementation should come from the teachers who have positive perception and strong awareness about the benefit if cooperative learning" (Alias et al., 2018, p. 1).

There have been several studies describing teachers' negative attitudes towards cooperative learning, which is an important barrier for its implementation (Alias et al., 2018; Burgić et al., 2017; Thanh, 2011). Alias et al. (2018) investigated teachers' perceptions towards cooperative learning in Malaysia and reported that generally teachers perceived cooperative learning as a very effective practice in classes in terms of learning attraction, social benefits

and cognitive benefits. However, the study also revealed a number of barriers in its implementation including classroom control, time constraints and limited teaching aids. Teachers indicated that cooperative learning required more control over the class. For the time limitation, the problem of content coverage in the subject syllabus that needed to be covered in each term were not concordant with amount of class time. They also mentioned the lack of preparation and time required for cooperative learning activities. Last, there were insufficient teaching aids supported from the school for applying cooperative lessons. This study concluded that in order to efficiently implement cooperative learning, a strong commitment from teachers is required. Even though, teachers perceived cooperative learning as positive, this method requires more time in preparing materials, designing lessons and organising class activities when compared to traditional teaching methods, especially for teachers who are unfamiliar or inexperienced. Thus, the beneficial and promising evidences should not be neglected. It was similar with the studies by Burgic, Omerovic and Kamber (2017) and Thanh (2011) in which generally, teachers showed positive attitudes towards the application of cooperative learning. Nevertheless, they indicated similar limitations and difficulties in terms of its application; again, they were lack of materials, large amounts of time in preparing and organisation of lessons, inappropriate classroom space, limited technological support and too many students in one class. Thanh (2011) conducted a study in Vietnam and added some local barriers of cooperative learning application. First, there was a noise problem because of the large size classes in university classes in Vietnam that included around 60-70 students and could even be as many as 100 students in one class. The other problem was the group working culture in Asian countries, which perceives that the harmonious atmosphere is considered effective group work; therefore, some students were reluctant to initiate their comments or opinions (Thanh, 2011).

Furthermore, Saborit et al. (2016) examined 990 teachers in Spain regarding their attitudes and perceptions related to the implementation of cooperative learning in a training programme. They found that generally teachers indicated positive attitudes towards cooperative learning after training. However, younger teachers tended to be more willing to apply cooperative learning in their classes than older teachers. Teachers with limited knowledge on cooperative learning expressed negative attitudes, while teachers familiar with cooperative learning were able to suggest students with positive manners. The study by Veenman et al. (2002) also demonstrated several limitations regarding why many

experienced teachers were reluctant to apply cooperative learning in their classrooms due to the lack of training and positive experiences with the methods. These limitations were loss of control, lack of confidence, fear of the loss of content coverage, fear of unequal distributions by students and lack of familiarity with the cooperative learning.

These studies asserted that teacher training is highly important in cooperative learning implementation than the teachers' content knowledge or educational status; even the age of the students will not be a problem in its implementation. This is accordant with many studies that highlighted the vital role of teacher training on the proper implementation of cooperative learning (Haidari, 2013; Reda, 2015; Veenman et al., 2002). Similarly, Haidari (2013) examined English teachers' perceptions to cooperative learning and found that teachers do not truly and properly understand cooperative learning. They mainly thought that any group activity constitutes cooperative learning. In addition, female teachers showed a more positive attitude than male teachers. The study emphasised on the importance of teacher education in order to ensure proper implementation of cooperative learning. The improper application of cooperative learning activities may lead to ineffective achievement caused from teachers' insufficient cooperative learning knowledge and their unfamiliarity to cooperative learning methods (Haidari, 2013).

In conclusion, regarding students' and teachers' attitudes, there are both positive and negative aspects of the implementation of cooperative learning. Numerous studies have provided positive support towards the use of cooperative learning in classrooms. Nevertheless, there are factors that need attention in order to delivery lessons in cooperative ways to support students' academic achievement and positive attitudes which can be factors determining their academic achievement. Teachers/instructors who are interested in applying cooperative learning take a crucial role in its proper and successful implementation and in fostering students' positive attitudes. Their roles as facilitators and monitors in cooperative classes are carefully distributing tasks in terms of amount of the task and the time students spend working in groups, assigning students to groups sensibly to avoid damaging their creativity and motivation, assisting when students need help, intervening when necessary and monitoring the group dynamic and student attitudes.

## 2.11 Summary

The purpose of this chapter was to provide a background for cooperative learning in general and its relationship to achievement, especially in EFL/ESL classrooms. Cooperative learning, which requires students working together in a small group to help and support each other, has a long history of development. There are four main foundational perspectives: social psychology, developmental, cognitive and motivational. According to Johnson and Johnson (2014), there are five basic elements for small-group learning to be cooperative: positive interdependence, individual accountability, face-to-face promotive interaction, social skills and group skills. There are several cooperative learning methods designed to structure group activities, so every individual member in the group can participate, contribute and benefit.

Research on cooperative learning has shown the benefit of its implementation. With the application of cooperative learning methods in EFL/ESL classes, students are offered opportunities to increase their use of the target language. Socially interactive pair and group activities help students in their development of communication strategies and improves academic achievement in general. It is believed to enhance students academically, socially and emotionally. Cooperative learning provides more opportunities, more variety and more negotiation for individual language practice than traditional teacher-centred and whole-class instruction. In terms of students' attitudes and perceptions towards cooperative learning, most participants from these previous studies reveal positive feedbacks and comments. This may indirectly shift their overall attitude towards language learning, which may then motivate their interests.

However, potential barriers affecting unfavourable attitudes, such as unfamiliarity of cooperative learning, lack of sufficient heterogeneity in the group, insufficient monitoring and intervention to provide assistance and seating arrangements were also found. Since teachers play a key role in ensuring proper implementation of cooperative learning, their attitudes and perceptions towards cooperative learning cannot be neglected. Most of teachers in the reviewed studies reported favourable attitudes towards the use of cooperative learning. Again, there are also a number of barriers that impede the successful implementation, that is, classroom control, time constraint, limited teaching aids, inappropriate class spaces, and covering the necessary contents.

The current research investigated the implementation of cooperative learning methods to enhance pre-service teachers' English language achievement in tertiary EFL classes. The Student Teams Achievement Divisions (STAD) method was selected for its adaptability to the foreign language subject area, especially English. It is intended to help second language students obtain linguistic knowledge by giving students chances to communicate and negotiate ideas with others in the target language. This can foster deeper understanding of the material and offer a positive impact on learning language skills. Apart from academic achievement in the English language in general, this study examined students' and instructors' attitudes as well as the feasibility of cooperative learning in tertiary EFL classes.

In order to implement cooperative learning methods to enhance students' English achievement, it is essential to thoroughly discuss and understand this particular method. The next chapter will explain the STAD method, stages, implementation process and a discussion of related studies in EFL/ESL classrooms.



### **CHAPTER 3**

#### **THE INTERVENTION METHOD**

As a pedagogical practice, cooperative learning has been thoroughly researched (Johnson & Johnson, 2009; Sharan, 2014). Of the several cooperative learning methods, all have been designed to structure group activity so every individual member can participate, contribute and benefit.

Sharan (2014) suggested various questions to consider before applying any cooperative learning method or model to the classroom.

- Which method, model or procedure is best suited to the content to be learned?
- Which social and learning skills are required? Have the students been prepared to work together and study in groups as called for by the method or model?
- Is the model suited to the students' ages?
- How ready are the students to assume responsibility for their own learning?
- How ready is the teacher to offer as much or as little structure and direction as the implementation of a specific procedure requires?
- How much time is available for the implementation of the model or procedure?
- How are groups formed?
- What is the optimum group size?
- Are there elements of the cooperative learning method, model or procedure that may conflict with local cultural norms?
- What kinds of rewards, if any, are recommended: that is, will the grades be individual or group?

Slavin (1983, 1988) points out that not all cooperative learning methods are effective in producing higher achievement. The two essential elements that must be considered when adopting cooperative learning method and achievement impact is the primary goal are group goals or rewards and individual accountability (Macpherson, 2015; Slavin, 1983, 1988). Moreover, Slavin (1988) also suggested the research on the effectiveness of cooperative learning needs to be taken into consideration if schools or teachers would like to apply cooperative learning methods. How the small group is structured will determine how effectively the group performs (Johnson & Johnson, 1999; Johnson & Johnson, 2008). The recommended group size for effective learning is four (Macpherson, 2015). If pair

work is needed, for example, in an informal cooperative learning activity, it is convenient to break down a group of four into two pairs.

As mentioned in the introduction, the current study applied the Student Teams Achievement Division (STAD) (Slavin, 1982) as the main method of the intervention. Therefore, this chapter provides a discussion of the method including its major elements, stages and process of implementation; related studies of STAD in English as a foreign/second language (EFL/ESL) classrooms are also included.

### **3.1 Student Teams Achievement Divisions (STAD)**

STAD is a cooperative learning method developed by Robert E. Slavin (1982) and his colleagues under the Johns Hopkins Team Learning Project, a research and development project for cooperative learning methods, at Johns Hopkins University. All Student Team Learning techniques emphasise three concepts: team rewards, individual accountability and equal opportunities for success (Slavin, 2010a). All students must have an equal opportunity to contribute to their teams and improve their past performance. The vital idea of Student Team Learning is “not to do something together but to learn something as a team” (Slavin, 2010a, p. 2).

In the STAD method, students are assigned by the teacher to a small heterogeneous group of four to five members depending on several factors: mixed academic performance (high, medium and low), different gender, race, or ethnicity (Armstrong & Palmer, 1998; Balfakih, 2003; Slavin, 1986, 1995) in order to work together to achieve shared goals and complete given tasks. Everyone in this structured group is responsible for his/her own learning and also helps, motivates and encourages other group members to learn. Therefore, the primary goal of the group is for every individual to learn the material and make sure that other group members also master the material (Khansir & Alipour, 2015).

STAD is organised under five major components: class presentations, teams, quizzes, individual improvement scores and team recognition (Slavin, 1986, 1995). STAD lessons typically begin with a ***class presentation*** where the teacher presents the concept and the teaching material. This can be in the form of lecture, class discussion or presentation with audio/visual aids. Students need to pay attention to the class presentation to be able to pass a quiz; scores, later, are combined for a team score. Second, the most important component

of STAD is student *teams*, which are consisted of four to five heterogeneous members based on several factors: academic ability, gender, race and ethnicity. Teams offer peer support and encouragement as every student is accountable for the team's success. Next, *individual quizzes* are used to evaluate student achievement and mastery of class content and material. Students take quizzes on their own without any assistance from other team members to assure that every student is responsible for learning the content and material. Later, *individual improvement scores* take role as an achievement goal for each student to encourage them to work harder than they did before. Each student is provided his/her 'base' score, the minimum scores to reach on each quiz. Hence, the individual improvement score is the score that the student surpasses his/her 'base' score, and later is combined with other team members for a team score. In order to help their teams, students need to perform better than they did on the previous quizzes. The fifth component of STAD is *team recognition*, where the team performance and efforts are recognised or rewarded. Team recognition can take different forms depending on the class and the context, but Slavin (1986) reckoned that the teachers' appreciation towards team cooperation and success is the most significant (Slavin, 1986).

Moreover, the STAD method is suggested to be "the simplest of the Student Learning method" (Slavin, 1986, p. 9), "one of the simplest of all cooperative learning methods" (Slavin, 1995, p. 71) and "a good model to begin with for teachers who are new to the cooperative approach" (Slavin, 1995, p. 71; Becker & Watts, 1998, as cited in Van Wyk, 2012). Newman and Thompson (1987, as cited in Armstrong & Palmer, 1998) highlighted that among cooperative learning techniques, STAD was the most successful method to enhance student academic achievement, especially in a subject with clearly stated objectives (Slavin, 2010a). For example, in language art classes, the STAD method has continually shown its effectiveness (Ghaith & Yaghi, 1998). Armstrong and Palmer (1998) also found that STAD was easy to implement, especially in block scheduled classes where the instruction period is lengthy. In addition, this method can be adapted in many subject areas, such as mathematics, science, language arts and foreign language (Slavin, 1986, 2010a), especially in English language classes (Ghaith & Yaghi, 1998). Haidari (2003) stated that STAD was one of the most commonly used by English teachers in Afghanistan. Accordingly, Khan and Akhtar (2017) highly recommended that STAD to be applied to teach English grammar.

Slavin (1986) reported on 21 studies using STAD in regular classrooms at the primary level to investigate the effectiveness of STAD and traditional teaching methods. The review indicated that overall STAD had a positive influence on learning, and only five showed no differences in the subject areas of language arts, mathematics, reading, science and social studies.

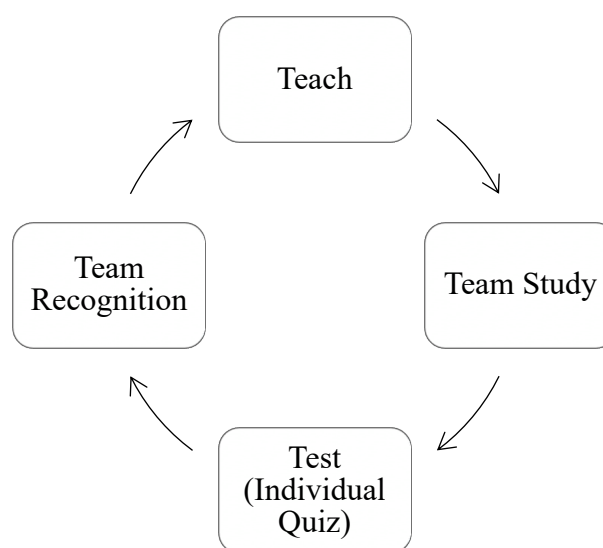
### **3.2 Stages of the STAD method**

According to Slavin (1986), implementation of STAD is based on a regular cycle of instructional stages: teach, team study, test, team recognition (Figure 3.1). For each lesson, the teacher presents a new concept and material, which can be in the forms of lecture, class discussion or presentation (teach stage). After that, all the group members study the material together either in pairs or in group discussions (team study stage). Then the groups need to complete a worksheet given by the teacher as an exercise to practice the presented concept. Students need to be reminded that they are required to master the material, not just answer the worksheet. Each team should receive only two worksheets so that two team members are forced to work together. Later, in order to determine the learning achievement of students, every student has to take quizzes on the concept they learn during class presentation and working in teams (test/individual quiz stage), without any help from other members on the team. The quizzes are checked either by the students in class with the help of teacher by providing an answer key for students to check their own work or by the teacher later after class. The quiz scores are later calculated by the teacher as individual improvement scores by comparing the score of the present quiz with the base score, the minimum score that students need to pass for each quiz. Team scores are calculated by accumulating all group members' improvement scores and dividing by the total number of team members.

Then, the teams earn recognition based on the level that each group member has gained over their past records. Team recognition can be in the form of a weekly newsletter showing the team with highest score and the students with the most improvement scores (Slavin, 1986), a certificate, or be recognised as good, great or super teams (Khan & Akhtar, 2017; Rianawati, 2017; Van Wyk, 2012), or a team success chart placed in the classroom or appearing on a 'Blackboard' (an e-learning management network system) (Van Wyk, 2012). However, the form of team recognition will depend on the teacher and the class depending on which they value as important and acceptable.

Each student is encouraged to do his/her best to show improvement and to earn the highest possible score for their teams. One of the major elements of Student Team Learning is the use of individual improvement scores, which has been shown to help increase in students' academic performance (Slavin, 1980, as cited in Slavin, 1986). When implementing this cooperative learning method, the teachers' role is shifted to facilitator, coach, guide or resource for student learning (Khan & Akhtar, 2017; Slavin, 1986).

Figure 3.1 Stages of the STAD method



### 3.3 STAD implementation process

#### 3.3.1 Assigning students to teams

Slavin (1986, 1995) highly recommends that each learning team be composed of four members unless the class is uneven, in which case remaining students can be added to a four-member team. The students' scores on past performance are ranked from highest to lowest according to the available information, such as test score, grades or teacher judgement. Figure 3.2 can be adapted to help assign students to learning teams. Students without team names (17 and 18) will be the fifth member of the team with consideration of balancing academic performance of every team. The team's name can be changed later depending on the teacher.

Figure 3.2 Assigning students to teams

	Rank Order	Team Name
High-Performing Students	1	A
	2	B
	3	C
	4	D
	5	E
	6	F
	7	G
	8	H
Average-Performing Students	9	H
	10	G
	11	F
	12	E
	13	D
	14	C
	15	B
	16	A
	17	
	18	
	19	A
	20	B
	21	C
	22	D
	23	E
	24	F
	25	G
	26	H
Low-Performing Students	27	H
	28	G
	29	F
	30	E
	31	D
	32	C
	33	B
	34	A

### 3.3.2 Determining initial base scores

When assigning students to a team, the teacher needs to determine an ‘initial base score’ for each student. As mentioned, the base score is the minimum score expected for each

quiz; so, the base score is basically the goal for each student to try to achieve on each 30-question quiz. Each student is informed of his/her initial base score at the beginning of STAD process. For instance, Slavin (1986) suggested that for a 30-items quiz with a class of 25 or more students, the teacher begins by giving the first three high-performing students an initial base score of 20; the next three, 19; the next three, 18; and so on until every student has his/her initial base score. The initial base score only for the beginning of implementing STAD; later, the base score will be adjusted according to students' actual score after every two quizzes. The actual base score will be set approximately five points below the average of the students' past quiz scores. Students' base score should be given to each student in some private ways. Each student should know only his/her own base score but not others. It is suggested that students can learn their base scores from a return quiz or in some other private ways (Slavin, 1991).

### **3.3.3 Calculating team scores**

There are three types of scores the teacher needs to calculate: quiz score, individual improvement score, and team score. First, the quiz score is simply the students' current quiz score, which is necessary to calculate individual improvement score and team score.

Second, the teacher needs to determine the individual improvement score, which is basically the difference between the present quiz score and the base score. It is important to note that this scoring system is based on 30-item quizzes. The individual improvement score ranges between 0 and 10. If an achievement score is more than 10, the maximum a student can get is 10 points. If the student's achievement score is less than zero (i.e. they make negative progress), the lowest score they can get is 0. The reason behind the use of the maximum improvement score is to prevent an unfair limit on achievable scores from students with high performance (Slavin, 1986). There are three reasons why improvement scores are used. First, it is deemed fairer than individual scores alone as it allows all students an equal chance to be academically successful because every student has got his/her minimum score, which he/she needs to pass and this score is set according to his/her past performance. Second, it reaffirms to the students that everyone on the team is important and that everyone can contribute to the success of their team. Third, the improvement score system is considered fair to everyone because basically everyone will be competing against themselves, to be the best they can regardless of the performance of other students in the class (Slavin, 1986). Third, the teacher also needs to calculate a team

score. For the four-member team, the team score needs to be computed by accumulating each team member's improvement score. For the five-member team, the team score should be calculated to be comparable with those of four-member teams. Students' grade will be calculated from the individual quiz and the team score will also be a small part of students' overall grade.

Figure 3.3 is an example of a team summary sheet which is provided for each team to record their students' improvement scores and the team score and to keep track of their teams' ranking. This team summary sheet is adapted from Slavin (1991).

Figure 3.3 Team summary sheet

**Team Summary Sheet**

Team Name: \_\_\_\_\_

Team Members	Student ID	Individual student improvement scores									
		1	2	3	4	5	6	7	8	9	10
Total Team Score											
Transformed Team Score (For 5 members)											
Average Team Score											
Team Standing for Each Quiz											

In the first row, there are team members' names, student ID and individual student improvement scores (from base score). In the numbers 1 to 10 indicate the Quiz number. Number 1 is the first quiz students take and number 2 is the second quiz and so on. The Total Team Score is the total individual student improvement scores from all team members. The Transformed Team Score is for some groups that have five rather than four



members, the average score for the team is calculated. The teams are then ranked in using the average team scores. The team with the highest average score is ranked first and so on.

### **3.3.4 Recomputing students' base scores**

Theoretically, after two quizzes, the teacher will need to recompute a new base score for each student in order to encourage students to do better and to adjust the base score to a more accurate level. Some students' base scores might be too high or too low. When applying the 'Calculating New Base Scores' table suggested by Slavin, 1986 (see Appendix 1), on the left column is the sum of the quiz scores from the last two quizzes and on the top row is the old base score. Then follow the row and the column to find the intersection point, which will be the student's new base score. If the student misses one of the quizzes, the teacher just doubles the existing quiz score. However, if any students miss both quizzes, his/her old base score will remain the same. It should be noted that the students should know only their own base score but not other students' scores. The teacher should convey each student's base score to them confidentially.

### **3.3.5 Team reconstructing**

After six or seven weeks of adapting STAD, reconstructing the team membership is recommended. By changing student-learning team, low-achieving students are offered a new chance, students are provided opportunities to work with new classmates and a new class environment is created.

## **3.4 Related studies on STAD in EFL/ESL classrooms**

According to Jolliffe (2007), a large number of studies on cooperative learning have revealed three main categories of advantages: academic achievement, interpersonal relationships, and psychological health and social competence. Similarly, various research studies applying STAD as an alternative instruction method to teach English in foreign and second language classrooms have been suggested with successful results academically, socially and psychologically.

STAD is believed to allow equal achievement to all learners with the team recognition element, which depends on the success of the whole group (Khan & Akhtar, 2017) especially, in terms of improving students' English achievement (Al-Zu'bi & Kitishat, 2013; Alijanian, 2012; Anwer et al., 2018; Araban et al., 2012; Glomo-Narzoles, 2015;

Jalilifar, 2010; Khan & Akhtar, 2017; Khansir & Alipour, 2015; Kurniawan et al., 2017; Motaei, 2014; Mudofir, 2017; Munir et al., 2017; Nikou et al., 2014; Ritonga et al., 2016; Saniei & Ghadikolaei, 2015; Slavin & Oickle, 1981; Syafiq & Rahmawati, 2017; Upa & Ridho, 2019).

To be more specific, in many English language learning classes, several researchers found that STAD outperformed traditional methods such as Grammar Translation Method (GTM), Audio-Lingual Method (ALM), isolated learning context, lecture-based instruction, individualistic instructional approach and teacher-centred classrooms in terms of English achievement (Alijanian, 2012; Motaei, 2014; Nikou et al., 2014; Slavin & Oickle, 1981), listening comprehension (Khansir & Alipour, 2015), English grammar (Anwer et al., 2018; G. M. Ghaith & Yaghi, 1998; Khan & Akhtar, 2017; Motaei, 2014; Saniei & Ghadikolaei, 2015), reading comprehension (Al-Zu'bi & Kitishat, 2013; Jalilifar, 2010; Sunarti & Rachman, 2018; Syafiq & Rahmawati, 2017), English vocabulary (Motaei, 2014), English speaking ability (Mudofir, 2017) and English communication skills (Glomo-Narzoles, 2015). When compared to other cooperative learning methods, STAD also manifests better academic achievement in terms of reading comprehension (Chotimah & Rukmini, 2017; Jalilifar, 2010) and English achievement (Munir et al., 2017). Even for students with different levels of motivation, STAD is a more effective teaching method (Chotimah & Rukmini, 2017) compared to other methods of cooperative learning, namely Group Investigation (GI).

STAD helps second language students to obtain linguistic knowledge (Ghaith & Yaghi, 1998; Syafiq & Rahmawati, 2017) by giving them opportunities to communicate and negotiate ideas with others in target language (Khansir & Alipour, 2015; Kurniawan et al., 2017; S Wichadee, 2005) resulting in positive impact on learning language skills (Jalilifar, 2010; Kurniawan et al., 2017; Sunarti & Rachman, 2018; S Wichadee, 2005). Furthermore, STAD offers 'positive interdependence' as peer support and encouragement between all group members (Alijanian, 2012; Ghaith, 2004; Jalilifar, 2010), which can foster deeper understanding of the material (Jalilifar, 2010; Motaei, 2014; Saniei & Ghadikolaei, 2015; Sunarti & Rachman, 2018) through clarification, elaboration and mental interpretation (Saniei & Ghadikolaei, 2015).

Several studies (Jalilifar, 2010; Khan & Akhtar, 2017; Macpherson, 2015; Saniei & Ghadikolaei, 2015) revealed that the effectiveness of STAD for students' academic achievement can be attributed to the team rewards, that is, the sum of individual students' performances. These findings support Slavin's (1983, 1988) notion that individual accountability is one of the essential elements for cooperative learning to produce higher achievement. Also, the retention of material was better when students worked as a team (Fauziningrum, 2012).

Alijanian (2012) found that students exposed to STAD showed higher gain in their English achievement when compared to students who learned English with traditional methods, which consists mainly of the GTM, some of the ALMs and other isolated learning contexts. The study revealed three possible reasons to support the significant gains, which seem to facilitate the participants' academic achievement:

- 1) the expansion of engagement of students in the lesson through comprehensible input, interaction, and output,
- 2) the stimulating patterns of positive reinforcement and
- 3) the complementary communicatory learning context. (Alijanian, 2012, p. 1974)

Similarly, there are studies (Araban et al., 2012; Ghaith & Yaghi, 1998) that found cooperative learning techniques can be more advantageous for low-ability students in mastering linguistics in a second language, which could be because, in the STAD method, students receive several forms of repeated input through teacher's presentation, team study and practice, individual quizzes and correcting their own work. Al-Zu'bi and Kitishat (2013) studied the effects of STAD on English reading achievement and reported that STAD had significant effects for high- and average-achieving learners. On the other hand, low-achieving learners favoured conventional methods, that are, lecture, GTM and ALM. Furthermore, Munir, Emzir and Rahmat (2017) examined two different cooperative learning methods (STAD and Jigsaw) and learning styles (visual, auditory and kinaesthetic) on students' English achievement. Their study suggested that STAD is more suitable to enhance English achievement for students with visual and kinesthetics learning styles, while Jigsaw is more appropriate for students with auditory learning style. Moreover, it is suggested that because every student has their own learning style, it is crucial for teachers to provide various kinds of learning materials and appropriate learning methods (Munir et al., 2017). Likewise, Mudofir's (2017) study also focused on learning styles and English-

speaking ability. Students with visual learning style performed better than other learning styles.

On the other hand, Warawudhi (2012) conducted a study to compare STAD and the lecture method for teaching English reading skills to Thai undergraduate students. The study found that both lecture and STAD could raise English reading scores, but students in the lecture group performed slightly better than students in the STAD group. A possible explanation depended on the objective of the students when learning English reading skills. If the students aimed only to pass the exam, they seemed to favour the lecture method, memorising vocabulary, grammar and translating the reading passage into their mother tongue. This study summarised three factors that might influence the effectiveness of the STAD methods. First, the size of the sub-group should not be large because that could cause problems, such as responsibility distribution, among group members. Next, time-consuming activities, a normal part of employing cooperative learning, need careful time management. Teachers also indicated anxiety related to lack of confidence in some activities. Third, the objective is for students to learn English in class, but some studies (Ghasemi & Baradaran, 2018; Pandiangan, 2019; Sutrisno et al., 2018) compared STAD with other cooperative learning methods and found that STAD produced inferior results. For example, Pandiangan (2019) compared STAD and the cooperative leadership models to enhance students' reading comprehension ability, and Ghasemi and Baradaran (2018) studied STAD and Cooperative Integrated Reading and Composition (CIRC) to study their effectiveness in English speaking complexity of female EFL learners. Sutrisno, Rasyid and Rahmat (2018) carried out an experimental study to determine the effectiveness of STAD and Think-Pair-Share on students' English essay writing skill and found that the Think-Pair-Share technique supported with students with introverted personalities well. The research concluded that the implementation of learning technique to teach English essay writing, which is compatible with students' personality types, can impact the improvement of English essay writing skill (Sutrisno et al., 2018).

For social competence, STAD classrooms enhance students' social/interaction skills (Glomo-Narzoles, 2015; Kurniawan et al., 2017; Malelohit, 2016; Saniei & Ghadikolaei, 2015; S Wichadee, 2005), support students with team working skills to reach shared goals (Kurniawan et al., 2017; Syafiq & Rahmawati, 2017) and respect for other students (Saniei & Ghadikolaei, 2015), which are essential skills students should acquire in order to work

well with others in the real world outside their classroom. Not only did relationships with other classmates improve (Sunarti & Rachman, 2018; Upa & Ridho, 2019), but also barriers between students and teachers were reduced (Syafiq & Rahmawati, 2017; Warawudhi, 2012) resulting in positive classroom environment/atmosphere (Sunarti & Rachman, 2018; Upa & Ridho, 2019; S Wichadee, 2005).

In addition, STAD helped raise students motivation (Syafiq & Rahmawati, 2017; Warawudhi, 2012) and self-efficacy (Araban et al., 2012), and students reported positive attitudes towards learning English (Glomo-Narzoles, 2015; Malelohit, 2016; Warawudhi, 2012). STAD also promotes taking an active role in class (Fauziningrum, 2012; Malelohit, 2016; Motaei, 2014; Sunarti & Rachman, 2018; Syafiq & Rahmawati, 2017; Upa & Ridho, 2019) and raises students' involvement and enjoyment in their learning process (Kurniawan et al., 2017; Motaei, 2014; Sunarti & Rachman, 2018; Syafiq & Rahmawati, 2017; Upa & Ridho, 2019; Warawudhi, 2012; S Wichadee, 2005). Wichadee (2005) found that STAD dramatically improved students' attendance.

Nevertheless, many of the aforementioned studies have suggested various useful suggestions and recommendations on the application of STAD in EFL/ESL classrooms. An important element of implementing STAD that most of the aforementioned research has highlighted is a small heterogeneous group of students with several levels of ability or proficiency. Students are encouraged to learn from their peers of both higher and lower abilities (Jalilifar, 2010; Khan & Akhtar, 2017; Khansir & Alipour, 2015). The lack of information in students with limited academic proficiency and/or lack of attention during the teacher presentation can be compensated by peers learning during the process of team study/practice; students adjust inputs to be more comprehensible for their peers either in their first or second language as an advantages of heterogeneous groups (Jalilifar, 2010).

STAD is suggested for implementation when objectives are clearly defined with explicit and adequate instruction as well as appropriate teacher's support and guidance (Jalilifar, 2010). Ample time and opportunities for students to interact with peers in their group learning process should be provided (Jalilifar, 2010; Motaei, 2014; Nikou et al., 2014; Saniei & Ghadikolaei, 2015; Syafiq & Rahmawati, 2017). Students should be encouraged to reflect and ask questions (Motaei, 2014). Jalilifar (2010) recommended that some advanced input from teacher or other resources need to be provided to students otherwise

they might learn incorrect language skills if focusing too much on peer inputs, especially when learning a second language.

Kurniawan, Mukhaiyar and Rozimela (2017) advocated that the teacher's role in STAD, coaching and supporting students' needs to develop social and emotional skills, can affect student achievement. Teachers must follow their role as a facilitator and assist students when necessary (Khan & Akhtar, 2017; Motaei, 2014; S Wichadee, 2005). Motaei (2014) asserted that it is important for the teachers to create a class atmosphere that encourages students to participate in the learning process. Teachers also need to carefully monitor both levels and patterns of student interaction within the group to ensure that all students have an equal opportunity to share their ideas and opinions (Saniei & Ghadikolaei, 2015). Conversations between teacher and students should not be neglected (Jalilifar, 2010).

Moreover, Al-Zu'bi and Kitishat (2013), who conducted their study in Jordan, presented some interesting points to consider when applying STAD in the foreign language classroom. Their findings were that contextual and cultural factors, the teacher's familiarity with STAD, the number of students in each class, limited class time and assessment system (paper and pencil tests) may influence the application of STAD and determine student achievement. They also provided some recommendation for application of STAD as follows: 1) STAD should be applied for a full academic year to provide intensive exposure to English, 2) teachers need to be trained to be familiar with STAD before the implementation, 3) STAD can be a very useful instructional strategy when implemented effectively and can be applied with other teaching methods and 4) enough materials and instruments should be provided to facilitate the use of cooperative learning strategies (Al-Zu'bi & Kitishat, 2013). Their last recommendation is aligned with Rianawati (2017); school facilities and learning materials, such as internet access and media resources, need to be provided to plausibly support the implementation of STAD in the classroom. In addition, material developers should take into account the interaction and cooperative techniques when designing materials for foreign language students (Saniei & Ghadikolaei, 2015).

### **3.5 Summary of each related study on STAD in EFL/ESL classrooms**

The following section provides the details of each related study on STAD in EFL/ESL classrooms discussed earlier. These studies have shown how the STAD is actually

implemented in the real educational contexts, in different countries and at the different education levels. Suggestions from the studies are also noted. The studies are categorised by educational levels, that is, primary, lower secondary (junior high), higher secondary (high school) and undergraduate.

### **3.5.1 Primary level**

Both Fauziningrum (2012) and Khan and Akhtar (2017) applied the STAD method in primary English language classrooms and found that students in STAD groups gained higher language achievement.

Khan and Akhtar (2017) compared the effect of the STAD cooperative learning method and whole-class traditional methods in enhancing English grammar of 184 seventh grade students in Pakistan. This quasi-experimental study found that students experiencing the STAD method had high achievement on their post achievement test scores. The STAD method had a significant effect on student achievement in learning English grammar for both male and female students at the primary level. The noticeable process implemented in this study is that every student in the experimental group was asked to sign a sheet to confirm that they had learned and understood the concept presenting in class before returning worksheet to the teacher. According to the result of this study, STAD is highly recommended for teaching English grammar and affirmed that the team recognition step of STAD offered an 'equal chance of success' to every team member as it comes from the achievement of the whole team (Khan & Akhtar, 2017). The result is interesting but may be not secure because of the quasi-experimental design where the participants were not randomly assigned.

Similarly, Fauziningrum (2012) compared the effectiveness of STAD and the Three Minutes Review (TMR) methods to teach English questions to third grade primary school students. TMR is a method in which the teacher may stop any time during a lecture or discussion and to give teams three minutes to review the lesson, ask clarifying questions and answer questions. Later, the teacher randomly asks the team to answer questions. The study reported that students' achievement in the STAD group demonstrated better achievement than TMR. There were some advantages of both methods: both saved time and energy for the teacher in dealing with students in groups instead of individually. Also,

the retention of material was better from students working in teams. Students were more active, even shy students.

### **3.5.2 Lower secondary level (junior high school)**

The studies listed below describe research regarding the application of the STAD method at the lower secondary (junior high school) level. The STAD method was implemented in English classes for reading comprehension, general English achievement and linguistics. All of the studies summarised below provided positive results regarding the use of STAD as compared to others types of cooperative learning methods or the traditional instruction method (GTM).

Chotimah and Rukmini (2017) conducted a quasi-experimental study in Indonesia to investigate which cooperative learning methods, STAD and GI (Group Investigation), had the best result when teaching English reading comprehension to students with high and low motivation. A reading comprehension test, motivation questionnaire and observation were used to collect data for the study. The teacher was observed using the STAD technique in an experimental group and using GI in a control group. The result reveals that STAD was more effective than GI in teaching English reading comprehension. Nevertheless, there was no relationship between cooperative learning techniques, motivation, and teaching reading comprehension (Chotimah & Rukmini, 2017).

Munir, Emzir and Rahmat (2017) compared the effectiveness of two different cooperative learning methods (STAD and Jigsaw) and learning style (visual, auditory and kinaesthetic) on junior high school students' English achievement. The research discovered that in order to improve students' English achievement, the application of STAD was more effective than the Jigsaw method. Students' learning styles did not affect English leaning outcomes. The study suggested that STAD is more suitable to enhancing English achievement for students with visual and kinesthetics learning styles, while Jigsaw is appropriate for students with auditory learning style (Munir et al., 2017). Moreover, it is suggested that because every student has his/her own learning style, it is crucial for teachers to provide various kinds of learning material and appropriate learning methods.

Alijanian (2012) investigated the effectiveness of STAD on English achievement of Iranian third grade junior high school students. The students in the experimental group were



exposed to STAD, while the control group students learned English with traditional methods consisting of mainly the GTM, some ALM and isolated learning context. The study revealed that students in the experimental group showed significant gains in their English achievement. The study reported three possible reasons to support the finding: “1) the expansion of engagement of students in the lesson through comprehensible input, interaction and output, 2) the stimulating patterns of positive reinforcement and 3) the complementary communicatory learning context” (Alijanian, 2012, p. 1974), which seems to facilitate the participants’ academic achievement.

Ghaith and Yaghy (1998) explored the effects of cooperative learning using STAD and the individualistic instructional approach on the acquisition of ESL linguistic achievement of 318 junior high school students in Lebanon. The finding from this six-week experimental study reported that students in the experimental group gained equal linguistic achievement when compared to individualistic instruction; however, this research found that STAD could be more advantageous for low-ability students perhaps because it provided several forms of repeated input through the teacher’s presentation, team study and practice, individual quizzes and correcting one’s own work (Ghaith & Yaghi, 1998). To facilitate students in mastering linguistic achievement in second language, especially for low-ability students, the results from this study showed positive support for the use of STAD. Even so, an extended-duration experiment using the STAD method is needed to investigate the impact of STAD in linguistic areas of second or foreign language.

Slavin and Oickle (1981) carried out a study in the United States to examine a variant of STAD treatment on English achievement of students of different races; 230 middle school students were randomly divided into four experiment classes (84 students) treated with STAD or the Team method and six control classes (146 students) studied with Non-Team methods, namely an individual method. Classes were taught by five teachers, not by the researchers. The research instruments used to assess students’ achievement as pre- and post-tests were two parallel forms of standardised junior high school English test consisting of such topics as punctuation, capitalisation and English usage. The findings suggested that students in the STAD or Team classes showed the greater gains, especially black students. The black-white achievement gap remained large in the Non-Team classes, but disappeared in the Team classes. The researchers concluded that cooperative learning strategies tend to improve the achievement levels of all students, but more for blacks than for whites.

All the studies in the lower secondary level summarised above reported interesting findings. However, some studies may be unsecure because of their quasi-experimental design (Chotimah & Rukmini, 2017), uncertain quality of research instrument like teacher-made tests (Alijanian, 2012; Ghaith & Yaghi, 1998; Munir et al., 2017) and high levels of attritions (Slavin & Oickle, 1981).

### **3.5.3 Higher secondary level (high school)**

Several studies summarised below used STAD in English language classes including speaking, reading comprehension and general English achievement. Higher secondary school students in the STAD group showed better achievement in English language than the comparison groups.

Anwer, Tatlah and Butt (2018) conducted an experimental study to explore the effectiveness of STAD and the lecture method on high school students' English achievement, especially tenses, in Pakistan. The study showed that students in the experimental group experienced STAD significantly outperformed students exposed to lecture as instructional method with an effect size of 1.09.

Kurniawan, Mukhaiyar and Rozimela (2017) conducted a quasi-experimental research to examine the effect of STAD on high school students' speaking skills and class participation and found that STAD showed a significant positive effect. STAD not only had a successful impact on the students' academic achievement, it also increased their social skills (Kurniawan et al., 2017). STAD provided abundant opportunities for learners to develop both language skills and interpersonal skills in a structured environment conducive to peer interaction. The teacher's role in STAD is that of coaching and supporting students' needs to develop social and emotional skills and can determine the student's achievement.

Mudofir (2017) conducted a quasi-experimental study to examine the effect of STAD on English speaking learning outcomes on students with different learning styles compared to conventional learning strategies. The participants in this study were 88 vocational students who majored in electronics engineering and were purposively randomised to experimental and control groups. A fluency speaking test in a form of a job interview was used to obtain research data. Findings revealed that students who were exposed to STAD gained a higher speaking score than students in the conventional learning group. Students with visual

learning style performed average but higher than audio and kinesthetics learning styles. Also, there was a relationship between learning methods and students' learning style to English speaking fluency.

Syafiq and Rahmawati (2017) studied the effect of STAD in improving students' English reading comprehension among high school students in Indonesia. The findings demonstrated that STAD offered significant improvement when compared to conventional or direct teaching methods. The study also found that students in STAD classes were more active, motivated and focused; their team work ability also increased. Through learning in mix-ability teams, students learned from each other resulting in an improvement in their reading comprehension, especially in developing vocabulary (Syafiq & Rahmawati, 2017). This research also reported that STAD helped reduce the barrier between students and teacher.

Nikou, Bonyadi and Ebrahimi (2014) carried out a quasi-experimental study investigating the effect of STAD on English language achievement of Iranian EFL students across genders. A total of 80 students (32 males and 48 females) who were at the intermediate level of English proficiency were randomly assigned to two experimental groups and two control groups. The participants were between the ages of 14 and 18. In the experimental group, students engaged with STAD, while students in the control groups were exposed to traditional methods of teaching, namely lecture-based instruction. Two almost-parallel standardised tests of the Top Notch Achievement Test were employed as pre- and post-tests. The intervention lasted for 13 weeks including 30 hours in 20 class sessions. Results indicated that students who engaged in STAD had greater improvement on post-test scores than students in the lecture-based group. Moreover, STAD had positive effects on the learners' language learning offering equal benefits to both boys and girls. The research recommended that the teacher provide time for students to interact with their peers in groups.

Araban et al. (2012) explored the effects of cooperative learning on self-efficacy and academic achievement in the English lessons of high school students. The finding demonstrated that students' self-efficacy and academic achievement in English were higher in the STAD group. The study revealed that in a cooperative learning environment, low-

achieving students have a greater opportunity for learning and achievement (Araban et al., 2012).

Even though the results of these studies at the higher secondary level seem promising, they might not be as confident in terms of the quasi-experiment design (Kurniawan et al., 2017), purposive sampling technique (Mudofir, 2017) and uncertain quality of the research instruments (Anwer et al., 2018; Araban et al., 2012).

### **3.5.4 Undergraduate level**

The STAD method has been applied at the undergraduate level in several aspects of English language classes: translation, reading comprehension, listening comprehension, grammar, and general English achievement. The studies as summarised below documented that students in STAD outperformed the comparison groups.

Upa and Ridho (2019) explored whether teaching English translation with STAD would improve students' translation ability and found that STAD did enhance students' translation abilities. Students were active and enjoy the learning process resulting in a positive classroom atmosphere.

Sunarti and Rachman (2018) examined the effectiveness of Flip Classroom implemented with STAD method on the reading comprehension of first-year undergraduate students in Indonesia when compared to traditional instruction. In the Flipped Learning, students are introduced to the learning materials before the class and the class time is being used to practice, apply and deepen understanding of concepts and ideas through interaction with peers and problems-solving activities facilitated by teachers. The finding suggested that Flip Classroom with STAD is more effective for English reading, especially for students having high learning interest. Meanwhile, traditional instruction is suitable for students who have low learning interest. The results highlighted that Flip Classroom with STAD raised students' involvement and enjoyment in the learning process resulting in better classroom atmosphere and relationships with classmates. Through team activities and interactions, students could easily master the material (Sunarti & Rachman, 2018).

Malelohit (2016) compared undergraduate students' English grammar ability before and after being exposed to STAD and studied students' attitudes towards the use of STAD in

their English classroom in Thailand. Results of this study found that STAD can improve undergraduate students' English grammar abilities. Also, students reported positive attitudes towards learning English grammar through STAD. It helped create interaction among students in their small groups, so students enhanced their team work skills. They learned to explain and clarify English grammatical knowledge effectively and became more active in learning English grammar. The finding supported the application of STAD as an alternative instructional technique to replace the long-existing GTM (Malelohit, 2016).

Glomo-Narzoles (2015) examined a comparison of the effectiveness of STAD and traditional teaching methods, lecture-based instruction and individual learning on English achievement of undergraduate students in Bahrain. The results of this study revealed that students in the STAD group had enhanced English academic performance than students who experienced traditional teaching methods. STAD students also showed a positive attitude towards English.

Similarly, Khansir and Alipour (2015) conducted an experimental study to examine the impact of STAD on English listening comprehension of Iranian EFL learners. The participants were between 18 to 25 years old with an intermediate level of English language proficiency and studied English as their foreign language at a language institute in Iran. The research reported that students exposed to STAD during the experimental period produced a statistically significant difference on post-listening comprehension test. How the group was formed and the interactive dynamics of STAD provided a context for language use that supported the EFL students, especially in listening comprehension, because they had the opportunity to listen and negotiate ideas with others.

Motaei (2014) investigated the effect of STAD as a determinant to achievement in English language skills compared to teacher-centred classrooms. The four components of the general English test were dictation, reading comprehension, grammar and vocabulary. Undergraduate students who experienced STAD gained better scores on all components, but especially in grammar and vocabulary. The students were reported to be more active and involved in the learning process influencing their deeper understanding of the materials. The study stressed how important it is for teachers to create a classroom atmosphere that encourages students to participate in the learning process. Teachers should

encourage students to ask questions and reflect on their ideas while also providing opportunities for students who need assistance.

Al-Zu'bi and Kitishat (2013) examined the effects of STAD on the English reading achievement of undergraduate learners of English in Jordan. Before the intervention, two instructors who participated in this study were trained for 20 hours to reach each condition, and 41 female students were randomly assigned and stratified by the researcher based on their academic potential and performance. Control group students were taught with conventional methods including lecture, GTM and ALM. The intervention period was two months (eight weeks) in a normal classroom environment of 50 minutes each week. The result indicated that STAD has significant effects on English reading comprehension for high- and average-achieving English learners. On the other hand, low-achieving learners favoured conventional methods. The study suggested that contextual, and cultural factors, teacher familiarity with STAD, the number of students in each class, the limited amount of class time and the assessment system (paper and pencil test) may influence the application of STAD and determine student achievement. Last, the research provided some recommendations regarding the application of cooperative learning, especially STAD, as follows: 1) STAD should be applied for a full academic year to more intensively expose students to English, 2) teachers need to be trained to be familiar with STAD before the implementation, 3) STAD can be very useful instructional strategy when implemented effectively and can be applied along with other teaching methods and 4) colleges should provide enough materials and instruments to facilitate the use of cooperative learning methods (Al-Zu'bi & Kitishat, 2013).

In 2010, Jalilifar evaluated the impact of two cooperative learning methods, namely STAD and GI, and an individualistic instructional approach that focused on exercises in students' regular textbooks for English reading comprehension achievement of 90 EFL college students in Iran. The two-month (16 sessions) experiment reported that only STAD showed high effectiveness when compared to an individualistic instructional approach in order to enhance English reading comprehension achievement of pre-intermediate level of English proficiency. While comparing STAD and GI groups, the post-test mean score of STAD group was slightly higher than GI group. The results from this investigation concluded that not all cooperative learning methods could be an effective to all groups of learners (Jalilifar, 2010). Exposure to STAD method can provide a positive impact on learning language skills

of the students; nevertheless, this study suggested that appropriate and ample interaction and conversation between teacher and students should not be neglected. Some advanced input from teachers or other resources need to be provided to students; otherwise, they can learn incorrect language skills if focusing too much on peer input, especially when learning a second language (Jalilifar, 2010). One of the reasons for advocating STAD over GI regarding student achievement in reading comprehension was the effectiveness of team rewards combined with individual improvement scores (Jalilifar, 2010).

Wichadee (2005) studied the effects of STAD on English reading skills with 40 first-year undergraduate students in Thailand and their attitudes towards cooperative learning methods used in English language classrooms. The results of this study showed that students obtained higher reading comprehension scores on their post-test than their pre-test at the significant level of 0.05. The other finding indicated that most students reported cooperative learning at a moderately positive level. According to a cooperative learning behavioural assessment form distributed at the end of the unit of instruction, students evaluated their friends' cooperative learning behaviours as good on the assigned tasks. It should be highlighted that cooperative learning can dramatically improve student attendance (Wichadee, 2005). Applying cooperative learning in EFL classrooms offers a comfortable stress-free environment in which to learn and practice English.

The studies implemented to investigate the effect of STAD method on undergraduate students tend to show positive results. Those studies also provided many suggestions and recommendations on the application of STAD. Nevertheless, some issues may have weakened the credibility of those results such as having no comparator and the use of purposive sampling (Malelohit, 2016; Upa & Ridho, 2019; S Wichadee, 2005), using the same test for both pre- and post-tests (Al-Zu'bi & Kitishat, 2013; Glomo-Narzoles, 2015; Motaei, 2014) and uncertain quality of research instruments (Sunarti & Rachman, 2018).

### **3.5.5 Level not stated**

This study conducted in an EFL class in Iran; however, the participants' education level could not be detected.

Saniei & Ghadikolaei (2015) studied the effects of STAD on the English collocations of EFL students. The participants were 64 intermediate level of English proficiency students.

There were 32 students in an experimental group receiving STAD and 32 students in a control group receiving individualistic instruction. The findings revealed that students who received STAD had significantly improved collocation achievement compared to students who received individualistic instruction. The results of the study asserted that the effectiveness of STAD can be attributed to the positive interdependence and individual accountability principles of cooperative learning (Saniei & Ghadikolaei, 2015). Positive peer motivation and assistance in the groups helped foster deeper learning of materials through clarification, elaboration and mental interpretation. This study also suggested that teachers need to carefully monitor both levels and patterns of students' interactions within the group to ensure that all students have an equal opportunity to share their ideas and opinions.

### **3.6 Summary**

This chapter has described the intervention method implemented in this study in terms of major elements, implementation stages and processes. In addition, it discussed related studies on STAD in EFL/ESL contexts. Various research studies applying STAD as an alternative instruction method to teach EFL/ESL have been suggested with successful results academically, socially and psychologically. Nevertheless, some critical issues in those studies that might weakened the credibility of the results were also found. Therefore, the further evaluation of the method is still needed.



## **CHAPTER 4**

### **RESEARCH DESIGN AND METHODS**

This research study evaluates the effectiveness of cooperative learning on pre-service teachers' achievement in tertiary English as a foreign language (EFL) classrooms in Thailand. Prior to the main study, a structured review of existing empirical studies was performed. The aim was to see if cooperative learning method, Student Teams Achievement Division (STAD), could be a promising approach to use in developing English proficiency in the EFL/English as a second language (ESL) context. The review also helped identify the challenges and barriers to implementing the approach and inform the primary research.

A pilot study was carried out to test the method, the teaching materials, lesson activities and the feasibility of delivery in an English class in one higher education institution. All the issues that arose from conducting the pilot study were adapted to the application of the intervention in main study. Later, a cluster randomised controlled trial (cluster RCT) was used in the main study to determine the effects of implementing Student Teams Achievement Division (STAD) as a cooperative learning method for EFL/ESL students in several other higher education institutions.

This chapter describes the process of the structured review, the randomised controlled trial, the research design and the methods used in the pilot study and the main study, research instruments, training of university instructors, and the conduct of process evaluation.

#### **4.1 Research questions**

This study was designed to answer the following questions:

- 1) Is it feasible to implement cooperative learning in Thai tertiary EFL classes?
  - c. What are the factors that facilitate the cooperative learning implementation?
  - d. What are the barriers/challenges to the implementation of cooperative learning in EFL classrooms?
- 2) To what extent does the STAD method of cooperative learning enhance pre-service teachers' achievement in English language?
- 3) What are the participants' attitudes towards cooperative learning?

- a. What are pre-service teachers' attitudes towards cooperative learning implemented in EFL classrooms?
- b. What are university instructors' attitudes towards implementing cooperative learning in EFL classrooms?

RQ1 was answered using a pilot study, which was conducted out in a teacher education programme in a university in Thailand and by an ensuing intervention conducted as part of an RCT. The data comes from observation, questionnaire and interviews (a semi-structured interview during the pilot study and an *ad hoc* interview during the main study).

RQ2 was addressed by two approaches. First, a structured review of existing empirical studies was applied to scope the evidence base for effectiveness of cooperative learning method in EFL/ESL classes. Second, a cluster RCT was included to assess the impact of cooperative learning in teacher education programmes.

RQ3 was addressed using questionnaires: students' and teachers' attitude questionnaires and an *ad hoc* interview.

## **4.2 Structured review of previous research**

Several studies have applied the STAD method to improve students' learning in many subject areas such as mathematics, science, language arts and foreign language (Slavin, 1986, 2010a). Most of the studies claimed that STAD offers promising and successful results. However, the evidence base is still unclear as there have been no prior systematic reviews on this particular method that assessed the strength of the evidence of individual studies. Most reviews that appraised quality do not consider threats to validity, such as sample size, attrition/missing data, bias in the test instruments or the influence of teachers/researchers where no blind tests were administered. This structured review provides some evidence regarding the impact of STAD.

### **4.2.1 Aims of structured review**

The aims of this structured review were to review, synthesise and summarise prior research on the impact of the STAD method in enhancing the English language skills of EFL/ESL students in normal educational settings and to offer suggestions or recommendations for

the application of STAD in regular classroom settings. The findings also informed the primary research in addressing any barriers or challenges in implementing STAD.

The present review is not a systemic review as such, in that it does not claim to be entirely comprehensive in its search strategy. As the aim was to scope the evidence base rather than to establish convincing evidence of effectiveness; the review focused on identifying major studies in this area and synthesising the results. A record of the systematic search of the related studies was not deemed necessary as the purpose of the review was to do a rapid scope of the literature to see if STAD could be a promising approach to teaching EFL/ESL rather than to establish the evidence. Nevertheless, this review adopts the methods used in conventional systematic reviews in database searches, applying inclusion and exclusion criteria and data extraction procedures. To get a sense of the evidence, each included study was quality appraised and the overall evidence synthesised.

#### **4.2.2 Search strategy**

The search was conducted on the usual education, sociology and psychology electronic databases. Handsearch, unpublished studies or unpublished master theses/dissertations were not included. The search was conducted between November 2018 and December 2019. Some studies were found only by titles and abstracts, so a specific search needed to be done to obtain more details. The databases included the Durham University Database, Science Direct, ERIC, JSTOR, Sage Journals, Web of Science, Google, Google Scholar and ProQuest.

The relevant search terms that were developed and applied to the electronic databases were:

“Student Team Achievement Division” OR STAD, OR “Cooperative Learning”  
“Student Team Achievement Division” AND achievement, OR attainment AND  
outcome\* OR “learning outcome\*” AND “English” OR “English language skills”  
OR “English as a foreign language” OR “English as a second language” OR EFL  
OR ESL

These keywords were applied to each of the databases and some slight variations were made to adjust for the idiosyncrasies of some of the search engines. Filters were used to narrow the search by date, source type, document type and language. The search was therefore limited to studies conducted after 1980 and studies that were reported in the

English language. It included journals, conference papers and proceedings, dissertations and theses.

The research reports were then sorted by relevance and those deemed to be relevant to the research questions were then exported to Mendeley, a free reference manager and database software.

#### **4.2.3 Screening**

First, all relevant records were screened for duplicates and relevance by titles and abstracts according to a pre-determined inclusion and exclusion criteria. Basically, causation studies of an experimental nature were included.

##### *Inclusion criteria*

Included studies must:

- apply only the STAD cooperative learning method as an intervention in an experimental group,
- assess achievement in English language knowledge/ability/skills as an outcome,
- be conducted in courses related to EFL or ESL
- be empirical (e.g. not reflection papers, comprehensive review or theory),
- employ experimental or quasi-experimental research designs,
- be conducted in normal classroom settings (both in schools and in higher educational institutions),
- be published between 1980 and 2019,
- be published or reported in English and
- be retrievable with full piece of paper/article or theses.

##### *Exclusion criteria*

Studies were excluded if they were:

- duplicates,
- not primary research study (i.e. reviews),
- not related to English as a foreign or second language,

- not empirical research (i.e. critical reviews, instructional or promotional manuals, opinion pieces or guidance for STAD implementation),
- adaptations of STAD or combining STAD with other cooperative learning methods/models to use as one instructional method
- correlational, ethnographic, case studies or action research,
- not reported in English or
- not available in full text.

A total of 28 studies that met the inclusion criteria were retained for data extraction.

#### **4.2.4 Data extraction**

After all included studies were screened and all duplicates and irrelevant studies were removed, potentially relevant studies were identified and retained for closer scrutiny. The full text of each included study was obtained and read. The standardised data extraction outline proposed by Torgerson (2003) was used as a general guideline to extract key information from the studies. The data extraction includes the following information: author, year, country, publication type, source, setting, objective, outcome measures, design, participants, intervention, control, result, effect size and comments on the details of the study quality (e.g. attrition rate). All the extracted data were presented in a table. In addition, the reviewer added one more section for reviewer's comments, which mainly focused on threats to the internal and external validity of the study. Detailed information about data extraction of each study is provided in the Appendix 2.

#### **4.2.5 Judging the quality of studies**

Once all the key information was extracted, each study was then subjected to a quality appraisal to judge the strength of the evidence and/or the trustworthiness of the results presented. Data extraction helps facilitate the process of making the judgement. To help judge the quality, a quality appraisal tools, known as the 'Sieve', developed by Gorard (2014), was applied (see Table 4.1).

Table 4.1 The ‘Sieve’ to assist in judging the trustworthiness of a research report

<b>Design</b>	<b>Scale</b>	<b>Dropout</b>	<b>Outcomes</b>	<b>Fidelity</b>	<b>Validity</b>	<b>Rating</b>
Fair design for comparison	Large number of cases per comparison group	Minimal attrition, on evidence of impact on findings	Standardised pre-specified independent outcome	Clear intervention, uniform delivery	No evidence of diffusion or other threat	4*
Balanced comparison	Medium number of cases per comparison group	Some initial imbalance or attrition	Pre-specified outcome, not standardised or not independent	Clear intervention, unintended variation in delivery	Little evidence of diffusion or other threat	3*
Matched comparison	Small number of cases per comparison group	Initial imbalance or moderate attrition	Not pre-specified but valid outcome	Unclear intervention with variation in delivery	Evidence of experimenter effect, diffusion or other threat	2*
Comparison with poor or no equivalence	Very small number of cases per comparison group	Substantial imbalance and/or high attrition	Outcome with issues of validity or appropriateness	Poorly specified intervention	Strong indication of experimenter effect, diffusion or other threat	1*
No report of comparator	A trivial scale of study, or N unclear	Attrition not reported or too high for any comparison	Too many outcomes, weak measures, or poor reliability	No clearly defined intervention	No consideration of threats to validity	0

The ‘Sieve’ is a star rating system based on the study’s design, scale (sample size), attrition (dropout or missing cases), outcome measurement and threats to validity. The last column is the rating star column from highest to lowest (4\* to 0). The table is to be read from the left to the right and from the top row to the bottom row. Starting at the first column of the study design and reading the descriptions in each box down the row until it is matched the particular study. Then moving to the next column on the right, follow description down each row again until the study described generally matches the description in the row – this is a moving down the row process, never go back up. The process is repeated in each column until the last column of rating star is identified.

Therefore, starting from the top left corner is the research design, which determines whether the design is appropriate for the research questions. As the review question is to

find evidence of the effectiveness of STAD (a causal question), the appropriate research design would be a causal one, that is, an experimental or quasi-experimental design with appropriate comparison/control group. Without a comparison group, it is not possible to say if the intervention led to improvement or changes in outcomes even if the intervention group shows progress, as it is possible that the control group may make bigger improvements than the experimental group.

The second column regards the sample size. The ‘Sieve’ does not specify exactly what would be considered a large, medium or small scale, as this depends very much on the topic of investigation and the size of the population being investigated. What it offers is an approximate guideline for interpretation depending on the context. In any study, the larger the sample, the more likely it is to approximate the population. Therefore, a large sample is always preferable, especially in making a causal claim (Gorard, 2014) because the large sample increases the possibility of detecting small differences in the outcomes between treatment and control groups.

If the study is a randomised control experiment (RCT) with a large sample, it is rated 4\*, but if it is a small-scale study (e.g. four schools with two in each arm), then it will drop to 2\*. How far the rating drops depends on the size of the sample and the context as explained above. This is an arbitrary judgement. For example, it is clear that randomising four schools is on a much smaller scale than randomising 400 students (with 200 in each arm).

Moving to the next column, if there is a lot of missing data or attrition, then the rating will drop another star. The final rating for a small-scale RCT can be 1\*. It is worth mentioning again that the ratings cannot go up, only down. For example, if the study uses a quasi-experimental design with a large sample (e.g. 20,000 students), but the comparison groups are not matched, the highest rating it can get is a 2\*, even if there is little or no attrition or no missing data. It cannot move up to a 4\*. Attrition or missing data is an important criterion, which is rarely addressed in previous reviews. In any RCT, if there is attrition/dropout, the groups are no longer balanced. Missing data or dropouts can bias the results as they are rarely (if ever) random. Those who dropout or refuse to take the test are likely to be different than those who stay on in the intervention. Excluding these cases from the review can lead to misleading results. In this structured review, the number of counterfactual cases needed to disturb the finding (NNTD) is calculated to determine

whether the missing cases have skewed the results. NNTD is calculated as the effect size multiplied by the size of the smallest cell. It is a measure that assumes that all the missing cases have the opposite effects and whether including them would have altered the findings. It is a way to test how stable the results are in light of missing cases. If there is no report on attrition or dropout rate, the study would receive a lower rating.

Another consideration in judging the trustworthiness of a research report is the kind of measures used in assessing outcomes. In general, outcomes that are based on the self-report of teachers are considered less reliable as they are prone to subjective opinions. In this review, the outcomes are achievement in English proficiency. Therefore, objective measures using independent and standardised test instruments are regarded as more reliable than researcher- or teacher-developed tests as the latter tests are liable to manipulation to suit the intervention. Or they may be aligned to the intervention, which is not a fair test as the control group was not exposed to the intervention. Researcher- and teacher-developed tests may also encourage ‘teaching to the test’, and thus not a true measure of the impact of the intervention. If STAD has any real effect on English performance, intervention students should do better than the business-as-usual control group in an independent test, which is not closely related to the intervention teaching or learning materials.

The ‘Sieve’ does not consider the reputation of the authors or the source of its publication as a criterion for quality. Each study is judged solely on the merit of the research design described. If the research methods or research design are not adequately described for judgement to be made, it will be rated as 0.

The strength of the evidence also depends on whether the intervention was delivered as intended (fidelity to treatment). Further threats to validity are also considered. These could be accidental diffusion of treatment occurring when the control group is exposed to the treatment, for example, as a result of teachers sharing teaching resources or ideas with the control group or if the same teacher teaches both control and intervention groups. Conflict of interest, where the trial is funded by the developer of the intervention who have much to gain from the results of the study, can also threaten the validity of the results. A short duration intervention can also affect the results of a study, for example, when the interval between the pre-test and the post-test is too close, students might be familiar with the tests, or the interval is too short for results to show.



### **4.3 Research methods used in the pilot study**

#### **4.3.1 Research design**

For the pilot study, a one-group pre-post experimental design was used. Because the primary purpose of the pilot was to test the teaching materials, the logistics of group allocation, the procedures in the delivery and the feasibility of the implementation in an English language classroom in a Thai University, it was felt that a control group was not needed. However, for the main study, a control group was introduced to evaluate the impact of STAD and to compare its effects against what would have happened in its absence.

In order to examine and evaluate the outcomes of the intervention, a pre- and post-test design was used.

N      O      X      O

The pre-test was carried out before the intervention in the first week of July 2019, and the equivalent post-test was given at the end of the experiment period, which was after 15 weeks of teaching, in October 2019. The pre- and post-tests were paper and pencil tests that took 40 minutes to complete and were administered by researcher and the participating instructor. The pilot study was conducted in ‘English Structure for Teachers of English’ module at Faculty of Education, Suratthani Rajabhat University, which is one of the university systems (Rajabhat University System) in Thailand. The duration of the pilot study was 16 weeks (one term) consisting of 16 face-to-face classes. Each class was a three-hours period each week starting from July until October, 2019.

#### ***The participants***

The participating instructor who was responsible for the module, delivered the teaching lessons and handled all classroom management. The students participating in the pilot study were 62 first-year pre-service teachers (age 17 or 18) who were majoring in English in the Faculty of Education at Suratthani Rajabhat University in Thailand, academic year 1/2019.

#### ***The intervention***

The intervention implemented in the pilot study was Student Teams Achievement Divisions (STAD) and followed the implementation stages and processes of the STAD method.

### ***Teaching module***

The Rajabhat University System is a higher education institution partly operated by the government. With the historical foundation as a teacher's college, administration, university culture, ranking and curriculums are different than other types of universities in Thailand. For the Faculty of Education under the Rajabhat University System, each major is operated under the same curriculum across the country, that is, all English majors in the Faculties of Education at all Rajabhat Universities employ the same curriculum. However, all contents, teaching and learning materials and activities, as well as assessment and evaluation procedures depend primarily on assigned instructor of each module and the department.

This pilot study was conducted in 'English Structure for Teachers of English' module; the course description of this module is described below:

English Structure for Teachers of English: Sentence structures and grammar, conducting learning activities in simulated situations.

### ***Assigning students to teams***

The instructor took the responsibility in assigning students to teams to ensure that (1) each team was heterogeneous, a vital element of implementation of cooperative learning, especially in STAD and (2) each learning team was balanced in terms of overall academic proficiency. Many researches have emphasised the importance of a small heterogeneous groups with several levels of ability or proficiency. Students are encouraged to learn from their peers of both higher and lower ability (Jalilifar, 2010; Khan & Akhtar, 2017; Khansir & Alipour, 2015).

Prior to group allocation, students took a pre-test (Cambridge Assessment English 'B2 First for School'); the scores, ranked from highest to lowest, were used to determine students' level of English proficiency and their group allocation. According to Slavin (1986), it is highly recommended that each learning team be composed of four members. If there are an uneven number of students in the class, those remaining students will be added to the four-member teams to create five-member team instead. Theoretically, the members of the learning teams consist of a high performer, a low performer and two average performers. Figure 4.1 illustrates how the students were assigned to their learning teams in the pilot. The total number of student participants was 62, 32 from one class and 30 from another.

One class consisted of eight teams of four students. The other, students 16 and 17 were fifth members of the one of the other teams with consideration of balancing the academic proficiency of every team. Then, the teams were announced as Team A, B, C and so on. However, the team names were changed later.

Figure 4.1 Assigning students to teams in the pilot study

	Rank Order	Team Name
High-Performing Students	1	A
	2	B
	3	C
	4	D
	5	E
	6	F
	7	G
	8	H
Average-Performing Students	9	H
	10	G
	11	F
	12	E
	13	D
	14	C
	15	B
	16	A
	17	A
	18	B
	19	C
	20	D
	21	E
	22	F
	23	G
	24	H
Low-Performing Students	25	H
	26	G
	27	F
	28	E
	29	D
	30	C
	31	B
	32	A

### **4.3.2 Research instruments used in the pilot study**

#### ***Achievement test***

To test student academic performance, the Cambridge Assessment English ‘B2 First for School’ level was employed as main instrument to evaluate students’ English proficiency. This standardised test was designed and developed to test students’ English language skills focusing on and referring to the international framework for describing learners’ language ability, the Common European Framework of Reference for Languages or CEFR. The CEFR, published by the Council of Europe in 2001, follows a six-point scale, from A1 for beginners to C2 for proficient users who have mastered a language. As mentioned in the ‘Using the CEFR: Principles of Good Practice’ booklet, ‘the CEFR is often used by policy-makers to set minimum language requirements for a wide range of purposes’ (ESOL Examinations, 2011), which in the case in Thailand. In order to graduate from the Faculty of Education with a major in English from any university in the Rajabhat System, students need to show their English proficiency at the minimum level of B2. Hence, this test was selected not only because it is a standardised test, but also because it supports the university requirement.

There are two versions of the paper-based sample tests, which can be downloaded from Cambridge Assessment English website with permission for teaching and research purposes. Version one was used for the pre-test and the other was used for the post-test after student exposure to the intervention. The tests consist of four parts: listening, reading and use of English, writing and speaking. In the sample test package, there are questions for all parts, voice recordings for the listening part, answer keys for listening and reading and use of English, and examples and criteria for how to score the writing section. In the pilot study, the intervention was carried out in ‘English Structure for Teachers of English’ module where speaking and writing are not the main focus; therefore, only listening and reading and use of English were adapted.

The pre- and post-tests were paper and pencil test which took 40 minutes to complete and were administered under exam condition and proctored by participant instructor with the presence of the researcher.

The tests, pre-test and the equivalent post-test, were adapted to match the purpose of the study and the nature of this module. Therefore, each test consisted of two parts: listening

and reading and use of English. There were eight question items for the listening parts, which was 10 minutes of English voice recording played by the computer and the questions were given on the test papers. The reading and use of English part included three major sections consisting of 24 questions items with 30 minutes to complete.

The pre-test was carried out before the intervention on July 1, 2019 and an equivalent post-test was given at the end of the 15-week experiment period on October 16, 2019.

### ***Classroom observational visit***

The main reasons for classroom observational visits are to explore how the cooperative learning method works in an actual educational context, to ensure the fidelity of implementing STAD method in the classroom and to answer the teacher's questions. The researcher made several classroom observational visits throughout the term and presented at the first class in order to help administer the pre-test together with the participating instructor. The researcher also visited the second class to ensure that the students were assigned to their learning teams with mixed academic proficiency as it is highly suggested from the method and to check the correctness of implementation of the learning process in the classroom. In addition, in the middle of the term, the researcher made two observational visits to reconfirm the fidelity of STAD implementation and to answer the teacher's questions, which might have come up after the implementation of STAD. During the classroom observation, the researcher made notes regarding what occurred in class, how the application of STAD actually worked in real classroom practice, the quality of delivering the intervention and the students' behaviour and engagement or any changes in their learning when experiencing the method.

### **4.3.3 Procedure**

Before the pilot study began, four Rajabhat Universities in Thailand were contacted through the heads of the Department of English, Faculty of Education, in order to request collaboration and permission. Three universities declined to participate this year due to the transition from five-year to four-year teacher education curriculum across the country. Only one university agreed and confirmed cooperation with the researcher as long as two teaching classes (62 students) with the same instructor on the same teaching module received the same treatment. This university and instructor requirement corresponded to

the intention of this pilot study, which aimed to test the intervention method on the treatment group.

Later, pilot study orientation was provided for the participating instructor before the module began in order to inform, discuss and train the instructor on how the intervention was to be implemented. A brief introduction, cooperative learning method description and its material and activities, the pilot study schedule, the purpose of this study, research questions, expectation of participation in the pilot study were provided. Later, the research procedure, methodology and instrument were discussed. If there were any issues or concerns that needed to be clarified, the researcher used this opportunity to do so. The participating instructor responsible for the module was trained on the use of the cooperative learning method and delivered the teaching lessons and handled all classroom management.

In the first week of the module, the students who were informed the research purposes and agreed to be part of study were assigned to an experiment class. Later that period, the pre-test was carried out. In the second class, students were allocated to mixed-ability learning teams of four to five members according to their pre-test scores and experienced regular cycle of instructional activities: teach, team study, test and team recognition. With this method, students are engaged in team learning and working together to achieve shared goals and complete tasks. The primary goal is for everyone in the group to be responsible for his/her own learning and also help, motivate and encourage other group members to learn.

Below is the table of pilot study schedule, which consisted of 17 weeks (last week was final examination, so the intervention period was only 16 weeks).

Table 4.2 Pilot study schedule

Week	Date	Task
1	1 July 2019	Introduction/Pre-test
2	8 July 2019	Cycle 1 – Teacher Presentation (Teach)
3	15 July 2019	No Class – University activity day
4	22 July 2019	Team Study/Test (Quiz 1) Team Recognition (Announcement on Facebook group)

Week	Date	Task
5	29 July 2019	No School – National holiday
6	5 August 2019	Cycle 2 – Teacher Presentation (Teach)
7	12 August 2019	No school – National holiday
8	19 August 2019	Team Study/Test (Quiz 2) Team Recognition (Announcement on Facebook group)
9	26 August 2019	Cycle 3 – Teacher Presentation (Teach)
10	2 September 2019	Team Study/Test (Quiz 3) Team Recognition (Announcement on Facebook group)
11	9 September 2019	Midterm
12	16 September 2019	Cycle 4 – Teacher Presentation (Teach) New group arrangement
13	23 September 2019	Team Study/Test (Quiz 4) Team Recognition (Announcement on Facebook group)
14	30 September 2019	Cycle 5- Teacher presentation (Teach)
15	7 October 2019	Team Study/ Test (Quiz 5) Team recognition (Announcement on Facebook group)
16	16 October 2019	Post-test
17	25 October 2019	Final Exam

#### **4.4 Research methods used in the main study**

##### **4.4.1 Rationale for a cluster randomised controlled trial used in the main study**

The randomised controlled trial (RCT) is considered the best research design to establish the effectiveness of educational intervention (Torgerson & Torgerson, 2008). Cohen et al. (2018) proposed that experiment or RCT offer several advantages: scientific credibility, repeatability, precision and causality. Especially for causality from true experimental methods, namely RTCs, claims a result, which has been caused by a particular intervention: “If rival causes or explanations can be established; the model can explain outcomes causally” (Cohen, Manion, & Morrison, 2007, p. 391). Therefore, the experiment concerns the evaluation of outcomes from two groups – the control group and the experiment group in which the condition is manipulated and the intervention is implemented.

Random allocation is essential for internal validity to ensure valid results within the sample chosen and to prevent selection bias, which is considered as the main threat to internal validity (Torgerson & Torgerson, 2008). According to Torgerson and Torgerson (2008, p. 30), “An unequal probability does not lead to a biased allocation, as the resulting groups, despite being of unequal size, will contain the same proportion of people with different characteristics as groups of equal size”.

The unit of allocation can be in two levels: individual or cluster. Simple randomisation or randomisation of the individual is most appropriate if the particular treatment of interest affects the individual level. Commonly, simple randomisation is used extensively in medical research (Torgerson & Torgerson, 2001). However, in many educational interventions where simple random sampling of individual students is impractical, the randomisation is frequently conducted at the level of the group or cluster. The school or class level is increasingly considered the more valid and robust design (Myhill et al., 2012). The educational interventions mostly depend on how they are delivered and the context in which they are implemented; RCT design utilises the randomisation process to limit external influences and bias between groups that may affect outcome of the study (Moore et al., 2003).

Even though the most vigorous method of randomisation is simple randomisation, Torgerson and Torgerson (2008) suggested that there are benefits to cluster randomised trials over individual randomisation when it is the only feasible and practical method, which reduces possible ‘contamination’. Contamination involves the transferring of some knowledge by the participants in the intervention group to the control group. With cluster randomisation, the chance of contamination between the intervention group and the control group is decreased (Torgerson & Torgerson, 2008). In simple randomisation, students in the intervention exposed to new method of teaching might share some knowledge they have learned with their friends who are in the control group.

In this study, a cluster RCT was employed where the universities were randomised because the students were allocated to classes by university administration office. Some teachers teach more than one class, and they do not desire using different teaching methods for those classes, which may create a greater burden for them. In addition, the department’s requirement dictates that if a teacher teaches the same module to more than one class, those



classes need to receive the same teaching materials and method of instruction. For all of these reasons, neither randomisation of individuals or by class were desired and feasible; the unit of allocation to intervention or control group needs to be the university. The problem occurring in this type of research design is that there will always be differences between the intervention schools and control schools in terms of school type, school characteristics and school size (Moore et al., 2003). Effort should be made to ensure the similarity of these criteria between intervention and control schools.

#### 4.4.2 Research design

In the main study, a cluster RCT was used to determine the effects of implementing cooperative learning, the STAD method, on English language achievement as compared to control groups that employed the normal method of teaching, that is, the ‘treatment as usual’. To measure and evaluate the mean achievement scores in English language, a pre-test and post-test design was used.

R	O	X	O1	O2
R	O		O	
N	O		O	

\*R = random assignment, N = non-random assignment, O = Observation/measurement of dependent variable, X = treatment

There were three different groups in the main study: experiment, control and comparison groups. Instructors who are in experimental universities applied the STAD method as the main teaching method. The control group used the normal method of teaching.

The pre-test was distributed before the experiment started and an equivalent post-test was administered at the end of the intervention period. The pre- and post-tests were paper and pencil tests that took 40 minutes to complete and were administered by participating instructors. The intervention carried out in ‘English Structure for Teachers of English’ module from the Faculty of Education, Rajabhat Universities in Thailand. The duration of the main study was 16 weeks (one term) consisting of 16 face-to-face classes. Each class was a three-hours period each week starting from July until October, 2019 and took place at their universities.

### ***Participants***

Since cluster randomisation at the university level was only feasible, there were 614 students from 13 universities forming 13 clusters involved in the main study. A total of eight universities that agreed to participate in the intervention were randomly assigned to experimental and control groups, four universities in each group. The other five universities only agreed to complete pre-test and post-test, and are described as a ‘comparison’ group. The differences between the comparison group and the control group where they were not randomised and their classes were not observed by the researcher. The reason for including these universities in comparator group was to increase the sample size. The total of classes was 23.

The participants for this research include university instructors of the module ‘English Structure for Teachers of English’ and all students who enrolled in the module from 13 universities. The participating instructors were 13 Thai instructors of English language in the Faculty of Education, in 13 Rajabhat Universities in Thailand. The instructors were responsible for the module delivered, the teaching lessons and handled all classroom management.

The students participating in this study were 614 first-year pre-service teachers who were majoring in English in the Faculty of Education, in 13 Rajabhat Universities in Thailand, academic year 1/2020. There were 235 students in the experimental groups, 145 in the control groups and 234 in the comparison groups. They all were non-native speakers of English and Thai is their mother tongue. Their ages were between 17 to 18 years.

Table 4.3 The main study participants

University Code	Class	Instructor code	Group	Number of students	Total number of students in each university	Total number of students in each group
U01	a	T01	Experimental	27	55	235
	b	T01	Experimental	28		
U02	a	T02	Experimental	30	61	
	b	T02	Experimental	31		

University Code	Class	Instructor code	Group	Number of students	Total number of students in each university	Total number of students in each group
U03	a	T03	Experimental	32	65	
	b	T03	Experimental	33		
U04	a	T04	Experimental	27	54	
	b	T04	Experimental	27		
U05	a	T05	Control	34	60	145
	b	T05	Control	26		
U06	a	T06	Control	26	53	
	b	T06	Control	27		
U07	a	T07	Control	7	7	
U08	a	T08	Control	25	25	
U09	a	T09	Comparison	28	52	234
	b	T09	Comparison	24		
U10	a	T10	Comparison	32	62	
	b	T10	Comparison	30		
U11	a	T11	Comparison	26	39	
	b	T11	Comparison	13		
U12	a	T12	Comparison	26	26	
U13	a	T13	Comparison	28	55	
	b	T13	Comparison	27		

Due to the COVID-19 pandemic, the instructors at each university were asked to adapt their classroom teaching and learning to conform their universities' areas of outbreaks, policies and conditions.

Table 4.4 Teaching and learning modes of content delivery for experimental and control groups

University	Group	Instructor	Modes of teaching and learning
U01	Experimental	T01	Face-to-face

University	Group	Instructor	Modes of teaching and learning
U02	Experimental	T02	Face-to-face
U03	Experimental	T03	Hybrid setting
U04	Experimental	T04	Hybrid setting
U05	Control	T05	Face-to-face
U06	Control	T06	Face-to-face
U07	Control	T07	Hybrid setting
U08	Control	T08	Face-to-face

### ***Teaching Module***

The main study was carried out in the same teaching module used in pilot study, that was, ‘English Structure for Teachers of English’. This module is designed, developed and supervised by The Teachers’ Council of Thailand as a required English course for all first-year English majors at Rajabhat Universities. Hence, the same module was offered across all universities participated in the study. This is a 16-sessions course offered in form of face-to-face learning in one three-hour session each week. Normally, it is the decision of the English Department at each university to assign an instructor to all modules, including this one; thus, the researcher had no control over who would teach this module.

As mentioned earlier in the pilot study section, the same course description of this module was provided to all Rajabhat Universities by The Teachers’ Council of Thailand; however, all contents, teaching and learning materials and activities, as well as the assessment and evaluation procedures mainly depended on the assigned instructor of the module and the department.

### ***Recruitment***

Once the study had been reviewed and approved by the School of Education Ethics Committee at Durham University, 21 Rajabhat Universities in Thailand were contacted by phone and informed of the study. Heads of English Department and instructors of ‘English Structure for Teacher of English’ module were invited to participate. Some universities were rejected because of the transition from five-year to four-year teacher education curriculum, so the department as well as the instructors were not willing to join the study. After the initial agreement had been made by phone, each university received a formal

letter asking for permission to conduct a study. Once permission was obtained from the Education Faculty Deans of participating instructors and students, the researcher contacted each of the instructors who was responsible for that particular module directly. Eight universities agreed to participate in the intervention and were allocated to either experimental or control groups. Five universities agreed to join the study, but only to complete the pre-test and post-test.

### ***Training of the teachers***

In experimental universities, the participating instructors responsible for the module were trained to apply the STAD method. Prior to the start of the term, the researcher travelled to each experimental university to offer a two-hour, one-on-one training session on how to implement STAD in their English classrooms.

In the training session, after thanking the instructor for participating in the study, a brief introduction, the purpose of this study, research questions, expectations of participation and the study schedule were given to the instructors. Then, the researcher explained the research procedure, methodology and instrument. The participating instructors were informed that there would be observations of lesson delivery. They were also reminded that the researcher was neither visiting to judge their teaching performance nor as an inspector. In addition, the instructor's role and duties were discussed. They were not only responsible for lessons delivered and classroom management but also administration of pre- and post-tests. The agreement was made that the pre-test would be sent to the instructor a week before the intervention started and one week before it ended. Furthermore, the ethics of the study as well as the instructor's rights as participants were also informed and accompanied the information sheet and consent forms.

Later, the researcher asked the instructors to discuss their ideas of cooperative learning. All of them mentioned that they had assigned students to do pair-work and group work, but they had never heard of the STAD method. They stated that they had never received any training specifically on cooperative learning. Then, the researcher explained the details of cooperative learning, the STAD method description, how to implement STAD in the classroom, its elements, cycles, materials and activities. Instructors were provided with detailed instructions and sample materials to conduct learning activities. The instructors were also given advice, based on the pilot study, regarding the actual implementation of

the STAD method in the regular educational setting. Potential problems and possible challenges were also raised and instructors were provided with suggested solutions.

The intervention package of document was distributed to the instructors during the training sessions and included the following:

1. Brief summary of the study
2. STAD method explanation and cycles
3. Assigning students into team sheet
4. Examples of exercises for team study practice (from the pilot study)
5. Examples of quizzes (from the pilot study)
6. Team summary sheets to record and calculate individual and team scores.

In the second half of the training session, there were activities for the instructor to practice assigning students to teams and calculating individual and team scores. Examples of pre-test and quiz scores were provided for the instructor to practice calculating and comparing students' individual improvement scores and team scores.

During the training session, if there were any issues or concerns that needed to be clarified, the researcher took this opportunity to do so. Many technical issues and concerns were raised by the instructors. However, the current study had undergone the piloting process of the material and the method used; all questions were discussed and clarified. In addition, concerns, limitations and restrictions of each university were also discussed until the solutions were reached.

All the materials and activities were adjusted and improved according to the suggestions and the findings from the pilot study. The management and ways to communicate and assist instructor's comments and requirements were also recognised to provide better support for the instructors.

Control universities using the normal method of teaching, that is, 'treatment as usual', did not receive any training during the study period. However, training was offered to all control universities after the study was completed if the control universities were interested in cooperative learning.

#### **4.4.3 Research instruments used in the main study**

The data for the present study were gathered through three research instruments: English achievement test, questionnaires and classroom observation.

##### ***English achievement test***

The English achievement test for the main study was adapted from the B1 Preliminary English Test (PET) sample paper with permission granted from Cambridge Assessment. This standardised test is designed and developed to test students' English language skills and is suitable for testing students at the university level. The purpose of using a standardised test was to increase the reliability and validity of the result and to prevent teachers from 'teach to the test'.

In the pilot study, Cambridge Assessment English 'B2 First for School', two equivalent versions (for pre- and post-tests), were selected as the main research instrument to test the English achievement of students. The results from pilot study revealed that the level of these tests was considerably higher than students' actual levels of English proficiency. The proficiency of the students was pre-intermediate or lower level, considering the beginner users of English. The pilot study findings suggested that the tests should be adjusted and simplified or changed to the new achievement test for the main study. Whilst, the 'B2 First for School' is represented as the qualification for those who mastered the language skills needed to communicate confidently in an English-speaking environment, 'B2 First for School' was not suitable to apply in the main study to test students' English language ability.

Hence, in the main study, to evaluate students' English language proficiency and to determine the effectiveness of implementing cooperative learning to enhance pre-service teachers' achievement, Cambridge Assessment English 'B1 Preliminary' was selected and employed as the primary research instrument. Two equivalent versions for pre- and post-tests can be found in Appendix 3 and Appendix 4. B1 Preliminary for general and higher education is an English language exam at Level B1 of the Common European Framework of Reference for Languages or CEFR. This standardised test is considered an intermediate-level qualification for those who have mastered the basics of English and have practical language skills for everyday use. According to Cambridge Assessment English, this test is

suitable for older teens and people who have left school. The B1 level is described as independent users who

can understand the main points of clear standard input on familiar matters regularly encountered in work, school, leisure, etc. Can deal with most situations likely to arise whilst travelling in an area where the language is spoken. Can produce simple connected text on topics which are familiar or of personal interest. Can describe experiences and events, dreams, hopes & ambitions and briefly give reasons and explanations for opinions and plans. (ESOL Examinations, 2011, p. 8)

There are four sections in B1 Preliminary test: reading, writing, listening and speaking. In the main study, the intervention is carried out in the same module as in the pilot study where speaking and writing are not the main focus; therefore, only listening and reading were adapted for the main study. Two versions of the sample test were downloaded from the Cambridge Assessment English website and were used with the permission of the developer for teaching and research purposes only. The voice recordings for the listening section as well as the answer keys for every part were also available to download from the website. Version one of the sample test was used for pre-test and the other was distributed as the post-test after students were exposed to the intervention. The pre-test and the equivalent post-test were adapted to match the purpose of the study and the nature of the module. Therefore, each test consisted of two parts: listening and reading and use of English. For the listening section, there were seven questions to test whether the test taker was able to follow and understand a range of spoken materials including announcements and discussions about everyday life. Approximately 15 minutes were given for listening section including 5 minutes' transfer time to a separated answer sheet (see Appendix 5). Each question item, a short recording of a situation and a question are spoken in English. Students hear each piece twice. In the reading and use of English section, including three parts consisting of 15 questions items, students were given 30 minutes to complete. The main purpose of the reading section is to test the reading ability whether the test taker is able to read and understand the main points from signs, newspapers and magazines.

The pre- and post-tests were paper and pencil tests that took 45 minutes to complete and were administered under exam conditions and proctored by participant instructors. To make sure that the participants of both groups were homogeneous, PET as a pre-test was



distributed to the participants of both experimental and control group before the intervention started between June or August (depending on the university's schedule). All participants in both groups were tested again at the end of the experimental period with an equivalent PET as a post-test to see the impact of applying STAD on students' English language achievement. The post-test was carried out after 15 weeks of teaching between October and November.

### ***Attitude questionnaires***

In order to explore the participant's attitudes towards cooperative learning implementation in Thai tertiary EFL classrooms, two attitude questionnaires (teacher and student) were developed to gather information from Thai instructors and pre-service teachers.

Questionnaire is one of the popular research instruments to collect data for educational research (Menter et al., 2011); it can be used to gather three types of information about the respondent: factual, behavioural, and attitudinal (Dörnyei & Taguchi, 2009). Some well-designed questionnaires can collect wide range of information to study attitudes, opinions, beliefs, values, interests as well as past experiences and behaviours (Dörnyei & Taguchi, 2009; Menter et al., 2011). According to Oppenheim (1992), an attitude statement is "a single sentence that expresses a point of view, a belief, a preference, a judgement, an emotional feeling, a position for or against something" (p. 174). Normally, "attitudes are reinforced by *beliefs* (the cognitive component) and often attract strong *feelings* (the emotional component) which may lead to particular behavioural *intents* (the action tendency component)" (Oppenheim, 1992, p. 175). Thus, in order to investigate the students' and instructors' attitudes after experiencing the implementation of cooperative learning method, attitude questionnaires were developed to gather information from Thai instructors of English language and pre-service teachers of English from Faculty of Education in Thailand.

### ***Questionnaire design and construction***

According to Wellington (2000), the most important issue in designing and constructing the questionnaire is to start with straightforward, closed questions and put the open-ended questions at the end. A closed question provides a set number of alternative choices. Open-ended or 'free-response' questions offer space for the respondents to reply freely.

The questionnaire should follow this pattern; “closed, matter-of-fact questions to begin, followed by the open-ended questions requiring opinions, feelings and value judgement at the end” (Wellington, 2000, p. 104). The questionnaire should be designed and arranged in order to avoid discomfort and confusion of respondents. Therefore, both questionnaires were followed the same pattern: direct and closed questions, general information of the respondents, and open-ended questions.

According to Oppenheim (1992), the questionnaire specification of measurement aims must relate to the overall research plan and objectives. A large amount of time for planning, literature review, designing and piloting the questionnaire are necessary. Oppenheim (1992) suggested that some broad questions from unstructured interview or ‘exploratory interview’ can provide the researcher the start of a conceptualisation of the problem. Hence, the statements in both questionnaires were developed from the results of semi-structured interview responses in the pilot study, and from existing literature on students’ and teachers’ attitude towards cooperative learning.

The questionnaire items include positive and negative statements to avoid replies given without thinking by choosing the same answer (Arthur et al., 2012). Some of the negative statements are not only created by adding the word ‘no’ to the statements to make them negative but also by using words with negative connotations to make them less confusing to the respondents. The question items were carefully written to be in a simple, clear, understandable style and free of vague terminology. Each item focused on one thing. The length of the questionnaires also needed to carefully considered so as not to take too long to answer since this can affect the response rates and validity (Arthur et al., 2012).

- **Students’ attitudes towards cooperative learning questionnaire**

As mentioned earlier, the students’ attitudes questionnaire was constructed based on the results of semi-structured interview responses and findings from the pilot study and the existing literature review on students’ attitudes towards cooperative learning (Alharbi, 2008; Ali, 2017; Amedu & Gudi, 2017; Er & Aksu Ataç, 2014; Farzaneh & Nejadansari, 2014; Gottschall & Garcia-Bayonas, 2008; Hidayati et al., 2018; Korkmaz, 2012; Lucha et al., 2015; Mohammad, 2018; Reda, 2015). The aim was to explore the attitudes of pre-service teachers who had directly experienced of the cooperative learning method in their EFL classes for one term.

The student questionnaire utilised a rating scale system based on the level of agreement in each of the statements, from ‘strongly disagree’ (0) to ‘strongly agree’ (10). There were 11 boxes for respondents to indicate their answers. This questionnaire included two parts: Part 1 elicited information about students’ attitudes towards cooperative learning and Part 2 gathered general information about the respondent. In first part contained 31 statements related to experiences of the cooperative learning method implemented in their EFL classroom. A total of 16 items were positive statements, and 14 were negative statements. Both types were intended to gather information of pre-service teachers’ attitudes toward cooperative learning. The last item (#31) was asked so students could elaborate on any benefits or problems with cooperative learning that were not mentioned in the questionnaire. The respondent was provided with spaces to express their ideas freely. The content of the questionnaire covered interest, understanding, satisfaction, benefit and difficulty of exposing to cooperative learning.

In the second part, the students were asked about their gender, the number of years they had been learning English and the types of schools they had attended before entering the university. Moreover, there was space provided for students to make any other comments or further suggestions about cooperative learning more generally. Since it was not compulsory to answer this item, it depended on the students’ willingness to share their thoughts. The full students’ attitudes questionnaire is provided in Appendix 6.

Moreover, the pilot study found that there was a language barrier for students concerning paper work in English language as well as the suggestion from the instructor who participated in the pilot study. Therefore, in order to be clear and better express themselves without the language barrier, the English version of students’ attitude questionnaire was translated into Thai, the students’ native language. The Thai version were crosschecked by an expert translator with 10 years’ experiences working in the English-Thai translation field.

- **Teachers’ attitudes towards cooperative learning questionnaire**

The process of design and construction of the teachers’ attitudes questionnaire was similar to the student questionnaire. The items were also developed from the findings and semi-structured interview responses from the pilot study. Moreover, the existing literature review on teachers’ attitudes towards cooperative learning were considered and applied (Alias et

al., 2018; Burgić et al., 2017; Haidari, 2013; Ndahi, 1987; Saborit et al., 2016; Taufik & Maat, 2017; Thanh, 2011). Similar to the student questionnaire, the teacher questionnaire aimed to investigate instructors' attitudes after the implementation of the cooperative learning method. The questionnaire asked the instructors about their experiences of applying cooperative learning in their EFL classes for one term.

The teacher questionnaire (see Appendix 7) also utilised a rating scale on the level of agreement in each of the statement from 'strongly disagree' (0) to 'strongly agree' (10). Ten boxes of scales, 0 – 10, were provided for instructor to indicate their responses. There were two parts in this questionnaire, Part 1 elicited information about teachers' attitudes towards cooperative learning and Part 2 provided general information about the respondent. For Part I, a total of 31 statements related to experiences of the cooperative learning method implemented in their EFL classroom from the instructors' perspectives. There were 14 positive statements and 16 negative statements. The last item, no.31, provided a space for instructors to express their ideas on other benefits or problems with cooperative learning that were not mentioned in the questionnaire. The content of teachers' questionnaire covered interest, understanding, satisfaction, benefits and/or difficulties of implementing cooperative learning in their EFL classrooms.

In the second part, there was a list of questions regarding gender, age, number of years of teaching English, highest level of education, degree obtained and the language generally used as a medium of instruction. Apart from general information, additional space was provided for instructors to add any other comments or further suggestions about cooperative learning more generally.

Due to the higher level of English language proficiency for instructors at the tertiary level, the teachers' attitudes questionnaire only had English version. There was no need to translate from English to Thai.

### ***Questionnaires' validity and reliability***

In order to be certain about the validity of the questionnaire, that is, whether the items created measured what they were intended to measure, content validity was established. Oppenheim (2001) proposed that content validity seeks to establish that the items or questions are a well-balanced sample of the content domain to be measured. Turner and

Carlson (2003) also stated that “confidence in the validity of assessment information is related to the rigor and appropriateness of the procedure utilized in the developmental stages” (p. 163). In order to establish content validity for these questionnaires, the Index of Item Objective Congruence (IOC) developed by Ravinelli and Hambleton (1977) was adapted and applied. It is a process used for evaluating content validity in the item development stage. This ‘content/item-related evidence’ can be obtained from expert evaluation helping validate the content of the instrument. The procedure involves the content experts assessment of individual items based on the degree that each item measures specific objectives listed by the developer (Turner & Carlson, 2003). The content expert basically assesses each item by a rating of -1 (clearly not measuring), 0 (content area is unclear or not sure) or 1 (clearly measuring).

In this study, three specialists/experts were asked to assess both questionnaires’ content through the IOC. The IOC was evaluated by three senior instructors of English in tertiary in the field of EFL from three different universities in Thailand. The experts were not only the instructors of English language themselves but also researchers in the EFL field.

After the items or statements were created by the researcher, the questionnaires were checked by a proof-reader to help evaluate language and clarity. Later, for each questionnaire, the researcher created two tables, first, a table in which items were arranged in rows and a list of the rating scale (-1, 0, 1) and a comment section were placed in the columns (see Appendix 8). This table was for the content experts to evaluate each of the statements as to whether the content covered and addressed the objective of the study. The second table was an overall evaluation form (see Appendix 9). The statements contained three aspects of the questionnaire – layout and design, content, and purpose – and were listed on the rows as were the rating scales (-1, 0, 1) and a comment column. Then these tables and summary of the research study were distributed to the content experts to rate each item.

After the three content experts completed the items and an overall evaluation of the questionnaire, their ratings were then averaged to receive indexes of item-objective congruence for each item. If an item received a value of 1, meaning that all three experts agreed that the item was clearly measuring the objective, the item was kept as it was acceptable. However, a value of -1 indicated that all experts were certain that the particular

item did not measure the objective; the item was immediately eliminated from the questionnaire. If there was a value of 0 or less, meaning the experts believed the item was unclear or not sure whether it measured the objective, it would also be removed. Nevertheless, if the value was more than 0 in any item, it was amended. Suggestions from the content experts were considered, and adjustments of the questionnaires were made. The summaries of IOC results of both questionnaires are provided in Appendix 10.

### ***Piloting the questionnaires***

After both questionnaires had undergone the content-validity procedure and were edited according to the content experts' comments and suggestions, the next step was to pilot the questionnaires in order to ascertain the reliability of the instrument. Piloting questionnaires is considered an essential step when designing and constructing questionnaire (Oppenheim, 1992; Wellington, 2000). One of the many benefits of piloting a questionnaire is mainly to increase reliability and validity. Piloting a questionnaire can ensure the comprehensibility and clarity of the questionnaire items and instructions, check the questionnaire format and layout, identify redundant question items, remove ambiguous and/or difficult wording, check the time and length of the questionnaire (Bell & Waters, 2018; Cohen et al., 2018) and identify commonly misunderstood question items by studying the pattern of unanticipated or undesirable responses (Cohen et al., 2018). Theoretically, piloting a questionnaire should be tried out with a group similar to the population in the main study as closely as possible (Bell & Waters, 2018; Oppenheim, 1992). Therefore, the main purpose of piloting the questionnaire is to make sure of the format and language used before proceeding to use it as one of the research instruments.

Both questionnaires were piloted using Google Forms (a free, web-based operating as a survey administration online software). The questionnaires were created using the Google Forms similar to the paper-based version in terms of format, wordings and language. Then, the questionnaire could be shared with respondents by sending a link, emailing or embedding in a post on social media platform. After the respondents completed and submitted the questionnaire, the results would be sent directly back to the researcher at the personal Google Forms account. The questionnaire data were recorded and stored for further analysis. One of the advantages of using Google Forms online questionnaire was a feature that required the respondents to answer all items in order to be able to submit the form. Thus, there were no unanswered items in the piloting questionnaire stage. However,

if any respondent was not willing to complete the questionnaire, they could close or ignore the form.

Piloting of the student questionnaire was conducted with the same group of students who participated in the pilot study. Students shared similar characteristics with the students in the main study, but they were not included in the main study. Since, they already used their Facebook private groups of their class to communicate between the instructor and the students, the link was posted there. They were asked to complete the questionnaire according to their experiences of cooperative learning in their EFL classes. The total number of students who completed the questionnaire was 61.

To pilot the teacher questionnaire, 58 instructors who were native speakers of Thai and instructors of English language in public university in Thailand were asked to participate. All of them also shared similar characteristics of instructors who would participate in the main study and were not a part of the main study. The link was sent to instructors by email and direct messages.

### ***Establishing reliability***

Once all the questionnaires were completed and returned, the data was entered into the Statistic Package for Social Science (SPSS) using Cronbach's coefficient alpha to measure reliability. The 'alpha' scale was used to confirm the internal reliability of the questionnaire. For the students' attitudes questionnaire, a Cronbach's alpha reliability coefficient of 0.946 ( $n = 61$ ) was attained, which is considered very high. The reliability coefficient of the teachers' attitudes questionnaire was also calculated to be 0.871 ( $n = 58$ ). Thus, both questionnaires were considered reliable instruments for this study. Later, any adjustment to the questionnaires in the light of pilot respondents' comments were made. Any items that were not directly related were then eliminated.

### ***Classroom observational visits***

The main reasons for classroom observational visits to experimental classes were to explore how the cooperative learning method works in real educational contexts and to examine the fidelity of implementing the cooperative learning method in the EFL classrooms. The total of 14 classes of observation for experimental classes were made during one term of the implementation. The classroom observations focused on how the instructors

implemented the cooperative learning method, the quality of delivering the intervention, whether the instructors delivered lessons following guidelines from the training, and how the application of cooperative learning actually worked in real classroom practice. In addition, the classroom observations focused on how students responded to the lessons, students' behaviours, engagement or any changes in their learning when experiencing cooperative learning. Furthermore, the researcher observed five control classes to explore how instructors in the control universities normally delivered lesson and how students responded.

During the classroom observation of lesson delivery, field notes regarding what occurred in the classes were made. Information regarding classroom environment, class size, room size, how the classrooms were organised or how tables were arranged and other interesting aspects were also noted. Each classroom observation visit took three hours, the total length of the class period. *Ad hoc* interviews were conducted during the visits. In addition, conversations during the break or after classes were also made. Students' and instructors' general feedbacks, comments from *ad hoc* interviews were noted as well as general experiences of the researcher as a classroom observer.

Table 4.5 Data collection schedule

Week	Date	Task
1		Introduction/Pre-test
2		Cycle 1 - Teacher Presentation (Teach)
3		Team Study/Test (Quiz 1)/Team Recognition
4		Cycle 2 - Teacher Presentation (Teach)
5		Team Study/Test (Quiz 2)/Team recognition
6		Cycle 3 - Teacher Presentation (Teach)
7		Team Study/Test (Quiz 3)/Team Recognition
8		Midterm
9		Midterm
10		Cycle 4 - Teacher Presentation (Teach)
11		Team Study/Test (Quiz 4)/Team Recognition
12		Cycle 5 - Teacher Presentation (Teach)
13		Team Study/Test (Quiz 5)/Team Recognition



Week	Date	Task
14		Cycle 6 - Teacher Presentation (Teach)
15		Team Study/ Test (Quiz 6)/ Team recognition
16		Post-test
17		Final Exam

\*Date depended on each university's term schedule

#### 4.5 Conducting the process evaluation

'Process evaluation' or 'implementation evaluation' as a part of evaluation design is the study of the context in which the intervention was implemented in order to gain a better understanding of the impact results of the applied intervention (Siddiqui et al., 2018). The process evaluation aims to examine fidelity to implementation. It helps determine barriers and challenges found in treatment implementation, that is, lesson delivery. Process evaluation involves monitoring on intervention implementation, the fidelity of treatment with the prescribed method, the amount of treatment provided by and received by the participants, evidence of diffusion of the treatment to control group and implementation limitations.

In this study, the process evaluation included data collecting from observations of lesson delivery and interviews (semi-structured interview during the pilot study and *ad hoc* interviews during the main study). The *ad hoc* interviews and conversations during the breaks with the participating instructors and the pre-service teachers were to provide interpretative and contextual information of the implementation of the intervention. Their comments and feedback related to experiences of the cooperative learning method were noted. In an effectiveness trial of an educational intervention, which aims to determine the impact of a particular intervention, it is essential to conduct an embedded qualitative process evaluation in order to provide further evidence to support, explain or weaken the effectiveness of the intervention (Moore et al., 2003). The qualitative data comprised of observational visits were used to evaluate the process and the context of the intervention implementation. A total of 14 observation in complete lesson delivery were carried out during one term of intervention period and detailed field notes were taken.

## **4.6 Ethical issues**

The study was reviewed and approved by the School of Education Ethics Committee at Durham University (see Appendix 11). The treatment provided for students in experimental groups did not affect the academic core curriculum, course description or content. The cooperative learning method was adapted to use in a regular classroom setting. The contents were designed to match the course description of the particular module.

Participating instructors were informed about the purpose of the study both verbally and via an information sheet (see Appendix 12). They were also asked to sign a consent form, which is also provided in the Appendix 13. Since the research did not interfere with lesson delivery or even administration of pre-test and post-test, the participating students were informed about the study by their instructors. They were asked to voluntarily take part in this study. A high level of confidentiality was maintained with conscious efforts. All information given by the participants was used for research purposes only and was securely stored to ensure the participants' privacy.

## **4.7 Data analysis**

After the experimental process was completed, the data collected were analysed as impact evaluation (primary outcome), questionnaire analysis (secondary outcome) and process evaluation. Quantitative data were computed using statistical software, Statistical Package for Social Sciences (SPSS) version 27. The detail of each analysis is described as follows.

### **4.7.1 Impact evaluation**

The impact evaluation of the intervention was considered the primary outcome analysis of this study, which was student English language achievement. This was measured using Hedge's *g* effect size, which is a standardised measurement used to determine the size of the difference between two groups and it is beneficial in measuring the quantity of the effectiveness of an intervention (Coe, 2002). Because effect size emphasises 'the size of the effect' of an intervention, it is "an important tool in reporting and interpreting effectiveness" (Coe, 2002, p. 1). Effect size is calculated using the difference of the gain score between pre- and post-test divided by the overall standard deviation (using the compare means option in SPSS).

In order to evaluate student performance among these groups (experimental, control, and comparison) and to determine whether students in any groups showed improvement, the differences between pre- and post-intervention scores were used to create gain scores. Differences between groups in terms of gain scores were converted into standardised 'effect' sizes, as in the difference between means divided by their overall standard deviation (Gorard, 2021). In this study, a pooled standard deviation was used to calculate the effect size. Coe (2002) suggested that it is often best to use a pooled estimate of standard deviation, which is the average of the standard deviations of both the experimental and the control groups. Moreover, means and standard deviation were mainly stated in descriptive statistic for quantitative data: test score and gain score.

Among five universities in the comparison group, two universities who decided to join the study later after the intervention had already started were able to complete only post-test; therefore, additional analysis of post-test only was separately computed and examined against the overall mean and standard deviation of other students' post-tests.

In addition, as the English achievement scores were also gathered separately for each English skill (reading and listening as well as the overall score), then analysis of scores by skills were computed to investigate whether cooperative learning was more effective to any particular English skills and is presented as Hedge's *g* effect size.

#### **4.7.2 Questionnaire analysis**

The analysis of the questionnaire is for the secondary outcome. The data of student demographic characteristics, such as gender, type of previous school and number of years learning English, were collected through students' attitudes questionnaire. Similarly, data on teacher characteristics were also gathered via the teachers' attitudes questionnaire. Teacher characteristics included gender, the length of teaching experience, educational background, and the language of instruction.

All the demographic data and subgroup analysis by university or by instructor were analysed in descriptive statistics of mean and standard deviation. Questionnaire items denoted as negative were reverse-coded for the statistical analysis. For the missing data of the questionnaire items, the mean score of that particular item was substituted before the statistical analysis. In order to identify the different attitudes between female and male

students and types of previous school (government and private school), the Hedge's  $g$  effect size was also used.

Furthermore, Pearson's  $R$  product moment correlation coefficient was carried out using SPSS to determine the relationship between two variables on the scale of the measurement (real number) (Cohen et al., 2018). Correlation can be either positive or negative. The size of correlation can range from -1.00 (the minimum) to +1.00 (the maximum). A correlation of 0 ( $r = 0$ ) indicates no relationship between the two variables. A positive correlation means high scores on one variable and high scores on the other variable as well. On the other hand, a negative correlation indicates high scores on one variable and low scores on the other. According to the *SAGE Dictionary of Statistics* (2004), a correlation of 0.80 or above are described as large, strong or high. Correlations of 0.30 or less are considered as small, weak or low, while correlations between 0.30 and 0.80 are typically described as moderate. The bigger size of the correlation, regardless of whether it is positive or negative, the stronger the relationship between two variables (Cramer & Howitt, 2004). In this study, the relationship between the students' attitudes and the number of years they had studied English, and relationship between each students' questionnaire item were computed.

Last, qualitative data collected in this study from students' and instructors' comments in the final part of the questionnaires were analysed through content analysis. Content analysis is potentially one of the most important research techniques in the social sciences (Krippendorff, 1989). It aims to analyse data in a specific context from the view of someone. In this study, content analysis was used to determine the presence of words, phrases, themes, or concepts within texts written in the questionnaires. Key words, meaning and relationships of the certain words were investigated in the relevance to the specific concepts or themes through the process of coding, distinguishing the relevant information and drawing inferences related to the certain themes.

#### **4.7.3 Process evaluation**

As described earlier, the process evaluation in this study included data collected from observations of lesson delivery and interviews (semi-structured interview during the pilot study and *ad hoc* interview during the main study) with both students and instructors. The data were gathered as field notes. Content analysis was also used to analyse the field notes and investigate fidelity to implementation.

Table 4.6 provides a summary of all research instruments applied in this study based on research questions, measures, obtained data and the analysis approach used to analyse the data.

Table 4.6 Summary of research instruments and data analysis

Research questions	Approach used to address RQ	Research instruments	Measures	Data used for analysis	Analysis approach
<b>RQ 1:</b> Is it feasible to implement cooperative learning in Thai tertiary EFL classes? a. What are the factors that facilitate the cooperative learning implementation? b. What are the barriers/challenges to the implementation of cooperative learning in EFL classrooms?	A pilot study + A cluster RCT	Questionnaires	Overall assessment of the feasibility of the cooperative learning method	Attitude scaled scores	Mean S.D. Effect size Correlation Content analysis
		Interview (semi-structured + <i>ad hoc</i> )		Field notes	Content analysis
		Classroom observation			
<b>RQ 2:</b> To what extent does the STAD method of cooperative learning enhance pre-service teachers' achievement in English language?	A structured review	Electronic database	Trustworthiness of a research report	Secondary data from existing studies	Star rating system 'Sieve' (Gorard, 2014)
	A cluster RCT	English Achievement tests	English language proficiency	Test scores Gain scores	Mean S.D. Effect size
<b>RQ 3:</b> What are the participants' attitudes towards cooperative learning? a. What are pre-service teachers' attitudes towards cooperative learning implemented in EFL classrooms? b. What are university instructors' attitudes towards implementing cooperative learning in EFL classrooms?		Questionnaires	Attitudes of students and university instructors	Attitude scaled scores	Mean S.D. Effect size Correlation Content analysis
		Interview (semi-structured + <i>ad hoc</i> )		Field notes	Content analysis

#### **4.8 COVID-19 interruption**

Due to the COVID-19 pandemic situation during the term the intervention conducted, the Thai Ministry of Education ordered all schools and universities to be temporarily closed. The beginning date of the term was postponed to different dates in each university. There were national and provincial announcements on the COVID-19 alert and restrictions to prohibit arrangement of normal classroom settings. All universities announced urgent regulatory requirements that all lessons needed to be switched to distance learning or online learning.

In addition, the other issue was the nature of the intervention of cooperative learning required students to work together closely in teams. It might not be possible to organise this kind of learning environment under the pandemic situation. Therefore, after discussing these issues and teaching and learning conditions with all instructors, the mutual agreement was that the intervention would start when the teaching was allowed to be organised in normal classroom environment or at least until the Ministry of Education eased some teaching and learning regulations.

The universities participating in this study are located in different provinces and some are located in different regions. Some universities were located in ‘high-risk of inflection’ areas. As a result, each university announced their own specific regulations depending on the situation in their areas. Hence, the intervention duration where students met face-to-face in the classroom of each university varied, approximately 8 to 12 classes. The intervention in each university was necessarily adapted to meet with university and state regulations under the circumstances. Even the numbers of classes varied depending on the location of the university and whether it was located in a high-risk area for disease outbreak. None of the universities involved in this study completed the whole 16 classes as planned; some were able to deliver only 8 classes.

#### **4.9 Summary**

This chapter began with the description of process involved in the structured review in a transparent way to judge the trustworthiness of the related studies. It described how each study was evaluated for quality based on the availability of the provided evidences. Then, the chapter outlined detailed information in the pilot study in a teacher education programme in a university in Thailand. Last, this chapter described the detailed steps in

conducting the cluster randomised controlled trial. A detailed description of research design and instrument were also presented as well as the detailed of conducting a process evaluation.



## CHAPTER 5

### REVIEW OF PREVIOUS RESEARCH ON THE STAD METHOD

The aim of this structured review is to synthesise the empirical evidences regarding the effectiveness of the STAD method in teaching and learning in normal English as a foreign language (EFL)/ English as a second language (ESL) classroom settings in both schools and in higher educational institutions.

This chapter presents the results of a structured review that addresses Research Question 2, including a summary of all reviewed studies with a quality rating. The details of each study with an explanation of its rating is also discussed.

#### 5.1 Summary results of the included studies

A total of 28 studies that met the inclusion criteria were reviewed and assessed for quality. Most of the studies applying the STAD method in the English courses were conducted in non-English speaking countries – 11 studies from Indonesia, 9 from Iran, 3 from Thailand, 2 in Pakistan and 1 each in Lebanon, Jordan and Bahrain. Only one study (Slavin & Oickle, 1981) was carried out in the United States. None were found from the UK.

Of 28 studies, 23 reported positive or effective outcomes of the STAD method in English courses (Table 5.1). The other five studies reported negative outcomes (G. M. Ghaith & Yaghi, 1998; Ghasemi & Baradaran, 2018; Pandiangan, 2019; Sutrisno et al., 2018; Warawudhi, 2012).

Table 5.1 Summary of the studies' quality and impact

	Effective	Ineffective
<b>2*</b>	1	0
<b>1*</b>	1	2
<b>0</b>	21	3

All of the studies have critical research methodological problems in terms of their design, such as having no comparison group, lack of randomisation, very small sample size, threats to internal validity, poor validity and reliability concerns, short duration of the intervention

or unclear reporting. The large majority of the positive studies ( $n = 21$ ) were assigned a zero rating for strength of evidence, which suggests that the evidence from these studies can largely be ignored as they do not add to the evidence base.

One 1\* study suggested positive results and another two reported no effects. Only one study was rated 2\* (Slavin & Oickle, 1981) reporting positive results. This is the highest rated study in this review, and it was conducted in the US. This study had a high attrition rate, which affects the credibility of its findings, and was thus downgraded to 2\*. On balance, there was no conclusive evidence of the effectiveness of the STAD method of cooperative learning in enhancing English language proficiency for EFL/ESL learners. However, this does not mean that STAD does not work. What it means is that with the evidence we have, we cannot say with confidence whether STAD is effective or not. The absence of evidence is not the same as the evidence of absence. Nevertheless, the highest rated study suggests there is promise in the approach.

Table 5.2 summarises the quality ratings of the included studies. It describes the component or aspect of English being tested, the sample size, size of the smallest cell, attrition rate and the number of dropouts. The table also shows the NNTD (a measure of the stability of the findings as a result of attrition) and the effect size. The last column shows the star rating, which indicates the level of trustworthiness of the findings. Many of the studies do not report the effect size. In such cases, the effect size was calculated by the researcher based on the information given in the study report. The effect size is calculated as the difference in the mean scores of the pre-test and the post-test between the experimental group and the control group, divided by the overall standard deviation of those scores. In addition, NNTD was also calculated by the reviewer, it computes from the effect size times the smallest cell to be the number of cases that alter the intervention result.

Table 5.2 Summary of all reviewed studies

English topics	References	Age/Level	Sample size	Smallest cell	Attrition Dropout	NNTD	Effect size	Rating
Grammar	Slavin & Oickle, 1981	Grade 6-8	230	84	13% (31)	7	0.08 (calculated by the reviewer)	2*
	Ghaith & Yaghi, 1998	Grade 4-6	318	157	Not reported	5	0.03	1*

English topics	References	Age/Level	Sample size	Smallest cell	Attrition Dropout	NNTD	Effect size	Rating
							(calculated by the reviewer)	
	Anwer et al., 2018	Grade 9	60	30	0%	33	1.088	0
	Fauziningrum, 2012	Grade 3	24	12	Not reported	17	1.43 (calculated by the reviewer)	0
	Khan & Akhtar, 2017	Grade 7	178	88	3.26% (6)	40	0.45	0
	Malelohit, 2016	Undergraduate	26	26	Not reported	-	Not applicable*	0
	Saniei & Ghadikolaei, 2015	16-21 years old	64	32	Not reported	18	0.57 (calculated by the reviewer)	0
Achievement	Nikou et al., 2014	14-18 years old	80	40	Not reported	11	0.26 (calculated by the reviewer)	1*
	Alijanian, 2012	Grade 3	60	30	Not reported	-	Not enough data provided	0
	Aranban et al., 2012	High school	60	30	Not reported	18	0.62 (calculated by the reviewer)	0
	Motaei, 2014	Undergraduate	80	40	6.98% (6)	23	0.58 (calculated by the reviewer)	0
	Munir et al., 2017	Junior high school	60	30	Not reported	-	Not enough data provided	0
	Ritonga et al., 2016	Vocational education	47	21	Not reported	43	2.04 (calculated by the reviewer)	0
Speaking	Ghasemi & Baradaran, 2018	Intermediate level of English proficiency	60	30	Not reported	-	-2.23 (calculated by the reviewer)	1*
	Kurniawan et al., 2017	Grade 9	56	28	Not reported	8	0.27 (calculated by the reviewer)	0
	Mudofir, 2017	Vocational education	88	44	Not reported	-	Not enough data provided	0

English topics	References	Age/Level	Sample size	Smallest cell	Attrition Dropout	NNTD	Effect size	Rating
Reading comprehension	Jalilifar, 2010	Undergraduate	90	30	Not reported	10	0.34 (calculated by the reviewer)	0*
	Al-Zu'bi & Kitishat, 2013	Undergraduate	41	20	Not reported	57	2.86 (calculated by the reviewer)	0
	Chotimah & Rukmini, 2017	Grade 8	52	26	Not reported	-	Not enough data provided	0
	Pandiangan, 2019	Grade 7	Not reported	Not reported	Not reported	-	-0.69 (calculated by the reviewer)	0
	Sunarti & Rachman, 2018	Undergraduate	50	25	Not reported	-	Not enough data provided	0
	Syafiq & Rahmawati, 2017	High school	80	40	Not reported	-	Not enough data provided	0
	Warawudhi, 2012	Undergraduate	154	72	Not reported	-	-0.44 (calculated by the reviewer)	0
	Wichadee, 2005	Undergraduate	40	40	Not reported	-	Not applicable*	0
Listening comprehension	Khansir & Alipour, 2015	17-28 years old	60	30	Not reported	33	1.12 (calculated by the reviewer)	0
Writing	Sutrisno et al., 2018	Undergraduate	32	16	Not reported	-	-0.31 (calculated by the reviewer)	0
Communication skills	Glomo-Narzoles, 2015	Undergraduate	54	26	Not reported	-	Not enough data provided	0
Translation	Upa & Ridho, 2019	Undergraduate	20	20	Not reported	-	Not applicable*	0

\*single-group design – no comparison group

## 5.2 Impact of STAD on the different aspects of English language

This section describes the impact of the implementation of the STAD method in different English language skills and aspects. Most studies (n = 8) implemented the STAD method in English classes for reading comprehension, seven studies for grammar, six for general

English achievement and three in speaking. The rest (one each) were in listening comprehension, writing, communication skills and translation (Table 5.3). However, overall findings from this structured review suggests that there is no strong evidence that STAD enhanced EFL/ESL students' English language ability. Only one study, Slavin and Oickle (1981), applied STAD in an English grammar course, received a 2\* rating. This seems to indicate that STAD might be a potentially promising approach to improve students' English grammar. More robust and vigorous studies with high-quality research design are needed before further conclusions can be drawn.

Table 5.3 Summary of quality rating of the STAD method studies related to English language

	2*	1*	0
Grammar	1	1	5
General English achievement		1	5
Speaking		1	2
Reading comprehension			8
Listening comprehension			1
Writing			1
Communication skills			1
Translation			1
Total	1	3	24

### 5.2.1 Grammar

As can be seen from Table 5.3, seven studies evaluated the effects of STAD on grammar. Of these, the one study received a 2\* rating, suggesting a positive result, while the one rating of 1\* reported ineffective outcomes. Even though the rest of studies implemented STAD in grammar classes and reported positive outcomes, those studies were found to have serious methodology problems.

The only study with a rating of 2\*, the highest rating in this review, reported an effective outcome towards the STAD implementation. This study was carried out in the United State by **Slavin and Oickle (1981)**. The purpose of the study was to examine the variant of STAD treatment on English achievement of students of different races. Two hundred thirty middle school students were divided by random assignment of classes (cluster randomisation) to four experiment classes (84 students) treated with STAD or Team method and to six control classes (146 students) studied with a Non-Team method (i.e. individual method). All classes were taught by five teachers, not the researchers. The research instrument used to

assess students' achievement as pre- and post-tests consisted of two parallel forms of standardised Junior High School English Test, which included such topics as punctuation, capitalisation and English usage. A small positive effect size ( $ES = +0.08$ ) was found after 12 weeks of the intervention. This study could have been rated at 4\* with the well-designed, cluster randomisation by classes and the use of two parallel standardised tests. However, the study reported a quite high level of attrition, 13%, which likely affected the validity of the findings. The NNTD was only 6.72 as opposed to an attrition rate of 31 participants. Even though the results were promising, the rating dropped to 2\*.

On the other hand, the study that received a rating of 1\* in English grammar reported an ineffective outcome using STAD. This study by **Ghaith & Yaghi (1998)** explored the effect between cooperative learning using the STAD method and an individualistic instructional approach on the acquisition of ESL linguistic achievement. The 12 intact classes of 318 junior high school students in Iran were cluster-random assigned to experimental (six classes) and control groups (six classes); 161 students were in the experimental group and the control group included 157 students. The lessons were delivered by six teachers who were trained for four days to use STAD to teach English language rules and mechanics. One teacher taught one control and one experimental class. The duration of the intervention was only six weeks. Two parallel domain-referenced tests as pre- and post-tests were specifically developed for this study. The content validity was checked by teachers who taught these classes, two coordinators of English language and the researchers. T-test and a two-way analysis of covariance (ANCOVA) was employed to compare the achievement gains of both groups. A small effect size ( $ES = 0.03$ ), which was calculated by the reviewer, indicated that there was no difference between groups. Attrition was not reported. This study could have received a higher rating because of the large scale of the sample size. Nevertheless, the short duration of the experimental periods, possible of diffusion of treatment (the same teacher taught both control and experimental classes and the control group students might have been exposed to the treatment) and purposively researcher-made tests, lowered the validity of the study. Thus, 1\* was given for this study.

The other five studies of STAD in English grammar classes indicated positive outcomes. Nevertheless, they received rating of 0 for having research design issues, such as no comparator, using purposive sampling technique (Malelohit, 2016), questionable quality of the research instrument (the tests to measure the impact outcome of the studies) (Anwer et

al., 2018; Khan & Akhtar, 2017; Saniei & Ghadikolaie, 2015), and unclear reporting of the study (Fauziningrum, 2012).

The study **Malelohit (2016)**, compared undergraduate students' English grammar ability before and after being exposed to the STAD technique and studied students' attitudes towards the use of STAD in their English classrooms. Only 26 students were purposively assigned to only a one group pre- and post-test design of the study. Students were taught by the researcher using the STAD method for three periods over eight weeks. All research instruments (grammar achievement test, quizzes and students' attitude questionnaire) were made by the researcher without validity and reliability tests. Without a comparison group, it is not possible to ensure that the students' higher English achievement was the effect of the intervention. This study not only had issues with no comparator, it also employed the test without any content validity and reliability tests. In addition, the delivery of the lessons was done by the researcher. The positive outcome from the researcher-developed test, may have been a result of 'teaching to the test'. There was also no report of attrition in this study. Because of all the major untenable flaws in the research design, sampling techniques, research instruments, short duration of the intervention and other threats to internal validity had weaken the credibility of the study. Therefore, it was rated 0.

In another study, **Anwer, Tatlah and Butt (2018)** conducted an experimental study to explore the effectiveness of STAD and the lecture method on high school students on English achievement, regarding verb tenses. Sixty Grade 9 students were allocated to experimental ( $n = 30$ ) and control ( $n = 30$ ) groups via matching pair technique on the basis of the Panjab Education Commission. The STAD method was applied to the experimental group, while the control group experienced a lecture-based method. Both groups were taught for eight weeks by a teacher who was trained by the researcher on how to implement STAD. A teacher-made test was used to measure students' English knowledge of tenses, but the same test was used for pre- and post-tests. The findings showed that students in the experimental group significantly outperformed the control group with an effect size of 1.088. No student dropped out of the study. In addition to very small sample size, distributing the same test for both pre- and post-tests lowered the credibility of the study. The students could have been familiar with the test, which could have resulted in higher achievement on the post-test. Researcher-developed test, especially without content and

reliability tests, definitely raised questions about the claim of positive results. The teacher could also have taught to the test. Thus, this study was given rating of 0.

Another issue with the research instrument was the application of researcher-made tests but with content validity and reliability tested to ensure their quality. However, these two studies (Khan & Akhtar, 2017; Saniei & Ghadikolaie, 2015) distributed the same test for both pre- and post-tests, which may weaken the research credibility. These following studies received 0 rating.

**Asif Khan and Mumtaz Akhtar (2017)** compared the effects between the STAD and whole-class traditional methods in enhancing English grammar; 184 Grade 7 students in four intact classes were taken from two public schools in Pakistan. This study was quasi-experimental, using cluster randomisation to assign classes to experiment and control groups. A total number of 93 students were in the experimental group treated with STAD, and 91 students were in control groups exposed to the traditional method of whole-class instruction. All classes were taught by the researchers. The intervention lasted for 12 weeks. An English achievement test was developed by the researcher and used for pre- and post-tests. The content validity was checked by four English teachers who were teaching at the elementary level. The test was also piloted and calculated via Cronbach's alfa reliability test, which was 0.89. The effect size of 0.45 was reported with only six students (3.26%) dropping out from the study. This study would have been rated higher if the issue of applying the same test for pre- and post-tests had lowered the research quality.

In addition, **Saniei and Ghadikolaie (2015)** studied the effects of STAD on English collocations for EFL students in Iran. The participants were 62 intermediate level proficiency students, but the sampling technique was not described. There were 32 students in experimental group receiving STAD as the treatment and 32 students in control group studying with individualistic instruction. After eight sessions of the treatment, delivered by the researcher, and the same researcher-made pre-test was distributed as the post-test. The content validity of the test was done by three experts in Teaching English as a Foreign Language (TEFL) field, one EFL teacher and two professors. The test was also piloted and calculated the reliability coefficient with a Cronbach's alpha of 0.83.



As mentioned earlier, employing the same test for both pre- and post-test may affect the research results because one of possible threats that students become familiar with the test, especially if the duration of the intervention is short. Moreover, if the researchers themselves were responsible for lesson delivery, it is possible to create teacher effect and bias the results in favour of the treatment group, that is, the researchers might have taught to the tests. All of these reasons, these two studies (Khan & Akhtar, 2017; Saniei & Ghadikolaei, 2015) were rated at 0.

Last, the study by **Fauziningrum (2012)** also reported positive results on the implementation of STAD in grammar classes. Nonetheless, this study was reviewed and rated 0 as having poor quality in terms of unclear reporting. Fauziningrum (2012) evaluated the effectiveness of STAD and the Three Minutes Review (TMR) methods to teach English questions to third grade elementary school students. A very small number of students ( $n = 24$ ) participated in this study with only 12 students in each group; however, the study did not mention the sampling technique. The intervention period was very short - only four lessons. The only detail of the test as main research instrument was 15 questions of multiple-choice form. The test was piloted with 20 students. The validity of the test was calculated and the reliability coefficient was 0.89 calculated with the KR-20 formula. There was no information on who taught both classes, although it seemed to be the researcher, and the number of students dropped out was not mentioned.

### **5.2.2 English language achievement**

A total of six studies evaluated the use of STAD on students' general English language achievement, and all six presented positive outcomes. Only one study, Nikou et al. (2014) was rated 1\*, while the rest received a 0 rating due to critical issues on the tests, which were their main research instrument used to measure the impact outcome of the study. All studies employed researcher-developed tests. Only one study, Munir et al. (2017) distributed the test that had undergone reliability testing. All 0 rating studies also reported limited details to evaluate their qualities.

The 1\* rating was a quasi-experimental study by **Nikou, Bonyadi and Ebrahimi (2014)**. A total of 80 students (32 males and 48 females) who were at the intermediate level of English proficiency were randomly assigned to two experimental groups and two control groups. The participants were between 14 and 18 years old. In the experimental group,

students engaged with STAD method, while students in control group exposed to traditional method of teaching, that is, lecture-based instruction. Two almost-parallel standardised tests of Top Notch Achievement Test were employed as pre- and post-tests. The intervention lasted for 13 weeks including of 30 hours in 20 class sessions. Results indicated that students who engaged in STAD produced greater improvement on post-test scores than students in the lecture-based group. No attrition rate was reported. Also, it was not clear who delivered the lessons in those classes, but it is possible that the researchers taught all the classes. There might be a threat to the lesson delivery by three different teachers (researchers) which may have caused a possible bias. The study was given a rating of 1\*.

The following are the studies received 0 rating. In the first study, **Alijanian (2012)** studied the effectiveness of STAD on English achievement of Iranian third grade junior high school students. A total of 60 female students who participated in this study were assigned by chance to experimental and control conditions. In the experimental group, 30 students were exposed to the STAD method, while 30 control group students learned English with traditional methods consisting of mainly Grammar Translation Method (GTM), some of the Audio-Lingual Method (ALM) and isolated learning context. Both groups used the same English materials. There was no detail regarding who delivered these lessons. Two English Achievement Tests were created by the researcher without quality checks. The duration of the intervention was two months.

Another study which evaluated English academic achievement, **Araban et al. (2012)** explored the effects of cooperative learning on self-efficacy and academic achievement in the English lessons of high school students. There were 60 male students who were randomly assigned to experimental and control groups, that is, 30 students in each group. An English achievement test was developed by the researcher without validity and reliability testing, and it was used as both pre- and post-tests to collect data for this study. The treatment period was only four weeks. There was limited detail on the control group and the research instrument. Information not described in this study included research procedure, who taught the classes and the number of drop out students. The main problem in this study was the poor reporting with a lack of important information to measure its research quality.

These two studies (Alijanian, 2012; Araban et al., 2012) were very small scale. With researcher-developed tests, especially without content and reliability tests, have raised questions regarding the claim of the positive result. The teacher/researcher could have taught to the test. Thus, these two studies were given rating at 0.

Another study in English for Specific Course, **Ritonga et al. (2016)** evaluated English achievement in hospitality of vocational students in tourism department in Indonesia. In a very small sample size of 47 students, 26 students were assigned to the experimental group exposed to STAD method as compared to 21 students in the control group experienced the expository learning method. A research-developed test was used to compare the outcome consisting of seven essay questions and 32 multiple choice questions. The test was claimed valid with the reliability coefficient of 0.791 for the essay part and 0.965 for multiple choices. The same test was used for both pre- and post-tests. The effective outcome might be because the students were familiar with the test since the duration of the intervention was not reported. The person who taught classes and the attrition rate were also not mentioned in the study.

In a quasi-experiment, **Motaei (2014)** investigated the effect of STAD as a determinant of achievement in English language skills in the STAD method as compared to teacher-centred classrooms. Two class of 86 students were cluster randomised to an experimental group of 42 students and a control group of 44 students. Both classes were taught by the researcher. The objective multiple-choice test of English was made by the researcher and used the same test for both pre- and post-tests. The test consisted of dictation, reading comprehension, grammar and vocabulary. Even though, the reliability of the test was calculated using Cronbach's alpha resulting in reliability coefficient of 0.76, there was no report on piloting the test. The treatment duration was one term (four months) of two classes each week. The attrition number of six students was reported.

Last, **Munir, Emzir and Rahmat (2017)** compared the effectiveness of two different cooperative learning methods (STAD and Jigsaw) and learning styles (visual, auditory and kinesthetic) on junior high school students' English achievement. This study employed a post-test only design with information on homogeneity of students at the outset. Sixty students were randomly stratified from the affordable population and were divided into three groups based on a learning style questionnaire. Hence, two groups of different

cooperative learning methods consisted of three groups of students with different learning styles. There was no description of who delivered the classes, but it seems to be all the researchers. With limited detail on English achievement test, it was researcher-developed version with reliability test of Cronbach's alpha of 0.871. Attrition was not reported and neither as the length of the study.

With the poor reporting of the research, the conclusion drawn from these studies needs to be treated with caution. Hence, these studies were rated at 0 suggesting no evidence of the STAD method improving students' English language achievement.

### 5.2.3 Speaking

Three studies evaluated the implementation of STAD in English speaking lessons. The two studies that documented positive results were rated 0, while the study with a negative outcome was rated 1\*.

The study with the 1\* rating was conducted by **Ghasemi and Baradaran (2018)** who compared two cooperative learning methods: STAD and Cooperative Integrated Reading and Composition (CIRC) and studied their effectiveness on English speaking complexity. Sixty female learners who were at the intermediate proficiency level were randomly assigned to experimental and control groups – 30 students in each group. The experimental group was treated in the STAD condition, while the control group experienced CIRC. The intervention provider was not mentioned, and the treatment duration was 10 sessions (two hours per session). Two standardised tests were utilised as the main research instrument. The pre-test was the Preliminary English Test (PET), which consisted of all four skills: reading, writing, listening and speaking. The test was used to measure the participants' general proficiency and the normality of the speaking complexity of both groups. The speaking PET post-test was employed to determine the gain scores of both groups. An effect size of -2.23 was calculated by the reviewer meaning that the control group improved more than the experimental group. There was also no report of missing values or attrition. Due to the very small sample size, this study received a rating of 1\*.

For the two 0 rated studies with positive STAD outcomes in English speaking, the first study, Mudofir (2017) employed a quasi-experimental design using non-equivalent pre-test – post-test control group design. The other, Kurniawan et al. (2017), used a post-test only

design; however, there was a lack of detailed information regarding how the study measured the homogeneity of students in both experimental and control groups at the outset. Therefore, it was unable to report which group had made a bigger gain. Several other elements of reporting a research in order to evaluate their qualities were also missing. Hence, these two studies (Kurniawan et al., 2017; Mudofir, 2017) were rated at 0.

**Mudofir (2017)** investigated the effect of STAD on English speaking learning outcomes on students with different learning styles compared to conventional learning strategies. The study employed a quasi-experimental design with non-equivalent pre-test and post-test control group design. The participants in this study were 88 vocational students who majored in Electronics Engineering and were purposively randomised to experimental ( $n = 44$ ) and control groups ( $n = 44$ ). The intervention period included eight sessions (two hours per session); it can be assumed that the lessons were provided by the researcher. A fluency speaking test in the form of a job interview was used to obtain the research data. However, there was not any information on validity and reliability testing of the research instrument or how the research evaluated English speaking ability. No evidence of attrition or missing data were provided. In addition to inferior research design and sampling, vague quality of research instrument reduced the credibility of this study. Since this study was not equivalent between the compared groups at the outset, it is possible that the results were biased.

In a quasi-experimental study, **Kurniawan, Mukhaiyar and Rozimela (2017)** investigated the effect of the STAD method for high school students' speaking skills and class participation. The study employed cluster randomisation of only two classes with a total of 56 students - 28 in the experimental and 28 in the control groups. The experimental group experienced the STAD method; however, there was no information regarding the control class, such as method used or steps taken in the learning process. The post-test used to measure the outcome was an oral performance test, that is, an individual student presentation in front of the class. There was not any detail regarding who and which criteria was used to evaluate students' speaking ability. It is possible that researcher-taught classes could create teacher/researcher bias to favour students in experimental group. In addition to no report of the attrition rate, the duration of the intervention was also not stated.

#### 5.2.4 Reading comprehension

Eight studies assessed English reading comprehension, and all of them were rated 0. Among all, six studies reported positive outcomes of STAD in reading comprehension while the other two indicated ineffective results. This suggests no evidence that STAD can enhance reading comprehension skills in English.

These six studies with positive results of STAD in reading comprehension received 0 ratings because of critical issues with their research design, instrument and poor reporting including having small sample size with researcher taught classes (Jalilifar, 2010), having no comparator group and using purposive sampling techniques (S Wichadee, 2005), using the same test for both pre- and post-tests (Al-Zu'bi & Kitishat, 2013) and poor quality and unclear reporting (Chotimah & Rukmini, 2017; Sunarti & Rachman, 2018; Syafiq & Rahmawati, 2017).

The first study was conducted in higher education. **Jalilifar (2010)** evaluated the impact of two cooperative learning methods, STAD and Group Investigation (GI) and an individualistic instructional approach that focused on exercises in students' regular textbooks. The study was a pre-test post- tests control group design. Ninety EFL college students in Iran were systematic random sampling to two experimental groups, STAD and GI, and a control group; each group consisted of 30 students. Lessons in all three groups were delivered by the researcher who was trained to use STAD and GI. Two standardised English language proficiency tests were employed as pre- and post-tests to assess students' English reading comprehension. The intervention lasted for two months (16 sessions). Significant testing of one-way ANOVA was used to analyse the research outcome. The effect size ( $ES = 0.34$ ) between only the STAD experimental group and control group was calculated by the reviewer. Only the STAD method showed high effectiveness when compared to the individualistic instructional approach. Although, this study employed standardised pre-test, the post-test was a teacher-made test, which piloted twice to ensure its reliability. In addition, the sample size was small, and the researcher taught all classes, which might have diffused the treatment, have weakened the credibility of the study. Attrition numbers or missing data was not reported.

A study conducted in Thailand, **Wichadee (2005)** studied the effects of STAD on English reading skills with 40 first-year undergraduate students and their attitudes towards

cooperative learning methods used in English classrooms. The study used purposive sampling technique with only one group pre-test and post-test design. The experimental period was eight weeks. Research data came from reading comprehension tests, a student attitude questionnaire, cooperative learning behavioural assessment form and an interview. The intervention lasted for eight weeks and was delivered by the researcher. There was lack of detail on research instrument and its quality. The lessons were delivered by researcher herself and there was no report of attrition number. Therefore, this study received 0 rating.

To evaluate the effects of STAD on English reading achievement, **Al-Zu'bi and Kitishat (2013)** carried out a study with 41 female undergraduate learners of English in Jordan. The students were randomly assigned and stratified by the researcher based on their academic potential and performance to experimental ( $n = 20$ ) and control groups ( $n = 21$ ). Control group students were taught with a conventional method - lecture, the Grammar Translation Method (GTM) and the Audio-Lingual Method (ALM). Before the intervention, two instructors who participated in this study were trained for 20 hours to reach each condition. The intervention period was two months (eight weeks) in a normal classroom environment of 50 minutes each week. However, in each lesson, not only did the instructor teach the classes, so did the researcher. Data was collected through a teacher-made English reading comprehension test, which were used for both pre- and post-tests. Content validity was established by some experts from Jordanian Universities and the Ministry of Education. The test was also piloted, and the test was retested to find a reliability of 0.80 (using Pearson's correlation formula). Apart from using the same test for pre- and post-tests, the sample size was very small, the researcher delivered classes, and sampling technique was based on the researcher's judgement which could bias the results. Hence, a 0 rating was given for this study.

In terms of poor reporting of the research, **Sunarti and Rachman (2018)**, who examined the effectiveness of Flip Classroom implemented with STAD method on reading comprehension of first-year undergraduate students in Indonesia compared to traditional instruction. This study used post-test only design with cluster random sampling of only two classes with the total of 50 students. There was no pre-test to evaluate students' baseline reading ability at the outset, but the researcher claimed that the normality and homogeneity were tested; the reporting on this matter was unclear. This study lacked of detail on who

delivered the lessons, the research instrument used, its quality and, of course, the attrition rate; the study was a rating of 0.

In a quasi-experimental study, **Chotimah and Rukmini (2017)** compared two cooperative learning methods, STAD and GI, to teach English reading comprehension to students with high and low motivation. There were only 26 Grade 8 students purposively sampled in each experiment and control groups; however, there was no description of how many students were in each group. The researchers conducted normality and homogeneity tests to check the similarity characteristics or homogeneity of the experiment and control groups. A reading comprehension test was developed by the researcher. For the test, only detail given was a multiple-choice test, but it was unclear how many versions of the test were distributed for pre- and post-tests, which were conducted by the researcher, and both classes were taught by the same teacher. There was no information regarding whether the teacher was trained before the implementation of either methods. The teacher was observed by the researcher to teach by using the STAD method in the experimental group and using GI in control group. There was no report of attrition. In addition to very small sample size ( $n = 26$ ), using purposive sampling technique could have biased the results. The results of this study were reported only mean scores; it was not possible to calculate the effect size.

**Syafiq and Rahmawati (2017)** studied the effect of STAD to improve students' English reading comprehension of 80 high school students from four classes; selection was based on the historical factors and pre-existing ability. Students in the experimental group ( $n=40$ ) studied English with the STAD method, while 40 students in the control group experienced the Direct Method. The study did not provide detail on the sampling technique, duration of the treatment, research instrument, who taught both classes, and of course, the attrition rate. Hence, there was not enough data to calculate the effect size of this study.

These three studies with poor reporting issue; several critical information was not reported in order to evaluate the quality of the studies, such as limited detail on research instrument, its quality and how they were used. Sampling technique and treatment duration were not described. This may distort the credibility of the studies. Due to the ambiguity in reporting, all three studies received 0 rating.



Furthermore, the other two studies assessed the effectiveness of STAD on students' English reading comprehension found negative results. However, these two also had serious flaws in terms of poor reporting of the studies. Information to evaluate the quality of the research was missing, such as no report of the sampling technique, number of participants, duration of the intervention, research instrument and its quality.

**Pandiangan (2019)** compared two cooperative learning models: STAD and cooperative leadership to enhance students' reading comprehension ability. Seventh grade students were the participants, but the number of students was not described. The treatment duration was only one month of 10 sessions (two hours per session). There was very limited detail on the reading comprehension ability test used. Only "the researcher conducted a pilot test with a purpose to validate the test" (p. 5) was mentioned. The attrition number was also not reported. The finding showed a significant difference between these two methods in students' reading comprehension ability; however, the cooperative leadership model reported better results. With unclear and limited information, a 0 rating was given for this study.

Another study was conducted in Thailand by **Warawudhi (2012)** comparing STAD and Lecture Method for teaching English reading skills to Thai undergraduate students. The participants were 154 Thai students who were not English majors with low-level English proficiency. In the experimental group, there were 82 students, while 72 students were in the control group. The sampling technique was not mentioned. The intervention lasted for three months. It seems to be the researcher who instructed the lessons. There were two achievement tests (pre- and post-tests), a free Penguin Readers' Placement Test, to categorise levels of reading ability and to divide students into sub-groups. Teacher-made formative and summative tests were employed to re-evaluate students reading skills before and after the intervention. However, no details were given as to how the tests were verified for validity and reliability. Attrition number, like most of the research in this review, was not reported. The study found that students in the Lecture Method group performed slightly better than students in the STAD group. Due to the insufficient details, the study received a rating of 0.

Because of several important details in order to judge the research quality were left out, the findings of the research need to be considered with caution.

### 5.2.5 Other aspects of English language

For the other four studies, one in each English aspect was reviewed; listening comprehension, writing, communication skills and translation. Only one (Sutrisno et al., 2018), which evaluated STAD in English writing, documented negative results; the others claimed positive outcomes. However, all were rated at 0 due to major flaws in design, such as having no comparator, using the same test for both pre- and post-tests and having poor quality in reporting the study.

**Upa and Ridho (2019)** carried out a pre-experimental study with single group using pre-test and post-test design to explore whether teaching English translation with STAD would improve students' translation ability. The purposive sampling technique of only 15 to 20 students participated in the study. The pre- and post-tests were described thus: "It is about translating the English news into Indonesia[n]" (p. 249). There was very limited information on the research instrument, its' quality or how the researcher evaluated the students' translation ability. The duration of the study was short with only four meetings between pre- and post-tests.

Another study in higher education, done by **Glomo-Narzoles (2015)**, examined a comparison of the effectiveness of STAD and traditional teaching methods on the English achievement of undergraduate students. This study employed a quasi-experimental design, pre-test and post-test control group without mentioning the sampling technique. A total of 28 students were in the experimental group exposed to the STAD method while 26 students were assigned to the control group learning English through lecture-based instruction and individual learning. A teacher-made test of English communication skills was developed by the researcher as the main research instrument and the same test was used for both pre- and post-tests. No detail was given regarding who delivered the lessons, the duration of the treatment or the attrition rate.

**Khansir and Alipour (2015)** examined the impact of STAD on the English listening comprehension skills of Iranian EFL learners. The participants were between 18 to 25 years old with intermediate proficiency studying English as their foreign language in a language institute in Iran. A total of 60 students were selected based on their English performance on the Oxford Placement Test using convenience sampling technique. Then the students were randomly assigned into experimental and control groups with 30 students in each

group. The students in the experimental group experienced the STAD method. Descriptions of the control group, treatment duration and who taught both classes were not provided. The listening comprehension test was a syllabus-based version consisting of 20 multiple choice items, which was developed by the researcher. The content validity was verified by five experienced test experts in the field of English language teaching. To establish reliability, the test was piloted on 20 EFL students who were similar to the participants in the main study in terms of age and proficiency. The reliability coefficient was calculated via Cronbach's alpha at 0.82. The pre- and post-tests were the same. There was no report of attrition.

Last, **Sutrisno, Rasyid and Rahmat (2018)** investigated the effectiveness of two cooperative language learning techniques: STAD and Think-Pair-Share on students' English essay writing skills. The participants of this study were 32 students who were divided into two groups of 16. Sampling technique, treatment duration and who taught classes were not mentioned. A free writing test was used as a pre-test to homogenise the participants' language proficiency. Moreover, a composition test of essay writing ability was used as a post-test. Content validity and the reliability of the tests were not given, and how the researcher scored the writing test was also not mentioned. This study was very small scale and no student dropped out during the study. Small sample size, poor reporting and uncertain research instrument accounted for an extremely poor rating.

### **5.3 Summary**

Almost all the studies in this structured review claimed positive effects towards the implementation of STAD in EFL/ESL classes; only five studies reported negative effects. However, most of the included studies were conducted on a small to very small scale and have critical research methodological flaws in terms of their design, such as no comparison group, lack of randomisation, very small sample size, threats to internal validity, poor validity and reliability concerns, short duration of the intervention or unclear reporting. After synthesising all 28 studies, 24 studies were rated 0 while, three studies were given the rating of 1\*. Only one study was received 2\*, the highest rating in this review. No studies were rated above 2\*. The result of this review indicates that the overall quality of the studies is weak.

The common problems found in this review, apart from small scale study, is that the researchers, also teachers themselves, conducted the studies and delivered the lessons in their own classrooms. This may cause teacher biases and it is uncertain that the STAD method is effective. In addition, most studies employed purposively teacher-made or researcher-developed tests to measure the outcomes. Even worse, many studies used that particular version of test without content validity and reliability checks; the tests might be designed and developed to facilitate the students in the treatment group. Thus, the study results need to be considered with caution.

This structured review found that studies examining the implementation of STAD in the EFL/ESL context were weak. The findings suggest no strong evidence that STAD can enhance students' English language performance. Only on the aspect of grammar, STAD may be a promising method to improve students' English grammar. Hence, more robust and vigorous evidence to claim the effectiveness of this method towards English language teaching need to be investigated. Therefore, the current study investigated the effectiveness of cooperative learning, STAD implementation in Thai tertiary EFL classroom to enhance pre-service teachers' achievement in their English language proficiency.

## **CHAPTER 6**

### **THE PILOT STUDY RESULTS**

The main study of the current research project evaluated the effectiveness of implementing cooperative learning, Student Team Achievement Division (STAD) to enhance tertiary pre-service teachers' achievement in English language in Thailand. Prior to the main trial, a pilot study of the intervention was carried out to test the method, the teaching materials, lesson activities and the feasibility of delivery in the university classroom. The pilot also identified potential barriers and challenges associated with implementing this approach to pre-empt any issues that might interfere with effective delivery of the programme. If any obstacles occurred, dealing with these problems or considering to alter the research design or methodology might be necessary (Cohen, Manion, Morrison, et al., 2007). Another reason for doing a pilot study is to test the research methodology as well as to evaluate the reliability of the research instrument by piloting the assessment questions, the delivery and the length of the test. A pilot also helps in assessing the teaching materials and resources, such as the cost of running the project or the need for extra staff for the main study. A pilot rehearses the procedures of the main study from training to delivery and evaluation of outcomes and enables modifications for optimal evaluation of the intervention.

#### **6.1 Actual implementation in the pilot study**

In the pilot study, most of the method suggestions, especially all stages of the STAD cycles, were strictly followed and observed. Nonetheless, there were some suggestions for adjusting, adapting and changing the method in the actual practice during the intervention period in order to be compatible with the instructor's requirements and capabilities. All the adjustments and adaptations were small and did not affect the implementation of the STAD method (See Table 6.1), which primarily and heavily focuses on the team study stage; therefore, the module contents, lesson objectives, lesson plans, materials and others activities, test development, and methods and forms of lesson delivery depended on the participating instructor. Table 6.1 is a summary of the STAD method suggestions from the theory and what were adjusted, adapted and changed in the intervention period. Furthermore, the possible explanations are also described.

Table 6.1 Summary of the deviations and adjustments between method suggestions and actual practices in this pilot study of the STAD method, and possible explanations

Method suggestions	Actual practices	Possible explanations
<b>STAD Cycle Stages</b>		
<p><i>Teach</i></p> <p>Each lesson (might be only one unit), teacher presents a new concept and material in the forms of lecture, class discussion or presentation.</p>	<p>The participating instructor used one class (three hours) to present new concepts of English grammar including several small units to the students as a whole-class presentation.</p>	<p>The STAD method primarily and heavily focuses on the team study stage; therefore, the contents, materials and style of teaching depends on the participating instructor.</p>
<p><i>Team Study</i></p> <p>The groups need to complete a worksheet given by the teacher as an exercise to practice the presented concept.</p>	<p>The participating instructor gave each group a package of several worksheets.</p>	<p>The teach stage can consist of several small units of English grammar contents; instead of distributing a worksheet, the instructor in the pilot study created a package of several worksheets containing all of the grammar units presented in the teach stage.</p>
<p><i>Test</i></p> <p>At the end of every unit, the participating teacher will be asked to quiz the students in order to determine the learning achievement of each student.</p>	<p>At the first half of the next class, the following week after the teach stage, team study occurred. After that, the participating instructor quizzed students at the end of every team study stage</p>	<p>Each teach stage can contain several units of English grammar in order to make the method more practical in block schedule classes (as in the pilot study); with the time</p>

Method suggestions	Actual practices	Possible explanations
	(after each three hours teaching lesson) including all contents (of several units) the students learned in the teach stages and practiced the concepts during team study.	constraints, instead of quizzing students at the end of every small unit, the participating instructor decided to quiz students at the end of every team study stage including all contents taught in that teach stage and practised during team study.
The quiz will be checked either by the students in class with the help of the teacher providing the answer key for students to check their own work or by the teacher after class.	Each quiz was checked by the instructor after class.	Due to the time constraints in each class, in this study, quizzes were checked by the instructor after class.
<p><i>Team Recognition</i></p> <p>Team recognition can take the forms of a weekly newsletter acknowledging the team with highest score and students with the most improvement scores, certificate, or recognition as a good, great or super team. A team success chart can be placed in the classroom and appear on a 'Blackboard' (an e-learning management</p>	In the pilot study, recognising team accomplishments were in their Facebook private group.	Facebook is a free social networking website where registered users/members can view, share and post news, ideas or comments and interact with others in their group. Facebook group is created for group communication among members to share their common interests and express their opinions. The participating instructor

Method suggestions	Actual practices	Possible explanations
network system). The form of team recognition will depend on the teacher and the class they value as important and acceptable.		created the Facebook private group as a place not only to announce team scores and acknowledge students with the highest improvement scores but also to communicate and announce news for specific classes.
<b>STAD Implementation Process</b>		
<p><i>Assigning Students to Teams</i></p> <p>The team's name can be changed from assigned as Team A, B, C and so on depending on the teacher.</p>	<p>The participating instructor asked the groups to create a name according to a theme: superhero movie, superhero characters, fruits and animals.</p>	<p>In order to create the sense of being part of the team, the instructor asked each team to choose a name according to a theme so that the names were not too varied.</p> <p>After the teams were reconstructed following the midterm exam, the students in the new teams created new names.</p>
<p><i>Determining Initial Base Scores</i></p> <p>Each student is informed his/her initial base score at the beginning of the STAD process.</p>	<p>In the pilot study, initial base scores were given to each individual student in the next class (after the pre-test); the score was</p>	<p>The students' initial base scores are given in the private way; only the instructor and each student know that base score.</p>



Method suggestions	Actual practices	Possible explanations
<p>Base scores should be given to each student in some private ways determined by the teacher (e.g. as a return quiz). Each student should know only his/her own base score but not others.</p> <p>The base score will be adjusted according to students' actual score after every two quizzes.</p>	<p>written on their pre-test answer sheet with two scores: pre-test score and initial base score. After the students learned both scores, the pre-test answer sheet was returned to the instructor.</p> <p>The students were reminded again that the base score is the minimum score that each student needs to pass when taking individual quizzes in the test stage. Each student received different base score according to how they performed in the pre-test and the base score would be adjusted later.</p>	<p>The pilot study consisted of the total of five cycles with five quizzes. Three quizzes before the midterm exam and the others between then and the final exam. According to the initial plan to reconstruct the team once and to make it more practical with the university and teaching schedule, the participating instructor in the pilot study decided to reassign the base score and reconstruct the student learning teams once after the midterm exam.</p>
<p><i>Calculating Team Scores</i></p> <p>The teacher also needs to calculate a team score. For the four-member team, the team score is computed by</p>	<p>In the pilot study, there were both four-member and five-member teams, the team score was</p>	<p>In order to make the scoring system more convenient for the instructor in the pilot study</p>

Method suggestions	Actual practices	Possible explanations
<p>accumulating each team member's improvement score together. For the five-member team, the team score should be calculated to be comparable with those of four-member teams.</p>	<p>calculated by accumulating the individual improvement scores from all members then divided by the number of members in the team, so the team score would be in the total of ten for each team.</p>	<p>to calculate the team scores as well as to figure out the team score to 10% as a part of the student's total grade at the end of the term, the instructor decided to divide the sum of the student's improvement scores by the number of the members in each team.</p>
<p>Students' grades should be computed from their individual quiz scores, but the team score can be a small part of students' overall grade.</p>	<p>Student grades were calculated from the individual quiz scores, and the participating instructor agreed to give 10% of the overall grade (100%) to the team score.</p>	<p>Later, in order to calculate 10% of the total scores of this module (100%), with the five cycles of STAD (five team score summary) all team scores before the midterm exam were calculated and divided by six to obtain the total of five scores. Similarly, team scores after the midterm exam were totalled and divided by four in order to receive the total of the other five scores. Then, both five scores from the team before and after the midterm exam were combined to make the total</p>

Method suggestions	Actual practices	Possible explanations
		of 10 as a team score's part of students' total scores for this module.
<p><i>Recomputing Students' Base Score</i></p> <p>After two quizzes, the teacher will need to recompute the new base score for each student by applying Calculating New Base Scores Table.</p>	<p>The base score of each student was recomputed after the midterm exam (after three quizzes). Instead of using the Calculating New Base Scores Table, the students' midterm exam scores were used to determine their new base score (similar to what had been done when determining initial base scores), by ranking from the highest score to the lowest score and giving the first three high-performing students an initial base score of 20, the next three, 19, the next three, 18 and so on until every student has his/her new base score.</p>	<p>This pilot study consisted of the total of five cycles with five quizzes. Three quizzes before the midterm exam and the others between then and the final exam. According to the initial plan with the instructor to reconstruct the team once and to make it more practical with the university schedule and teaching schedule, the instructor decided to reassign the base score and reconstruct the student learning team after the midterm exam.</p>
<p><i>Team Reconstructing</i></p> <p>After six or seven weeks of adapting STAD, reconstructing the team members is recommended.</p>	<p>In this study, after the midterm exam (six weeks of STAD implementation), students were assigned to</p>	<p>The midterm exam scores were used not only to distribute new base scores, but also to assign students</p>

Method suggestions	Actual practices	Possible explanations
	new learning teams by using midterm exam scores to determine the current English proficiency levels.	to new learning teams.

In addition, the team summary sheet, which recorded all the quizzes of each student and their team scores, was adjusted.

Figure 6.1 Team summary sheet used in the pilot study

Team Summary Sheet

Team Name: A – \_\_\_\_\_

Team Members	Student ID	Individual Student Improvement Scores (from base score)									
		1	2	3	4	5	6	7	8	9	10
Total Team Score											
Average Team Score (Total team score divided by number of team members)											
Team Ranking for Each Quiz											

The first row contains the team members' names, student IDs and individual student improvement scores (from base score). In the numbers 1 to 10 indicate the quiz number. Number 1 is the first quiz students take and number 2 is the second quiz and so on. The Total Team Score is the total individual student improvement scores from all team members. Because some groups have five rather than four members, the average team

scores are calculated. The teams are then ranked using the average team scores. The team with the highest average score is ranked first and so on. To value the team success and to motivate all students to perform better than they did in the past, the ranking list of all the teams and the names of the students with high improvement scores were recognised on their Facebook private group. Moreover, this 'Team Summary Sheet' of each team was shown to them in the next class.

## **6.2 Observation of implementation**

The intervention was observed the delivery of the lessons and classroom management was monitored by the researcher during the 16 weeks of the intervention in order to ensure the fidelity of implementing the STAD method and to answer the teacher's questions and identify possible obstacles to delivery (i.e. whether the cooperative learning teams were assigned appropriately and the team study activities were conducted as planned). The researcher conducted five classroom observational visits during the term. At the beginning, especially on the first cycle of the method, the researcher visited and observed every stage: teach, team study, test and team recognition. The researcher was at the first class in order to help administer the pre-test together with the participating instructor. On the second class, the researcher observed how the instructor delivered the lesson (teach stage). The researcher also visited the third class (team study stage) to ensure that the students were assigned to their learning teams with mixed academic proficiency (as is highly suggested from the method) and to check the correctness of implementation of the learning process in the classroom. In addition, in the middle of the term, the researcher made another observational visit to confirm the fidelity of STAD implementation and to answer any questions that may have arisen after the implementing STAD. Finally, the researcher conducted a classroom observational visit again on the last class to help administer the post-test together with the participating instructor. During the classroom observation, the researcher made notes of what occurred in class, observed how the application of STAD actually worked in real classroom practice, monitored the quality of intervention delivery and the students' behaviour, engagement or changes in their learning when experiencing the method.

Finally, semi-structured interview regarding the intervention was conducted with some students after the post-test and took about 15 to 20 minutes at their university. Similarly, the instructor was asked to share his/her experience of the intervention delivery. The main

purpose of these semi-structured interviews was to examine whether the STAD method was considered effective in enhancing pre-service teachers' achievement from the perspectives of the students and the instructors who experienced the intervention for one term. Furthermore, data from the interview were used to design and develop other research instruments, namely the questionnaires for the main study to investigate the overall experiences and attitudes of students and instructors towards the method. The semi-structured interview questions are provided in Appendix 14.

### 6.3 Analysis of data from the pilot study

All the collected data from this pilot study were reported with the overall results consisting of mean and standard deviation scores from pre- and post-tests. In order to determine whether the students who experienced the STAD method showed improvement from pre-test to post-test gain score was calculated. In addition, the data of the semi-structured interview and observational visit data are presented below.

### 6.4 Results of the pilot study

#### 6.4.1 Primary outcome (impact evaluation)

The trial started with a total number of 62 students and remained the same until the end. The pre- and post-achievement tests were reported with the mean and standard deviation scores from the experimental group (Table 6.2).

Table 6.2 Pre - and post-test scores (n = 62)

	<b>Pre-test mean</b>	<b>Pre-test standard deviation</b>	<b>Post-test mean</b>	<b>Post-test standard deviation</b>
<b>Treatment</b>	7.210	3.084	7.242	2.659

Table 6.2 illustrates that the mean of pre-test score was 7.21 (SD = 3.08) and the mean of post-test score was 7.24 (SD = 2.66). After 16 weeks of STAD used in 'English Structure for Teachers of English' module, the students showed a slight gain in their mean scores.

In order to determine whether the students who experienced the STAD method showed improvement from pre-test to post-test, a 'gain score' was calculated.

Table 6.3 Gain scores (n = 62)

	<b>Gain score</b>	<b>Overall standard deviation</b>
<b>Treatment</b>	0.032	3.680

According to the Table 6.3, the result shows that students made very slight improvement between the pre- and post-tests. The gain score of 0.032 is considered as relatively low, suggesting that the STAD intervention made no difference to students' achievement. However, because there was no control group, it is not possible to say if the students would have performed better or worse with STAD.

#### **6.4.2 Additional outcome (process evaluation)**

From the semi-structured interview and observational visits, the students reported highly satisfaction with the STAD method and the researcher observed high participation in team study and other activities.

The respondents, both students and the instructor, also expressed positive opinions towards the STAD method. Students stated that team study was beneficial in terms of providing opportunities to revise, remind and recheck what they had learned in class together; it was a good opportunity to exchange and to connect new knowledge to their existing knowledge. They were able to hear some classroom concepts again from their teammates, especially the particular ones that were quite complicated, which made them understand the lessons better. Team study was a good break from three-hour lecture on English grammar as it offered students time to personalise new knowledge. Students mentioned that they got a chance to talk, communicate and work with friends from different groups in class; some turned out to be good friends after the module finished. The students also showed positive support for the use of base scores as a goal for each student to achieve in each quiz. Some students mentioned,

I know I have to try my best but at least the base score tells me what score I should beat.

I feel it was fair that each student had different base score so I know that I only had to compete with myself.

Students indicated that they would strongly recommend this method to be adapted again in the same module in the next term with different groups of students. However, only one negative comment to the intervention was the limited time allocated for students to complete the package of worksheets during the team study stage. That is, the number of worksheets in a package and the allowed time to complete all the worksheets was not suitable. As each team received only two worksheets, two team members studied one worksheet in order to force students to work together with their teammates. Students reported that during team study stage, they could not complete all worksheets, which made it impossible for them to discuss the answers with the other pair on the same team. Even though they were able to finish all the worksheets, which took most all the given time, it was not enough time to discuss their answers as a team.

The instructor expressed that students showed high involvement and participation in the class and were more of active learners. The overall picture was that the whole class gained higher academic achievement for this module; the instructor mentioned that the lowest grade students received in this module was C which normally, from instructor's past experience, D or D- was the lowest grade. The instructor stated that the method offered opportunities for low-achieving students to perform better. For example, the use of individual scores for each student and working together with their peers in the team study stage gave these students chances to learn the classroom concepts again from their peers who might simplify the concepts for their level of understanding. These conditions may be one of the reasons for higher overall achievement. Moreover, the instructor's role as a facilitator of small groups of students offered more opportunities to monitor and observe individuals and encouraged students to ask questions, even low-achieving students. The instructor mentioned that low-achieving students felt more comfortable and had courage to ask some basic and still-confusing questions. The instructor also emphasised that, overall, the method was good, especially by offering opportunity to apply with various teaching methods and styles in teach stage. This module contained several units of grammar, some units were suitable for whole-class presentation while others required more explanation. In addition, distributing 10% of the overall grade to team score was a great idea; not only was



it perceived as fair and transparency for how this score was calculated. Classroom attendance also improved.

Both students and the instructor supported the use of the Facebook private group to announce team scores and lists of students with high improvement scores. It was also a great channel to communicate and announce news between the instructor and the students. Undergraduate students normally move around the university campus to study in each class, it is impossible to do team recognition by means of a chart placed in the classroom. Most undergraduate students use smart phones and there are wi-fi networks around campus; therefore, the Facebook private group was suitable and acceptable as a team recognition channel.

Nevertheless, the instructor also raised some challenges. First, similar to students' comments on the allocated time and the number of worksheets during the team study stage was not suitable. The instructor observed that students could not finish all the worksheets in the given time and sometimes did not discuss the answers with the other pair on the same team. The instructor suggested giving more time for students during team study but there were several units that needed to be covered, so the instructor needed to encourage them to work faster. This issue is linked to a second comment, that is, many national holidays and university activities affected the actual time spent in class. The instructor needed to move the content units around and squeeze some extra units to some classes resulting in more worksheets being added to the package and not enough time for team study. Third, the scoring system was quite complicated and required time to calculate students' individual improvement scores and team scores. The instructor expressed that it would be more convenient and supportive if there were some methods to help in this scoring system process.

Generally, both students and the instructor reported a high level of satisfaction with the treatment; however, there were some challenges, comments and suggestions that needed to be considered and modified for the main study.

### **6.5 Application of the pilot study outcomes to the main study**

The pilot study was beneficial to the main study in several ways including the method, its materials, activities and delivery. The research instrument, namely the Cambridge

Assessment English ‘B2 First for School’ level, two versions, were piloted to assess the question items, the delivery and the length of the test.

One of the most important benefits of conducting the pilot study was to be able to identify and address the obstacles that might be appear during the main trial. All issues arose from the pilot study were taken into consideration for an adaptation or change in the main study; they are discussed below.

#### **6.5.1 Achievement test**

The difficulty of the Cambridge pre- and post-tests, which are the standardised tests with the CEFR (Common European Framework of Reference for Languages) at B2 level (A1 for beginner up to C2 for proficient users who have mastered a language). In order to graduate from Faculty of Education with a major in English from any Rajabhat University, students are required to show English proficiency at a minimum level of B2. However, the students participating in this research study were first-year student teachers (age 17 or 18) who were majoring in English from Faculty of Education, Suratthani Rajabhat University; they mostly had an English proficiency level of A1 or below (considered the beginner level). Therefore, the level of these tests was considerably higher than students’ actual level of English proficiency. Students were observed struggling during the pre- and post-tests. Nonetheless, the delivery of the test as a paper and pencil version was suitable because classrooms in the main study might not have been equipped with computers making an online version impossible. The length of the test (40 minutes) was observed and discussed with the instructor to be acceptable. Hence, the tests needed be adjusted and simplified for the main study or a new assessment needed to be selected.

#### **6.5.2 Training of instructor**

The preparation of training for the instructors who would participate in the main study would be needed. The researcher learned to improve the management and ways to communicate and assist instructor’s comments and requirements. During the pilot study, the researcher received many calls and answered some questions during pilot study as well as observational visits mostly relating to the scoring system. These calls and the questions they raised were important to ensure the fidelity of the application of the intervention. These questions needed to be addressed at the training sessions and additional training materials and training activities needed to be added.

### **6.5.3 Scoring template**

As mention, the researcher received many calls and answered some questions during pilot study and observational visits mostly relating to scoring system. According to the method, there are three types of scores (quiz score, individual improvement score and team score) that the teacher needs to calculate after each class. The current quiz score is the easiest to calculate because it is the student's actual quiz score. For the improvement score, the instructor needs to compare student's actual score to his/her base score and combines all students' improvement scores on the same team as the team score. This process was reported to be time-consuming for the instructor. As a result, a scoring template needed to be developed in order to assist the instructors in the main study. Paper version of the template as well as electronic version on Excel with all formulation might be considered as an option.

### **6.5.4 Paperwork preparation**

For preparation of paperwork, namely permission to conduct experimental research from both researcher's supervisor and researcher's workplace in Thailand, letters needed to be distributed to each university participating in the main study before the intervention could begin. The other issue concerning preparation of paperwork was the translation of the information sheet and consent forms from English to Thai in order to reduce instructor's work in translating and explaining some difficult and specific vocabulary to students and to make it clear and easy to understand for student participants.

### **6.5.5 STAD stages**

In the team study stage, according to both students' and instructor's comments, the number of worksheets in a package and the time allocated for students to complete all the worksheets was not sufficient. As mentioned earlier, according to application of the same curriculum and course description in Faculty of Education under the Rajabhat University System, all contents, teaching and learning materials and activities, as well as assessment and evaluation procedures mainly depend on the assigned instructors of each module and their departments. In the pilot study, the instructor was responsible for developing the quiz and preparing the worksheets. Therefore, the issue of the time allowed to complete the worksheets and the number of worksheets would need to be raised and recommendations made to the instructors in the main study.

### **6.5.6 Observational visit**

The data from the observational visits as well as semi-structured interview regarding the intervention were used to design and develop other research instruments, namely questionnaires, for the main study to investigate the overall experience and attitudes of students and instructors towards the method. As the main purpose of these interviews was to examine their attitudes towards the STAD method and whether this method could be considered effective in enhancing pre-service teachers' achievement in English from the perspectives of the students and the instructors who experienced the intervention for one term. These data provided overall practical suggestions of the method.

### **6.6 Limitations of the pilot study**

Some limitations occurred during the pilot study. In terms of method implementation, the major part of the limitation was cancellation of classes due to the national holidays and university scheduled activities. Before the midterm exam with the first learning team, three class were missing, which affected the first and second cycles of the study. As the method suggests, the first cycle of STAD is the hardest, but by the second cycle, most students will recognise and settle into the pattern of the method (Slavin, 1991). When there were some missing classes in the beginning of the method implementation and with the block schedule class at the undergraduate level (each class is three hours per week), it was difficult for students to follow the pattern when they had not worked under team study for two weeks. Hence, most students needed to be reminded about the importance of team study, aims of cooperative learning and their teammates' contribution, as well as the details of how the scoring system worked. Nevertheless, after the second cycle, all students settled into the method's pattern and scoring system.

Second, for the language as medium of instruction, in the pilot study, the instructor mainly used Thai to explain the classroom contents and discuss classroom management. Some other modules might be conducted in English, and this might be better for students in terms of practicing English listening skills, which might result in higher achievement in listening at the end of the term.

### **6.7 Summary**

The pilot study was an important and effective part of this study; not only did it help the researcher identify and prevent possible issues that might occur in the main study, it also

helped the researcher make and adjust important decisions regarding the implementation of the main study.

Furthermore, in order to examine the effectiveness of the intervention and whether the desired outcomes were the results of the intervention, well-design experimental methods are the most persuasive way to demonstrate causation and its effects (Connolly, 2009; Morrison, 2009). Thus, the main study conducted to evaluate the effectiveness of implementing STAD method to enhance the English achievement of pre-service teachers. Next chapter presented the impact evaluation of the main findings.

## CHAPTER 7

### IMPACT EVALUATION

#### **Does cooperative learning have an impact on English language learning?**

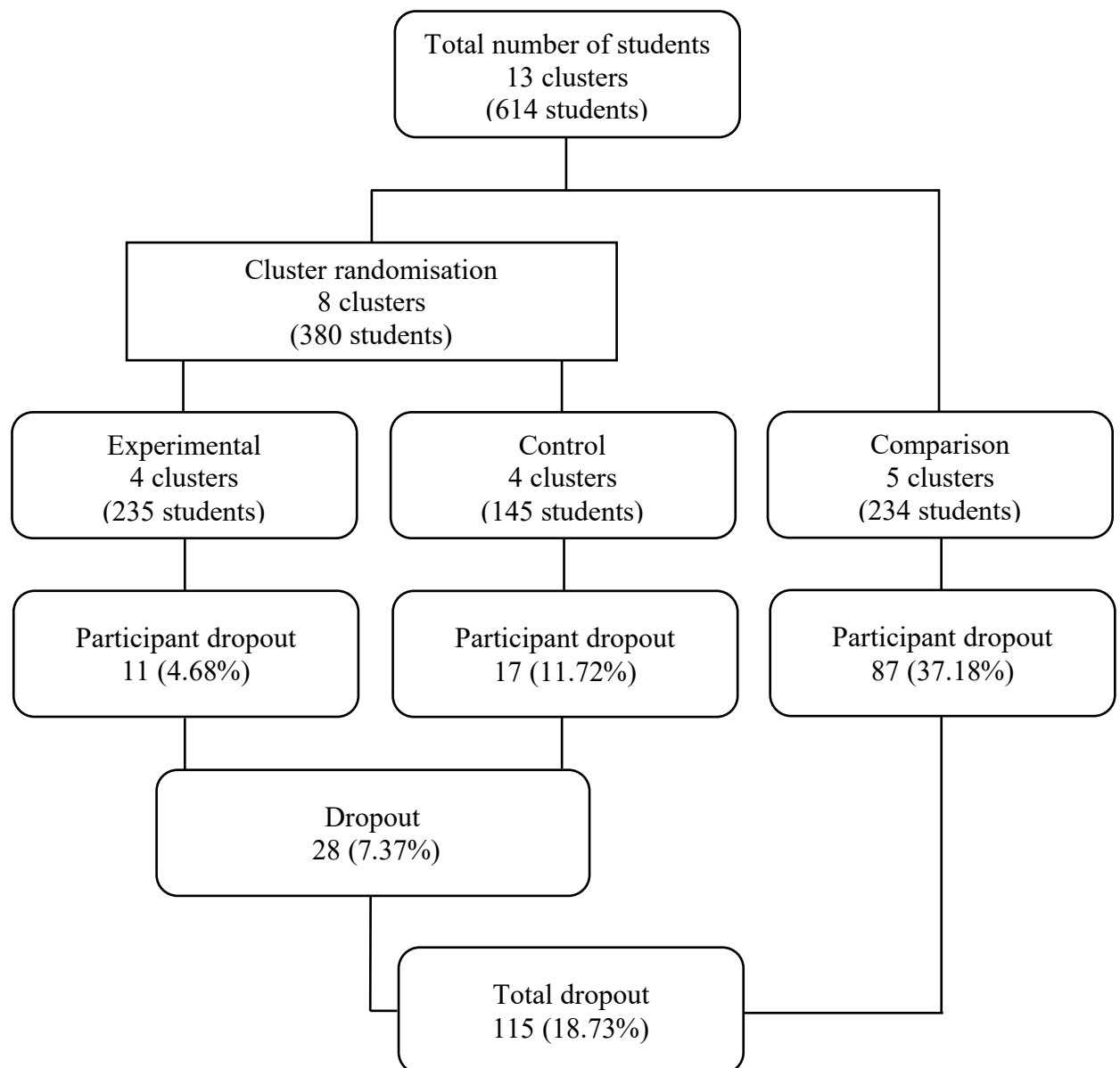
The trial started with a total number of 11 clusters (11 universities) consisting of 533 students. Eight universities (eight clusters) clusters agreed to be randomised to either an experimental or a control group. The other three universities only agreed to complete the pre- and post-tests. Thus, they were labelled as an additional comparison group. Later, two more universities joined the study; they were located in a high-risk area of COVID-19 transmission at the time the trial started. They were added to the comparison group to make a total of five universities (five clusters). Hence, the total of number of universities participating in this study was 13 (13 clusters), including 614 students. A total of 235 students were in the experimental group, 145 students in the randomised control group and 234 students in the comparison group.

A total of 115 students in the experimental, control and comparison groups missed either the pre-test or the post-test because they were absent on the day the tests were administered. The researcher could not contact the absent students directly because both pre- and post-tests were administered by the participating instructors. Many attempts were made to ask the instructors to contact those absent students to come in another day to complete the tests. The main reason was there were national and provincial announcements regarding COVID-19 alerts and restrictions that prohibited the arrangement of normal classroom settings, and the instructors could not ask students to come to the university to complete the tests.

Since all universities had postponed their term starting dates, students who would dropout from the programme or from the university did so before the trial started. Therefore, no student actually dropped out of the study; however, the students who missed either the pre- or post-tests were treated as dropout students. The two universities who joined the study in the second half of the intervention were able to complete only the post-test. Thus, all students from these two clusters in the comparison group were also treated as dropout students; their post-test scores were used in additional analysis of the post-test only.

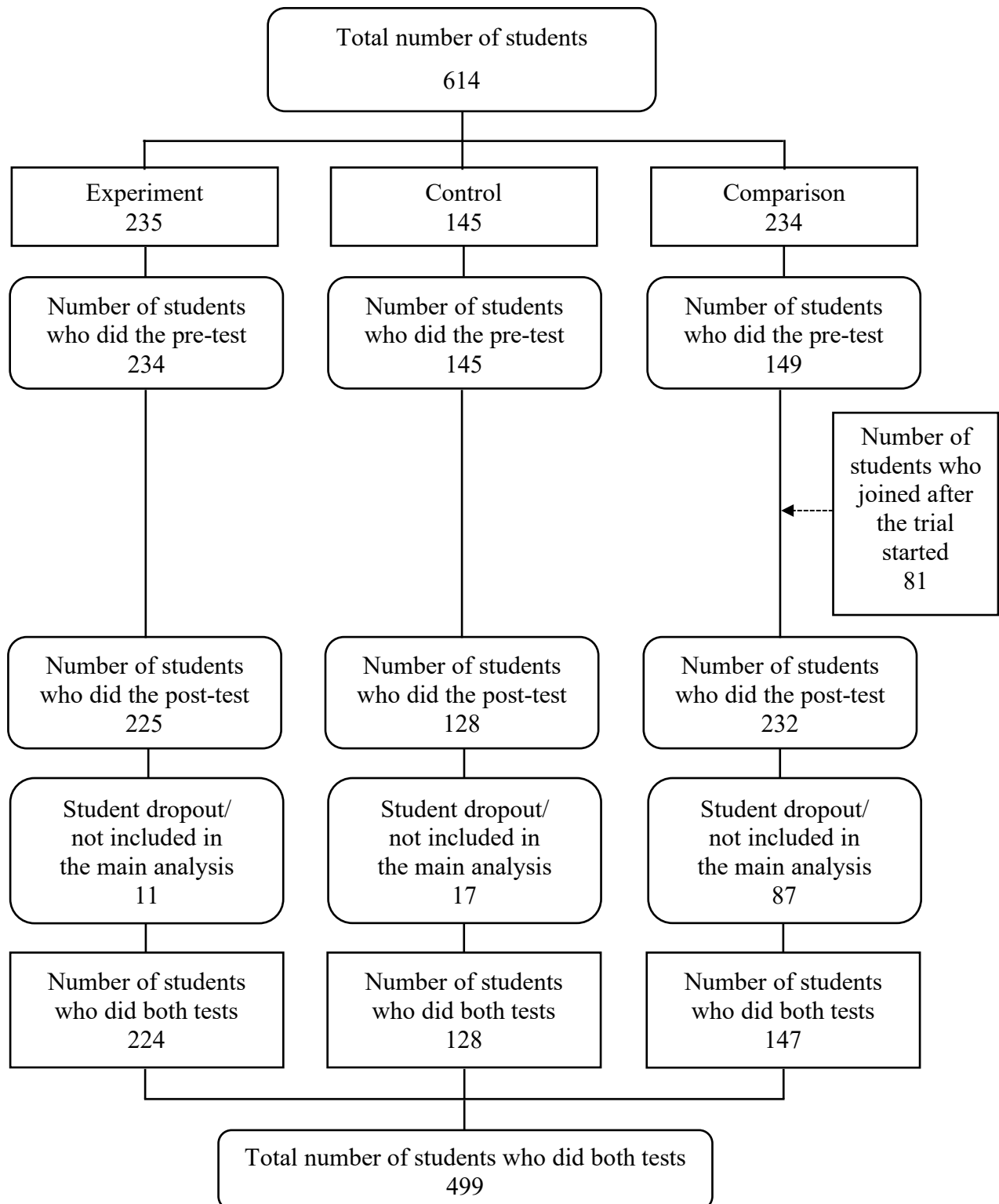
Figure 7.1 displays the number of students in experimental, control and comparison groups.

Figure 7.1 Dropout students in the three groups



As seen in the figure above, this study included 235 students in the experimental group, 145 students in control group and 234 students in comparison group. The total attrition among three groups was 115 students (18.73%), with 11 students (4.68%) in the experimental, 17 students (11.72%) in the control and 87 students (37.18%) in the comparison groups. As the study employed cluster randomisation at university level, and the universities were located in different provinces, and some in different regions, the attrition occurred randomly and was not a result of any features of the study. Hence, the total attrition of 115 students was excluded from the main analysis.

Figure 7.2 Number of students who completed the pre-test and post-test from each group



As the figure 7.2 illustrates, the total number of students included in this study were 614. The number of students who only did pre-test were 234 students in the experimental group, 145 students in the control group and 149 students in the comparison group. However, the



number of students who only did the post-test in each group were 225, 128 and 232, respectively. As mentioned earlier, two universities (81 students) joined the trial after the pre-tests were distributed; therefore, it was practical for them to only take the post-test.

Therefore, the total number of students who completed both tests were included for the main analysis: 499 students with 224 students from the experimental, 128 students from the control and 147 students from the comparison groups; 115 students (11, 17 and 87 from each group, respectively) were excluded from the main analysis. However, their test scores were additionally analysed.

### 7.1 Main analysis

In order to evaluate student performance among these groups and to determine whether students in any groups showed improvement, gain scores and effect sizes were calculated.

Table 7.1 Comparison of gain score and effect size between experimental group and all comparator students (n = 499)

	N	Pre-test	SD	Post-test	SD	Gain score	SD	Effect size
Experimental	224	7.28	3.37	7.08	3.42	-0.20	3.09	+0.09
All comparators	275	8.05	3.45	7.53	3.67	-0.52	3.63	
Overall	499	7.70	3.43	7.33	3.57	-0.38	3.40	

According to the Table 7.1, looking at the intervention (cooperative learning – STAD method) group and all others (both the randomised control and the natural comparator groups), there is some evidence of a slight benefit from the intervention (ES = +0.09). The comparator students were ahead, on average, in their test scores at the outset, and again after the intervention. Both groups showed a decline in the test scores on the second test (it is not clear why), but the comparator group showed a bigger decline.

For a more precise evaluation of the impact of the intervention, separate analyses were conducted comparing the groups that were randomised and the groups that were not

randomised. Table 7.2 compares the test scores of students who were exposed to the intervention with students who did not.

Table 7.2 Comparison of gain score and effect size between experimental and non-randomised comparison groups (n = 371)

	N	Pre-test	SD	Post-test	SD	Gain score	SD	Effect size
Experimental	224	7.28	3.37	7.08	3.42	-0.20	3.09	+0.32
Comparison	147	7.21	3.00	6.01	2.97	-1.20	3.16	
Overall	371	7.25	3.21	6.66	3.29	-0.60	3.15	

Here the groups are more balanced at the outset with the intervention fractionally ahead (Table 7.2). Both groups have worse scores on the second test, but this is much more marked for the comparator group. The experimental group experienced negative improvement on the post-test (-0.20), while the comparison group displayed a larger decline (-1.20) giving a positive effect size of +0.32. This suggests that the intervention may have an effect of slowing the decline.

Table 7.3 compares the test scores of the students who were randomised. The table shows that at the outset, the pre-test score of the control group was ahead of the intervention group. At the post-test, the control group continued to make progress (gain score of +0.26), whereas the intervention actually showed a decline (gain score of -0.20). This shows that the intervention actually had a negative impact (ES = -0.13) on students' English language performance.

Table 7.3 Comparison of gain score and effect size between experimental and randomised control groups (n = 352)

	N	Pre-test	SD	Post-test	SD	Gain score	SD	Effect size
Experimental	224	7.28	3.37	7.08	3.42	-0.20	3.09	-0.13
Control	128	9.01	3.73	9.27	3.65	0.26	3.97	
Overall	352	7.91	3.60	7.88	3.66	-0.03	3.44	

It is interesting to note that only the control group, which scored the highest among the three groups on the pre-test, showed a slight positive improvement of 0.26 (Table 7.3). They were ahead at the beginning of the trial and remained so until the end, while the experimental and comparison groups, which showed similar pre-test scores, experienced a decline on the post-test. The possible explanation for the higher scores of the randomised control group might be that the course in one of the control universities was offered in an international programme. This means that all courses and subjects were provided exclusively in English, while the rest of the courses at the other universities took place in their regular Thai programme. Therefore, in that particular control university, students have more opportunities and time to be exposed to English.

In addition, the intervention in each university was necessarily adapted to meet university and state regulations under the circumstances. Even the numbers of classes varied depending on the location of the university and whether it was located in a high-risk area regarding COVID-19 outbreak. None of the universities involved in this study completed the whole course of 16 classes as planned; some were able to deliver only 8 classes. It is possible that there was not enough time for students to adapt to the cooperative learning environment and to become familiar with their teammates in order to build relationships as well as to work on their academic progress with the support and encouragement of their team members.

Furthermore, students in the experimental groups also received different modes of teaching: face-to-face, online or hybrid due to the university regulations in each area. Among the four clusters of the experimental group, two received face-to-face teaching method and their classes were organised in the normal classroom setting while the others received hybrid learning (combination of online and face-to-face). On the other hand, three subgroups from the control group received face-to-face lessons, and only one subgroup learned their lessons via hybrid learning.

It is clear that the positive effect from the intervention comes solely from the considerably weaker performance of the non-randomised comparator group. When comparison is made with only the randomised control group, the intervention shows no effect.

Overall, the results suggest that the intervention as implemented shows no benefit for students' English language achievement. There is, therefore, no evidence that the cooperative learning method, STAD, has a positive impact on pre-service teachers' English language achievement. Given the interruptions of COVID-19 restrictions in some universities leading to different modes of lesson delivery, and the reduction in the number of sessions conducted, any interpretations or conclusions drawn from this result should be considered with caution.

The findings from this research are contrary to a number of earlier studies that reported the impact of cooperative learning, especially STAD method, on students' English achievement (Alijanian, 2012; Araban et al., 2012; Motaei, 2014; Munir et al., 2017; Nikou et al., 2014). On the other hand, these findings also concur with other studies that found no impact of STAD on specific components of English language skills, such as reading comprehension (Pandiangan, 2019; Warawudhi, 2012), speaking (Ghasemi & Baradaran, 2018) and writing (Sutrisno et al., 2018).

## 7.2 Addressing missing data

To see if missing data could have skewed or biased the results, the pre-test scores of students missing post-test were compared. Students who dropped out or missed the post-test may be different from the students who completed the test. Therefore, the mean and standard deviation of the pre-test scores of the 29 students who did not have post-test scores were calculated to determine whether they were different from those students who completed the post-test. Their pre-test scores were then compared with the overall mean and standard deviation of other students' pre-test scores in each group (see Table 7.4).

Table 7.4 Comparison of the pre-test scores of students missing post-test

	N	Pre-test of those missing post-test	SD	N	Pre-test of those who had post-test scores	SD
Experimental	10	6	2.7	244	7.28	3.37
Control	17	10.47	4.77	128	9.01	3.73
Comparison	2	4.5	0.71	147	7.21	3.00
Overall	29	8.51	4.60	499	7.70	3.43

Table 7.4 illustrates that the mean pre-test scores of ten experimental students who did not take the post-test (mean score = 6) was lower than those who had post-test scores (mean score = 7.28). On the other hand, the mean of pre-test of control students who missed the post-test was 10.47 as opposed to a mean of 9.01 for control students who did the post-test. The control students tended to be stronger with higher scores on the pre-test. This suggests the possibility that the overall mean of the randomised control group could have been higher if these 17 control students had taken the post-test. In contrast, if the 10 experimental students had done the post-test, it is possible that the overall mean of the experimental group could have been even lower. Similarly, the mean of pre-test score of the comparison students who did not take the post-test was 4.5 as opposed to 7.21 for those who took the post-test. If these two comparison students had taken the post-test, they could have lowered the total mean score of the comparison students. However, the number of students who missed the post-test in the non-randomised comparison group was very small (only two students), which may have slightly altered the results.

To sum up, students who did not take the post-test in experimental and non-randomised comparison groups tended to be weaker students with lower pre-test scores. Conversely, control students who missed the post-test seemed to be strong students with higher scores on the pre-test as opposed to control students who took the post-test. If they had taken the post-test, it is possible that the difference between the experimental and control groups' post-test scores may have been larger, making the effect size even smaller. In addition, their pre-test scores were also the highest among other groups.

### **7.3 Additional analysis**

#### **7.3.1 Post-test only**

Additional post-test only analysis was also performed since two universities joined the study after the randomisation and the trial had started. As such it was not practical to do a pre-test as the interval between pre- and post-tests would have been too short. Hence, the students in these two clusters, which were allotted to the natural comparison group, completed only the post-test. Therefore, post-test only analysis was conducted to see if these students who were missing pre-test differed in any way from their peers in the other groups. Their post-test scores were computed separately and examined against the overall mean and standard deviation of the other students' post-test scores (see Table 7.5).

Table 7.5 Comparison of the post-test scores of students missing pre-test

	N	Post-test of those missing pre-test	SD	N	Post-test of those who had pre-test scores	SD
Experimental	1	4	-	244	7.28	3.37
Control	-	-	-	128	9.01	3.73
Comparison	85	9.8	3.87	147	7.21	3.00
Overall	86	9.73	3.90	499	7.70	3.43

As can be seen in Table 7.5, almost all of the students who missed the pre-test were in the non-randomised comparison group while only one student in the experimental group did not have the pre-test. No student from the control group missed the pre-test. The post-test score of the only experimental student who missed the pre-test was 4 as opposed to the overall mean of those who had pre-test scores of 7.28. This student tended to be weaker with lower pre-test score. However, with only one student, including this score in the pre-test would not have changed the results much. For the non-randomised comparison group, the post-test scores of students who did not take pre-test differed from those who had taken the pre-test. The 85 students missing pre-test seemed to be stronger with higher scores on the post-test. Their mean post-test score was 9.8 as compared to the mean of 7.21 for other comparison students who took the pre-test. This suggests that if those 85 comparison students had done the pre-test, it is possible that they could have increased the overall mean of the comparison group.

Students missing pre-test were excluded from the main analysis as there is no way of estimating what their pre-test scores were. However, comparing the groups based on their post-test, the analysis showed that the experimental group performed considerably worse than the control group, but fairly similar to the non-randomised comparison students, which received no special treatment.

Table 7.6 Comparing post-test scores between experimental and randomised control groups (n = 383)

	N	Post-test	SD	Effect size
Experimental	225	7.07	3.42	-0.62
Control	128	9.27	3.65	

Table 7.6 shows that the experimental students were different from the control students on the post-test; they tended to be weaker than those in the control group. The mean of the post-test score of the experimental group was 7.07 as opposed to 9.27 for the control group on the post-test. The effect size of -0.62 was observed, which suggests that the treatment had no effect on the intervention group.

Table 7.7 Comparing post-test scores between experimental and non-randomised comparison groups (n = 487)

	N	Post-test	SD	Effect size
Experimental	225	7.07	3.42	-0.09
Comparison	232	7.40	3.79	

On the other hand, the experimental and the non-randomised comparison groups scored the same on the post-test with a mean of 7.07 and 7.40, respectively (Table 7.7). The experimental and the comparison students were not different regarding their post-test scores. The effect size was -0.09, which indicates that the treatment made the same impact as the non-randomised comparison group, which was assumed to have received normal teaching methods.

Table 7.8 Comparing post-test scores between experiment group and all comparator students (n = 585)

	N	Post-test	SD	Effect size
Experimental	225	7.07	3.42	-0.27
Comparators	360	8.06	3.84	

When combining the randomised control and the natural comparison groups, the experimental students again scored lower on the post-test (Table 7.8). The results show a

negative effect size of -0.27. This again suggests that the intervention had no impact on students' English achievement. It is interesting to note that the experimental group scored the lowest among the three groups when focusing only on the post-test scores.

### 7.3.2 Impact by skills

The previous sections looked at the overall results of the English achievement tests. Further analyses were conducted for each individual skill to see if STAD was more effective in developing any particular English language skills, namely listening and reading. Gain score and effect size were then calculated.

Table 7.9 Comparison of performance of language skills between the experimental and control groups

	N	Pre-test	SD	Post-test	SD	Gain score	SD	Effect size
Experimental <i>listening</i>	224	2.70	1.49	2.04	1.34	-0.67	1.58	-0.20
Control <i>listening</i>	128	3.24	1.45	2.93	1.61	-0.31	2.03	
Experimental <i>reading</i>	224	4.54	2.51	5.06	2.66	0.52	2.58	-0.01
Control <i>reading</i>	128	5.77	3.05	6.34	2.73	0.56	3.15	

Table 7.9 shows that the STAD method used in this trial had no impact on the reading skills of the students (ES = -0.01). In fact, it even had a fairly strong detrimental impact on listening skills (ES = -0.20). It is this strong negative impact on listening that drives the overall results. This suggests that STAD perhaps is not designed to develop listening, and should not be used for this purpose. It is doing more harm than good.



Table 7.10 Comparison of performance of language skills between the experimental and non-randomised comparison groups

	N	Pre-test	SD	Post-test	SD	Gain Score	SD	Effect size
Experimental <i>listening</i>	224	2.70	1.49	2.04	1.34	-0.67	1.58	0.04
Comparison <i>listening</i>	147	2.72	1.40	1.99	1.19	-0.73	1.67	
Experimental <i>reading</i>	224	4.54	2.51	5.06	2.66	0.52	2.58	0.38
Comparison <i>reading</i>	147	4.49	2.37	4.02	2.37	-0.47	2.63	

Interestingly, the comparison with the non-randomised groups showed a rather different picture. Table 7.10 illustrates that the intervention had no effect on listening skill (ES = +0.04), but a strong positive impact on reading skill (ES = +0.38). However, it has to be borne in mind that this analysis excluded the 85 students in the comparator group who had very high post-test scores. It is possible that the results might be different and closer to the comparison with the randomised control group if the 85 students were included in the analysis.

Table 7.11 Comparison of performance of language skills between experimental group and all comparator students

	N	Pre-test	SD	Post-test	SD	Gain score	SD	Effect size
Experimental <i>listening</i>	224	2.70	1.49	2.04	1.34	-0.67	1.58	-0.08
Comparators <i>listening</i>	275	2.96	1.44	2.43	1.47	-0.53	1.86	
Experimental <i>reading</i>	224	4.54	2.51	5.06	2.66	0.52	2.58	

Comparators <i>reading</i>	275	5.09	2.78	5.10	2.79	0.01	2.93	0.19
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Combining both randomised control and non-randomised comparison groups in the analysis (Table 7.11), the results show that overall, STAD had no impact on students' listening skill (ES = -0.08), but a small positive impact on reading skill (ES = +0.19). This is largely driven by the much stronger performance on the randomised control group. Again, it should be noted that the weaker performance of the non-randomised comparison group is based only on those with pre- and post-tests. Including the 85 students with strong post-test scores (but missing pre-test), the results might be different, but there is no way of knowing this. Hence, any interpretation or conclusion drawn from these findings should be considered with this in mind.

### 7.3.3 Impact by university

As mentioned earlier, two universities were included in the trial after the randomisation, the analysis in Table 7.12 indicates that excluding the two universities missing the pre-test, only three universities showed a positive improvement on the post-test.

Two out of the four universities in the experimental group showed a slight improvement in the test scores. The biggest decline is from U01 which pulled down the average for the intervention group. On the other hand, three of the four universities in the control group registered a fall in the post-test scores. Only one university (U06) showed positive gains. This university appears to be an outlier. It has the lowest pre-test score among control group, but made the most improvements (it is not clear why). This university has perhaps skewed the overall results.

The varying performance among universities in the intervention group could be possibly due to the different length of the intervention period and different modes of lesson delivery at each university. Even in the same randomised groups, either experimental or control, showed slight positive gains, and negative progress was found. It is noticeable that 8 universities out of the 11 made negative progress.

Table 7.12 Analysis by university

	University	N	Pre-test	SD	Post-test	SD	Gain score	SD
Experimental	U01	50	6.70	3.06	5.38	2.68	-1.32	2.62
	U02	61	8.05	3.71	8.13	3.84	0.08	3.44
	U03	63	6.76	2.93	7.14	3.36	0.38	3.33
	U04	50	7.58	3.60	7.42	3.06	-0.16	2.49
Control	U05	49	9.84	3.97	9.47	3.25	-0.37	3.03
	U06	48	7.35	3.10	9.65	4.22	2.29	4.59
	U07	7	14.29	1.89	12.86	1.57	-1.43	1.72
	U08	24	9.08	2.72	7.04	2.20	-2.04	2.87
Comparison	U09	52	6.58	1.91	5.79	2.53	-0.79	2.58
	U10	59	6.88	2.70	6.20	2.91	-0.68	3.19
	U11	36	8.67	4.04	6.03	3.65	-2.64	3.49
	U12	-	-	-	7.81	3.58	-	-
	U13	-	-	-	10.95	3.48	-	-

In addition, as speculated, one of the control universities offered their courses in an international programme that provides all subjects in the English language only; therefore, their scores were expected to be higher than the rest of the universities in the different groups (experimental or non-randomised comparison groups) or even in the same randomised control group. According to Table 7.12, it is noticeable that in U07, which is the international programme university, students scored the highest and outstanding among the rest on both pre- and post-tests. For the pre-test, the mean score of 14.29 was double that of several universities, while the post-test showed a decline. Still, the post-test was also double and almost double that of the compared universities.

#### 7.4 Summary

The results from this study suggest that the STAD cooperative learning method did not appear to have an effect on pre-service teachers' English language achievement. It is noticeable that the control students were already ahead at the beginning of the trial and remained so until the end. In contrast, the experimental and non-randomised comparison groups who showed the same pre-test scores experienced a decline on the post-test. One

possible explanation is the different modes of teaching and the numbers of classes the students received. When focusing on the post-test score only, it was found that students in the intervention group scored the lowest among the three groups. The findings indicate that STAD had no impact on pre-service teachers' English language achievement compared to those who received the regular business-as-usual English instruction. In addition, the STAD method used in this study appears to show a slight impact on students' English reading skills over their listening skills. To conclude, there is no strong evidence for the benefit of the STAD cooperative learning method on English language achievement. Again, if the analyses have included those 85 students with the strong post-test scores (but missing the pre-test), the results might be different. Furthermore, because of the COVID-19 restrictions, there were no consistent delivery of lessons across universities. Hence, any interpretations or conclusions drawn from this study should be considered with caution; a larger and more vigorous study will be needed for more robust results.

## **CHAPTER 8**

### **QUESTIONNAIRE ANALYSIS RESULTS**

#### **What do the participants think about the cooperative learning?**

In the last lesson of the course at the experimental universities, the participants, both instructors and students, were invited to complete the questionnaires that aimed to gather information about their attitudes and perceptions towards the cooperative learning intervention they had experienced. Both questionnaires consisted of two major parts: information about attitudes and general information about the respondents. The total number of participants was 225 (4 university instructors and 221 students from 4 experimental universities). The reliability of the teachers' and students' attitude questionnaires was computed to indicate the overall quality with the Cronbach's alpha at 0.87 and 0.95, respectively. These values suggest that both questionnaires were reliable. The questionnaire results are presented in the following section.

#### **8.1 Students' attitudes towards cooperative learning as reflected on the questionnaire**

##### **8.1.1 Part I: General information**

Regarding general information, the respondents were asked about their gender, the number of years they had studied English and the type of schools they attended before entering university. Students from all four experimental universities who were exposed to the cooperative learning method and environment completed the questionnaire. They were first-year pre-service teachers who were majoring in English in the Faculty of Education, Rajabhat Universities in Thailand, academic year 1/2020. Their age ranged from 18 to 20 years. As presented in Table 8.1, the majority of the respondents were female (164 or 74.2%); 57 students (25.8%) were male, that is, the number of female students was almost three times the number of male students. As expected from the literature, female students seem to be more motivated and interested in English language learning than male students (Coskun, 2014; Dhakal, 2018; Kobayashi, 2002; Oga-Baldwin & Fryer, 2020; Yilmaz, 2010; Zhu & Liu, 2017). Thus, it is not surprising to see the larger number of female students in this study or even in this major.

Table 8.1 Gender of the respondents (intervention only) (n = 221)

		Number of students	Percent
Gender	Male	57	25.8
	Female	164	74.2
	Total	221	100

Table 8.2 Type of school attended before entering university (n = 218)

		Number of students	Percent
Type of school attended before entering university	Public school	209	95.9
	Private school	9	4.1
	Total	218	100

Table 8.2 illustrates that almost all of the students had attended public high schools, 209 students (94.6%), while only 9 students (4.1%) were from private high schools. It is really interesting to note that from all four experimental universities located in different parts of the country, the majority of students in this study had attended public schools indicating that Education faculty, Rajabhat Universities in Thailand are more popular with public school students than private school students.

Table 8.3 Number of years studying English (n = 185)

	Minimum	Maximum	Mean	S.D.
Years studying English	3	20	12.31	3.29

Table 8.3 shows that the average number of years the students had studied English was 12.31 years; the maximum number of years was 20, while the least was 3 years. It can be noted that most students received more than 10 years of exposure to English language. This means that most students had studied English since they were in primary school and that they should be at least at the intermediate level of proficiency. However, their test scores from the impact evaluation of intermediated-level standardised test were quite low. One possible explanation would be that students in Thailand are learning English as a foreign language context. They were only exposed to English a couple hours in their classrooms

once a week and used their mother-tough language exclusively in their everyday lives. Some might only study English in order to pass their tests and receive grades. Therefore, the numbers of years studying English might not be related to their actual level of English proficiency.

### 8.1.2 Part 2: Information about students' attitudes towards cooperative learning

The analysis of students' attitudes towards cooperative learning are shown below.

Table 8.4 Analysis of positive statements listed from the highest to the lowest mean  
(n = 221)

Items		Mean	S.D.
1	Cooperative learning creates positive relationships among team members.	8.42	2.00
2	Cooperative learning makes the learning of the English course easier.	8.01	1.75
3	I like working in cooperative learning teams with my classmates.	7.93	1.96
4	I enjoy English lessons more when I work with other students.	7.80	2.13
5	Cooperative learning helps me increase my comprehension of the course content through working in a team.	7.65	1.79
6	Cooperative learning can improve my attitude towards work.	7.64	1.95
7	I am satisfied that my lecturer applies cooperative learning in the English course.	7.48	2.01
8	I feel actively involved in all activities through cooperative learning.	7.30	1.88
9	I received sufficient assistance and feedback from my lecturer.	7.30	2.30
10	Students learn best when they work with others in pairs and groups.	7.20	2.01
11	Cooperative learning motivates students in an EFL classroom.	7.10	2.09
12	I prefer my English classrooms to be organised for cooperative learning activities.	6.88	2.30
13	Cooperative learning helps everyone reach their goals equally.	6.71	2.42
14	When I work together with others, I achieve more than when I work alone.	6.65	2.44
15	I am familiar with cooperative learning activities.	6.37	2.37

According to Table 8.4, the overall response towards the implementation of cooperative learning tended to be positive. Students reported that cooperative learning creates positive relationships between team members with the highest mean score of 8.42, which is probably because working together allows and requires students to spend a significant amount of time to work, talk and rely on each other. Some students were with different groups of friends than the ones they typically associated with outside class. With plenty of communication occurring among team members, both about the topics of study and/or off topics, their communication skills may be improved. This may easily lead to positive relationships among students on the same teams. This finding is consistent those of earlier researchers (Er & Aksu Ataç, 2014; Haidari, 2013).

With the second highest mean score of 8.01, students indicated that cooperative learning makes the learning of English easier. It may have been that they were with friends who shared similar academic knowledge, levels of English ability and skills to work with on the assigned tasks. If there were any questions or confusion, their teammates would always be available to offer explanations or clarification. It would be more comfortable to ask for help from their friends than from instructors. In addition, when peer-to-peer teaching/learning occurred, language might have been simplified so that explanations were easier to comprehend. When students explain concepts to one another, they need to organise their thoughts and engage in building on the previously understood ideas. This process can enhance and strengthen the student's own learning. In addition, the students receive several levels of input on the same content. This may be a possible explanation for students' views that cooperative learning makes the learning of the English course content easier. This finding is consistent with the work of Hidayati et al. (2018) who found that EFL students revealed that cooperative learning helped them in terms of language learning and acquiring knowledge through working in teams. Cooperative learning helped them reach their language learning goals (Hidayati et al., 2018). This finding also supports a study by Chiriac (2014) in which students reported that working in groups facilitated their learning and Mohammad (2018) who also found that applying cooperative learning to enhance students English writing skills promoted language acquisition.

For scores from 7 to 8, students reported a positive inclination towards cooperative learning. The statements in this range presented from the higher rank to the lower included:



I like working in cooperative learning teams with my classmates.

I enjoy English lessons more when I work with other students.

Cooperative learning helps me increase my comprehension of the course content through working in a team.

Cooperative learning can improve my attitude towards work.

I am satisfied that my lecturer applies cooperative learning in English course.

I feel actively involved in all activities through cooperative learning.

I received sufficient assistance and feedback from my lecturer.

Students learn best when they work with others in pairs and groups.

Cooperative learning motivates students in an EFL classroom.

This confirms the findings of Mutaiei (2014) who stated that students in cooperative learning conditions were reinforced to play more active roles and participate more actively in the learning process.

For those scores of 6 to 7, statements by students trended to indicate that they preferred English classrooms organised for cooperative learning activities and that cooperative learning helps everyone reach their goals equally. When they work together with others, they achieved more than when they work alone. Last, they reported that they were familiar with cooperative learning activities.

Table 8.5 Analysis of negative statements listed from the highest to the lowest mean (n = 221)

	Items	Mean	S.D.
1	Other methods of teaching offer better results.	4.24	2.38
2	I enjoy other methods of teaching more than cooperative learning.	3.84	2.59
3	A cooperative learning classroom is too noisy.	3.66	2.29
4	My classroom is too small for cooperative learning activities.	3.57	2.86
5	My desk is <u>not</u> appropriate to be organised into a cooperative classroom environment.	3.48	3.02
6	My team lacks teamwork skills.	2.61	2.70
7	I did <u>not</u> receive enough explanation/instruction on cooperative learning activities.	2.60	2.56

Items		Mean	S.D.
8	Cooperative learning activities are boring.	2.57	2.48
9	Students in my team do <u>not</u> share the same grade expectations.	2.49	2.67
10	Cooperative learning activities are too difficult to follow.	2.08	2.03
11	Cooperative learning is <u>not</u> suitable for me.	2.03	2.47
12	Trying to teach something to my team members in cooperative learning makes me tired.	1.81	2.03
13	I do <u>not</u> like it when my friends are depending on me in cooperative learning.	1.73	2.38
14	Cooperative learning wastes a lot of valuable teaching and learning time.	1.62	2.12
15	I do <u>not</u> want to work with my team members.	1.14	2.06

On the other hand, Table 8.5 shows the highest score for negative statements which was “Other methods of teaching offer better results”, with a mean score of 4.24. This indicates that even though students seemed to favour applying cooperative learning in their English classrooms, with a mean score of around 4 where the average of all score is 5, it can be interpreted that they still think or may be not sure that other methods of teaching might offer better achievement in English language.

Moreover, the range that is considered as high score for negative items is between the mean score of 3 to 4. Students reported that they ‘enjoy other methods of teaching more than cooperative learning’. They thought that their cooperative learning classroom was too noisy, that it was too small and that their desks were not appropriated for the cooperative classroom environment. In the next range of mean scores (2 to 3), the statements presented by ranking from high to low are as follows:

My team lacks teamwork skills.

I did not receive enough explanation/instruction on cooperative learning activities.

Cooperative learning activities are boring.

Students in my team do not share the same grade expectations.

Cooperative learning activities are too difficult to follow.

Cooperative learning is not suitable for me.

Students indicated the highest degree of disagreement with the lowest mean score of 1.14 stating that they do not want to work with their team members. In similar statements, with a mean score between 1 and 2, students were asked whether they do not like it when their friends are depending on them, they feel tired when they trying to teach something to their team members and cooperative learning wastes a lot of valuable teaching and learning time. All these statements received high degree of disagreement.

To sum up, students tended to favour the implementation of cooperative learning in their English language classrooms. The mode score for positive items was between 7 and 8, suggesting that they had positive attitudes towards cooperative learning. They seem to agree that cooperative learning creates positive relationship between team members and makes the learning of English in that course easier. In contrast, the students revealed that other methods of teaching might offer better academic results and that they enjoy other methods of teaching more than cooperative learning. Last, but not least, students reported that they liked working with their team members and that cooperative learning did not waste valuable teaching and learning time.

Therefore, these findings broadly support the work of previous studies as illuminated in the literature review (Ali, 2017; Er & Aksu Ataç, 2014; Erdem, 2009; Farzaneh & Nejadansari, 2014; Haidari, 2013; Lucha et al., 2015; Mohammad, 2018; Nausheen et al., 2013; Reda, 2015; Veenman et al., 2002; Warawudhi, 2012). It is also similar to Gottschall and Garcia-Bayonas (2008) who found that education majors had more positive attitudes compared to other majors.

### **8.1.3 Analysis of responses by gender**

As mentioned above, the majority of the respondents were female. According to the literature, female students tend to be more satisfied with cooperative learning than male students. In order to determine gender differences in this study, the effect size was calculated.

The overall attitudes of male and female students were not much different. In general, this mirrors the results found by earlier researchers (Ali, 2017; Haidari, 2013; Nausheen et al., 2013) who reported no differences in the attitudes of male and female students.

The tables below reflect the differences between male and female students in this study. The analysis of responses can be categorised into four groups: 1) male reported higher agreement, 2) female showed higher agreement, 3) male and female had the same attitude and 4) male and female showed slightly different attitudes.

Table 8.6 Analysis of attitudes by gender (male students reported higher agreed attitude on these statements) (Male n = 57, Female n = 164)

Items		Gender	Mean	S.D.	Overall S.D.	Effect size
1	Cooperative learning motivates students in an EFL classroom.	Male	7.63	1.92	2.09	0.34
		Female	6.91	2.12		
2	Cooperative learning helps everyone reach their goals equally.	Male	7.33	2.29	2.42	0.34
		Female	6.50	2.44		
3	Cooperative learning can improve my attitude towards work.	Male	8.02	1.69	1.95	0.26
		Female	7.51	2.02		
4	I enjoy other methods of teaching more than cooperative learning.	Male	4.33	2.63	2.59	0.25
		Female	3.67	2.56		
5	I prefer my English classrooms to be organised for cooperative learning activities.	Male	7.30	2.36	2.30	0.24
		Female	6.74	2.27		
6	I like working in cooperative learning teams with my classmates.	Male	8.18	1.67	1.96	0.17
		Female	7.85	2.05		
7	I received sufficient assistance and feedback from my lecturer.	Male	7.61	2.39	2.30	0.18
		Female	7.20	2.26		
8	I am familiar with cooperative learning activities.	Male	6.65	2.39	2.37	0.16
		Female	6.27	2.36		
9	I do <u>not</u> like it when my friends are depending on me in cooperative learning.	Male	2.00	2.51	2.38	0.15
		Female	1.64	2.33		
10	When I work together with others, I achieve more than when I work alone.	Male	6.93	2.43	2.44	0.15
		Female	6.56	2.45		
11	Trying to teach something to my	Male	2.02	2.10		

Items		Gender	Mean	S.D.	Overall S.D.	Effect size
	team members in cooperative learning makes me tired.	Female	1.73	2.01	2.03	0.14
12	Other methods of teaching offer better results.	Male	4.44	2.22	2.38	0.11
		Female	4.17	2.43		
13	Cooperative learning helps me increase my comprehension of the course content through working in a team.	Male	7.79	1.44	1.79	0.11
		Female	7.60	1.90		
14	Students in my team do <u>not</u> share the same grade expectations.	Male	2.70	2.73	2.67	0.11
		Female	2.41	2.66		

Table 8.6 illustrates that the male students agreed with the majority of the statements (14 items) towards cooperative learning, specifically that cooperative learning motivates students in the EFL classroom and it helps everyone reach the goals equally with an effect size is +0.34. Similarly, when comparing male and female attitudes, smaller effect sizes of +0.27, +0.25 and +0.24, respectively, were found in these statements:

Cooperative learning can improve my attitude towards work.

I enjoy other methods of teaching more than cooperative learning.

I prefer my English classrooms to be organised for cooperative learning activities.

Furthermore, smaller effect sizes (+0.11 to +0.18) suggests that males also showed a higher level of agreement towards the statements:

I like working in cooperative learning teams with their classmates.

I received sufficient assistance and feedback from my lecturer.

I am familiar with cooperative learning.

When I work together with others, I achieve more than when I work alone.

However, these findings are contrary of the expectations and from earlier studies reporting that female students showed a more favourable attitude towards cooperative learning (Ali, 2017; Er & Aksu Ataç, 2014; Reda, 2015; Rodger et al., 2007) because they tended to be

more oriented towards connection, relatedness and affiliation with others (Beer & Darkenwald, 1989; Ellison & Boykin, 1994, as cited in Er & Aksu Ataç, 2014; Fultz & Herzog, 1991; Rodger et al., 2007). Male students more likely to express negative attitudes towards cooperative learning activities since they preferred to learn individually (Er & Aksu Ataç, 2014).

However, those published studies were conducted outside Asia where different contexts and cultures are dominant. It is possible that the male students were in the minority; in some classes there were less than five male students. It might be difficult for them to work or socialise only with male students. As some studies claiming that female students tend to outperform in language learning, especially English (Akhoondali, 2013; Głowska, 2014; Saengsawang, 2020; Zhu & Liu, 2017; Zoghi & Kazemi, 2013), it might be possible that male students would like to work with female students and be part of their groups; hence, they revealed the greater favour towards cooperative learning as compared to their female counterparts.

Table 8.7 Analysis of attitudes by gender (female students showed higher agreed attitude on some statements) (Male n = 57, Female n = 164)

Items		Gender	Mean	S.D.	Overall S.D.	Effect size
1	Cooperative learning activities are too difficult to follow.	Male	1.61	1.72	2.03	-0.32
		Female	2.25	2.10		
2	Cooperative learning wastes a lot of valuable teaching and learning time.	Male	1.42	1.91	2.12	-0.13
		Female	1.70	2.18		

Table 8.7 reports that female students indicated higher agreement than male students towards two statements. The highest score supports the statement that cooperative learning activities are too difficult to follow (ES = -0.32). It is notable the large difference of attitude between male and female students on this item. Female students thought that cooperative learning instructions and activities needed more explanation or clarification from their university instructors. The second statement, cooperative learning wastes a lot of valuable teaching and learning time, had an effect size of -0.13. This means that female students

thought that cooperative learning wastes their time more than male students, which is in accordance with the work of Lucha et al. (2015).

In addition, students' comments and *ad hoc* interviews during the observational visits revealed the majority of the female students who disliked cooperative learning felt that some of their team members pushed the work off on others and did not actively help their teams complete the assigned tasks. This issue has demotivated the students to willingly participate in cooperative learning activities. It also accords with earlier studies (Chiriac, 2014; Gottschall & Garcia-Bayonas, 2008; Pfaff & Huddleston, 2003), which reported that students disliked or did not favour working in groups because of their unpleasant past experiences of having free-riders in their groups.

Table 8.8 Attitudes of male and female students showed no differences on some statements (Male n = 57, Female n = 164)

Items		Gender	Mean	S.D.	Overall S.D.	Effect size
1	Cooperative learning creates positive relationships among team members.	Male	8.42	2.14	2.00	0
		Female	8.42	1.96		
2	I did <u>not</u> receive enough explanation/instruction on cooperative learning activities.	Male	2.60	2.41	2.56	0
		Female	2.60	2.61		

Third, according to Table 8.8, it is interesting to see that there is no difference in effect size between male and female attitudes. Male and female students had the same attitudes towards the ideas that cooperative learning creates positive relationships among team members and that they did not receive enough explanation/instruction on cooperative learning activities.

Table 8.9 Attitudes of male and female students differ slightly on these statements (Male n = 57, Female n = 164)

Items		Gender	Mean	S.D.	Overall S.D.	Effect size
1	Cooperative learning makes the	Male	8.14	1.53		

Items		Gender	Mean	S.D.	Overall S.D.	Effect size
	learning of the English course easier.	Female	7.97	1.83	1.75	0.10
2	My classroom is too small for cooperative learning activities.	Male	3.75	3.01	2.86	0.09
		Female	3.50	2.82		
3	Cooperative learning activities are boring.	Male	2.72	2.63	2.48	0.08
		Female	2.52	2.44		
4	Students learn best when they work with others in pairs and groups.	Male	7.30	2.08	2.01	0.06
		Female	7.17	1.99		
5	Cooperative learning is <u>not</u> suitable for me.	Male	2.14	2.58	2.47	0.06
		Female	1.99	2.43		
6	I do <u>not</u> want to work with my team members.	Male	1.07	2.03	2.06	-0.04
		Female	1.16	2.08		
7	I enjoy English lessons more when I work with other students.	Male	7.74	2.27	2.13	-0.04
		Female	7.82	2.09		
8	My desk is <u>not</u> appropriate to be organised into a cooperative classroom environment.	Male	3.37	3.18	3.02	-0.05
		Female	3.51	2.97		
9	A cooperative learning classroom is too noisy.	Male	3.54	2.41	2.29	-0.07
		Female	3.70	2.59		
10	I am satisfied that my lecturer applies cooperative learning in the English course.	Male	7.37	2.12	2.01	-0.07
		Female	7.52	1.97		
11	I feel actively involved in all activities through cooperative learning.	Male	7.19	1.83	1.88	-0.08
		Female	7.34	1.91		
12	My team lacks teamwork skills.	Male	2.45	2.43	2.70	-0.08
		Female	2.66	2.80		

Table 8.9 shows slightly different attitudes between male and female students with small effect sizes (+0.1 to -0.1). These indicates that the attitudes between male and female students on these statements (12 items) were not much different.



#### 8.1.4 Analysis of responses by type of previous school attended

It was hypothesised that students who have graduated from different types of high schools, such as international programmes for at least three years, may have experienced different curriculums when compared to public school students who were exposed to the curriculums issued by Thai Ministry of Education. The students may have different attitudes or perceptions towards cooperative learning. Surprisingly, almost all of students, 209, in the study graduated from government high schools or government secondary schools, and only 9 students were from private high schools. It is interesting to see the large number of differences in terms of types of students' previous schools before entering university. In order to determine whether different high school backgrounds accounted for different attitudes towards cooperative learning, the effect size was calculated. However, the results have to be read with caution because of the very small number in one cell.

Table 8.10 Analysis of attitudes by type of previous schools attended (students with government high school backgrounds reported higher attitude degree listed from the highest to the lowest mean) (Government school n = 209, Private school n = 9)

Items		Type of previous school	Mean	S.D.	Overall S.D.	Effect size
1	I am familiar with cooperative learning activities.	Government	6.43	2.35	2.37	0.89
		Private	4.33	1.94		
2	I prefer my English classrooms to be organised for cooperative learning activities.	Government	6.95	2.30	2.30	0.85
		Private	5.00	1.41		
3	Other methods of teaching offer better results.	Government	4.28	2.41	2.39	0.44
		Private	3.22	1.86		
4	Cooperative learning helps everyone reach their goals equally.	Government	6.74	2.43	2.43	0.40
		Private	5.78	2.28		
5	Students learn best when they work with others in pairs and groups.	Government	7.22	1.99	2.01	0.39
		Private	6.44	2.51		
6	My desk is <u>not</u> appropriate to	Government	3.48	3.06		

Items		Type of previous school	Mean	S.D.	Overall S.D.	Effect size
	be organised into a cooperative classroom environment.	Private	2.44	1.74	3.03	0.34
7	I enjoy other methods of teaching more than cooperative learning.	Government	3.89	2.59	2.59	0.26
		Private	3.22	2.68		
8	I like working in cooperative learning teams with my classmates.	Government	7.94	1.94	1.96	0.19
		Private	7.56	2.60		
9	When I work together with others, I achieve more than when I work alone.	Government	6.63	2.37	2.44	0.12
		Private	6.33	3.91		
10	Cooperative learning activities are boring.	Government	2.60	2.49	2.49	0.11
		Private	2.33	2.50		
11	A cooperative learning classroom is too noisy.	Government	3.67	2.31	2.30	0.10
		Private	3.44	2.19		
12	Cooperative learning is <u>not</u> suitable for me.	Government	2.05	2.45	2.48	0.06
		Private	1.89	3.22		
13	Cooperative learning can improve my attitude towards work.	Government	7.62	1.93	1.95	0.03
		Private	7.56	2.65		

Table 8.10 displays the more positive attitude scores for students who had government high school backgrounds than students who went to private high schools. The mean score of each statement was compared and the effect size was computed and are listed in the table from highest to lowest. The first two statements where students with government high school backgrounds shows the highest agreement in attitude ( $ES = +0.89$  and  $ES = +0.85$ ). They reported that they were familiar with cooperative learning and they preferred to have their English classrooms organised to accommodate cooperative learning activities. These are also the highest agreement among all the statements. Moreover, they also think that other methods of teaching offer better results ( $ES = +0.44$ ) and cooperative learning helps everyone reach the goals equally ( $ES = +0.40$ ), around half of the effect size of the highest.

The students who graduated from government high schools also expressed high agreement (ES = +0.39 and ES = +0.34) towards two statements - students learn best when they work with others in pairs and groups and their desks were not appropriate to be organised into cooperative classroom environment. Similarly, smaller effect sizes of +0.26, +0.19, +0.12, +0.11 and +0.10, respectively, were found in the following statements:

I enjoy other methods of teaching more than cooperative learning.

I like working in cooperative learning teams with my classmates.

When I work together with others, I achieve more than when I work alone.

Cooperative learning activities are boring.

A cooperative learning classroom is too noisy.

In addition, quite small degrees of effect sizes are +0.06 and +0.03 on two statements' respectively: "I think cooperative learning is not appropriate for me" and "Cooperative learning can improve my attitude towards work". Students from public and private high schools have almost the same degree of agreement that cooperative learning can help improve their attitude towards the work in their English lessons.

Table 8.11: Analysis of attitudes by type of previous schools attended (students with private high school backgrounds reported higher attitude degree listed from the highest to the lowest mean) (Government school n = 209, Private school n = 9)

Items		Type of previous school	Mean	S.D.	Overall S.D.	Effect size
1	Cooperative learning wastes a lot of valuable teaching and learning time.	Government	1.59	2.02	2.12	-0.56
		Private	2.78	3.90		
2	Cooperative learning activities are too difficult to follow.	Government	2.06	2.00	2.02	-0.36
		Private	2.78	2.49		
3	Cooperative learning makes the learning of the English course easier.	Government	7.98	1.77	1.75	-0.33
		Private	8.56	1.42		

Items		Type of previous school	Mean	S.D.	Overall S.D.	Effect size
4	I do <u>not</u> like it when my friends are depending on me in cooperative learning.	Government	1.71	2.32	2.39	-0.31
		Private	2.44	3.88		
5	I am satisfied that my lecturer applies cooperative learning in the English course.	Government	7.45	2.03	2.01	-0.22
		Private	7.89	1.36		
6	Cooperative learning helps me increase my comprehension of the course content through working in a team.	Government	7.62	1.79	1.78	-0.21
		Private	8.00	1.41		
7	I did <u>not</u> receive enough explanation/instruction on cooperative learning activities.	Government	2.60	2.56	2.56	-0.20
		Private	3.11	2.80		
8	Students in my team do <u>not</u> share the same grade expectations.	Government	2.48	2.70	2.68	-0.19
		Private	3.00	2.24		
9	I received sufficient assistance and feedback from my lecturer.	Government	7.27	2.32	2.31	-0.17
		Private	7.67	1.94		
10	I enjoy English lessons more when I work with other students.	Government	7.76	2.16	2.14	-0.16
		Private	8.11	1.45		
11	My team lacks teamwork skills.	Government	2.61	2.73	2.71	-0.14
		Private	3.00	2.40		
12	I feel actively involved in all activities through cooperative learning.	Government	7.28	1.89	1.87	-0.09
		Private	7.44	1.51		
13	Trying to teach something to my team members in cooperative learning makes me tired.	Government	1.81	2.04	2.04	-0.09
		Private	2.00	2.18		
14	I do <u>not</u> want to work with my team members.	Government	1.14	2.01	2.07	-0.09
		Private	1.33	3.32		

Items		Type of previous school	Mean	S.D.	Overall S.D.	Effect size
15	Cooperative learning creates positive relationships among team members.	Government	8.41	1.98	2.01	-0.07
		Private	8.56	2.65		
16	Cooperative learning motivates students in an EFL classroom.	Government	7.09	2.12	2.08	-0.01
		Private	7.11	1.27		
17	My classroom is too small for cooperative learning activities.	Government	3.54	2.88	2.87	-0.01
		Private	3.56	2.65		

On the other hand, Table 8.11 illustrates that the highest degree of agreement for students with private high school backgrounds ( $ES = -0.56$ ) was, “Cooperative learning wastes a lot of valuable teaching and learning time”. They also reported high effect sizes ( $-0.36$ ,  $-0.33$  and  $-0.31$ , respectively) for the ideas that cooperative learning is difficult to follow although it makes the learning English in that course easier and they did not like it when their friends were depending on them.

Smaller and similar effect sizes ( $ES = -0.22$ ,  $-0.21$  and  $-0.20$ ) were found for students who went to private high schools regarding how their instructors applied cooperative learning, cooperative learning helps increased their comprehension of the course content through working in a team, but students in their team do not share the same grade expectations.

Smaller effect sizes (from  $-0.10$  to  $-0.19$ ) were reported towards these four statements:

Students in my team do not share the same grade expectations.

I received sufficient assistance and feedback from my lecturer.

I enjoy English lessons more when I work with other students.

My team lacks teamwork skills.

Last, a quite small effect size to almost no differences between students who went to government high school and students who had private school background were also found. Those effect sizes are three statements of -0.09, -0.07, -0.01 and -0.01.

The same effect size of -0.09 were found towards these three statements:

I feel actively involved in all activities through cooperative learning.

Trying to teaching something to my team members in cooperative learning makes me tired.

I do not want to work with my team members.

Furthermore, students who were from private high schools reported slightly higher levels of agreement ( $ES = -0.07$ ) compared to their counterparts on the statement, “Cooperative learning creates positive relationships among team members”.

The smallest effect size ( $ES = -0.01$ ) among all the questionnaire items are reported in Table 8.11. These two statements can be considered as having no differences in the attitudes between students who graduated from public and private schools. Both groups of students agreed that “cooperative learning motivates students in an EFL classroom” and their classrooms were too small for cooperative learning activities.

It can be noted that students who came from public and private high schools generally showed quite similar attitudes towards cooperative learning regarding both positive and negative statements. Nevertheless, students with public high school backgrounds expressed that they were more familiar with cooperative learning activities and they preferred English classrooms to be organised to accommodate cooperative learning activities. It can be beneficial because almost all of students in the Faculty of Education, Rajabhat Universities have public high school backgrounds. Still, the results have to be interpreted with caution because one of the comparison cells (private high school) was very small. The study revealed that the number of students with private high school background will always be very small, so it is not suggested to make further investigation on their differences.

### **8.1.5 Additional analysis**

#### **Analysis of responses by university/instructor**

It is speculated that students from different universities experienced cooperative learning from different instructors might have different attitudes towards cooperative learning.

Table 8.12 Analysis of responses by university/instructor

Items	U01 (N=50)		U02 (N=58)		U03 (N=63)		U04 (N=50)		Overall	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
1	7.98	1.64	8.05	1.96	8.33	1.67	7.24	2.43	7.93	1.96
2	7.96	1.71	7.98	1.94	8.30	1.73	7.74	1.59	8.01	1.75
3	2.58	2.43	2.83	2.89	1.98	2.08	3.02	2.43	2.57	2.48
4	7.80	1.68	7.53	1.79	7.83	1.81	7.42	1.88	7.65	1.79
5	3.42	2.09	4.07	2.24	3.67	2.60	3.40	2.13	3.66	2.29
6	7.18	1.63	7.53	2.03	7.71	1.80	6.64	1.91	7.30	1.88
7	7.36	2.02	7.05	2.26	7.57	1.84	6.76	1.85	7.20	2.01
8	2.38	2.72	1.97	2.62	1.17	1.82	1.52	2.23	1.73	2.38
9	8.08	2.27	8.57	1.77	8.70	1.77	8.24	2.24	8.42	2.00
10	2.42	2.09	1.97	2.18	1.24	1.70	1.72	2.04	1.81	2.03
11	4.02	2.58	4.09	2.98	3.22	2.41	4.16	2.26	3.84	2.59
12	6.83	2.24	6.86	2.47	6.48	2.47	6.72	2.53	6.71	2.42
13	7.38	1.69	6.93	2.30	7.07	2.22	7.06	2.05	7.10	2.09
14	4.42	2.42	5.02	2.36	3.44	1.99	4.16	2.55	4.24	2.38
15	1.04	1.62	1.31	2.19	0.48	0.86	1.86	2.97	1.14	2.06
16	7.63	1.84	7.19	2.36	7.68	2.02	7.43	1.70	7.48	2.01
17	1.82	2.13	2.55	2.89	1.52	1.98	2.28	2.71	2.03	2.47
18	6.78	2.56	6.72	2.55	6.76	2.45	6.32	2.23	6.65	2.44
19	7.68	1.85	7.50	1.88	7.81	2.18	7.54	1.87	7.64	1.95
20	1.62	1.96	2.16	2.38	1.16	1.94	1.60	2.06	1.62	2.12
21	7.78	1.89	7.69	2.27	8.03	2.19	7.64	2.17	7.80	2.13
22	2.06	1.98	2.50	2.51	1.49	1.50	2.36	1.91	2.08	2.03
23	7.10	2.04	6.67	2.65	7.32	2.14	6.36	2.23	6.88	2.30
24	3.29	2.89	3.83	2.58	3.67	3.19	3.42	2.76	3.57	2.86
25	3.16	2.74	2.97	2.43	3.05	3.13	4.92	3.38	3.48	3.02
26	6.68	2.23	6.34	2.25	6.65	2.30	5.72	2.65	6.37	2.37
27	7.56	2.22	7.03	2.46	7.51	2.32	7.10	2.17	7.30	2.30
28	2.95	2.73	2.56	2.73	1.73	2.29	3.42	2.88	2.61	2.70
29	2.76	2.83	2.38	2.76	2.33	2.53	2.53	2.65	2.49	2.67
30	2.44	2.22	3.21	2.97	1.52	1.85	3.40	2.70	2.60	2.56

From Table 8.12, the overall responses from all four universities was not very much different from each other when compared to the overall mean score. However, there are some items where the mean score stood out from others. For instance, University 01 seemed not to favour it when their friends depended on them and they felt tired when they tried to teach something to their friends, and they scored higher than the overall mean score for preferring English classrooms organised for cooperative learning activities. Similar to University 01, University 02 students tended not to prefer cooperative learning. They reported a higher mean score than the overall mean score on the statement regarding their preference for other methods of teaching and the feeling that cooperative learning wastes a lot of valuable teaching and learning time; they also felt that they did not receive enough explanation/instruction on cooperative learning activities.

In contrast, it is noticeable that University 03 students favoured the use of cooperative learning in their English classes. They had lower scores than the overall mean score on negative statements which suggests that they tended to disagree to the statements like

Cooperative learning activities are boring.

Cooperative learning activities are too difficult to follow.

I enjoy other methods of teaching more than cooperative learning.

My team lacks teamwork skills.

I did not receive enough explanation/instruction on cooperative learning activities.

They showed high agreement towards the ideas of enjoying English lessons more when they worked with other students and they preferred English classrooms that were organised for cooperative learning activities.

The mean score for University 04 students indicated that they were familiar with and seemed to favour cooperative learning. Nevertheless, they supported the idea that their desks were not appropriate to be organised into a cooperative learning classroom environment and their teams lacked teamwork skills.

The findings are not surprising since all the universities participated in this study were the same type of university in Thailand where some student characteristics and cultural contexts were similar. Regardless the same curriculum and course description provided by



the national Ministry of Education, course contents and learning materials like books and supplemental exercises, were different, which may be a factor in the different attitudes of students of each university. The other possible explanation would be instructors' unique teaching styles and their views of cooperative learning may partly encourage or dilute students' attitudes towards cooperative learning lessons and activities.

This shows why two of universities favoured the use of cooperative learning in their English lessons while the other two tended to reflect the opposite.

### 8.1.6 Correlation analysis

#### *Correlation between the attitude score and the number of years studying English*

The study also wanted to look at the relationship between students' attitudes and the number of years they had studied English; therefore, a Pearson product moment correlation coefficient was computed.

Table 8.13 Correlation between the attitude score and the number of years students had studied English (n = 185)

Items		Years of studying English (Mean = 12.31)
1	I am familiar with cooperative learning activities.	0.19
2	I am satisfied that my lecturer applies cooperative learning in the English course.	0.16
3	I received sufficient assistance and feedback from my lecturer.	0.12
4	Cooperative learning helps everyone reach their goals equally.	0.11
5	Cooperative learning motivates students in an EFL classroom.	0.11
6	Students learn best when they work with others in pairs and groups.	0.09
7	Cooperative learning helps me increase my comprehension of the course content through working in a team.	0.07
8	Cooperative learning can improve my attitude towards work.	0.07
9	I prefer my English classrooms to be organised for cooperative learning activities.	0.07
10	I feel actively involved in all activities through cooperative learning.	0.06
11	I like working in cooperative learning teams with my classmates.	0.05

Items		Years of studying English (Mean = 12.31)
12	I enjoy other methods of teaching more than cooperative learning.	0.05
13	Cooperative learning makes the learning of the English course easier.	0.04
14	Cooperative learning is <u>not</u> suitable for me.	0.04
15	My team lacks teamwork skills.	0.04
16	Students in my team do <u>not</u> share the same grade expectations.	0.02
17	I do <u>not</u> want to work with my team members.	0.01
18	My desk is <u>not</u> appropriate to be organised into a cooperative classroom environment.	0.01
19	I enjoy English lessons more when I work with other students.	-0.01
20	When I work together with others, I achieve more than when I work alone.	-0.02
21	Cooperative learning wastes a lot of valuable teaching and learning time.	-0.02
22	Cooperative learning creates positive relationships among team members.	-0.03
23	Cooperative learning activities are boring.	-0.08
24	I do <u>not</u> like it when my friends are depending on me in cooperative learning.	-0.08
25	Other methods of teaching offer better results.	-0.09
26	Trying to teach something to my team members in cooperative learning makes me tired.	-0.11
27	Cooperative learning activities are too difficult to follow.	-0.11
28	My classroom is too small for cooperative learning activities.	-0.12
29	I did <u>not</u> receive enough explanation/instruction on cooperative learning activities.	-0.18
30	A cooperative learning classroom is too noisy.	-0.19

Table 8.13 shows the correlation coefficient analysis between each cooperative learning statement and the average number of years of students had studied English (Mean = 12.31, S.D. = 3.29). Generally, Pearson's  $r$  data analysis revealed both very weak positive and negative correlations. A slight positive correlation with  $r$  value, less than 0.20 for mostly positive statements, was found. Students who had studied English for several years tended

to agree to positive statements favouring the application of cooperative learning. In addition, there was a very weak correlation of a slight negative with  $r$  value less than  $-0.20$ ; this indicated that students with more years of studying English agreed to those statements of implementing cooperative learning in English classes (mostly negative statements). The highest correlation values ( $r = 0.19$  and  $-0.19$ ) found in this study are still considered as very weak. Students who had taken more English classes throughout many years reported that cooperative learning class were too noisy even though they were familiar with cooperative learning activities. It is possible that students who had been exposed to more English classes also have experienced some kinds of cooperative learning or at least traditional group work to some extent. Many items show very small correlations, which can be considered no correlation between these items and the number of years students had studied English.

### ***Correlation of each items***

According to the Pearson's  $r$  correlation coefficient, the correlation between each question were generally weak or moderate (see Appendix 15). The strongest and largest positive correlations ( $r = +0.68$ ) in this study were found between Item 1, "I like working in cooperative learning teams with my classmates" and Item 2, "Cooperative learning makes the learning of the English course easier". There was a strong relationship between these two statements. Students who liked working in cooperative learning teams with their classmates reported strong agreement towards cooperative learning making the learning of that English course easier.

Item 2 and Item 4 were also positively correlated with the  $r$  value of  $+0.65$ . Students who showed strong agreement to the statement, "Cooperative learning makes the learning of the English course easier", also reported strong support for the idea that cooperative learning helps them increase their comprehension of the course content through working in a team.

Moreover, another moderate positive correlation ( $r = +0.64$ ) was found between Item 21 and Item 23. Students who agreed to the statement, "I enjoy English lessons more when I work with other students", strongly supported a preference for organising English classrooms to accommodate cooperative learning activities. The top three correlations in this study were found to have strong relationship between those statements. They seem to be positive towards the application of cooperative learning in English classrooms. It is not

surprising that if students like to work with others, they believe that cooperative learning helps their comprehension of English content and makes English language lessons easier for them, they would prefer more classroom activities to be arranged in the cooperative learning environment.

#### **8.1.7 Students' comments on the questionnaire regarding cooperative learning lessons**

In the student's attitude towards cooperative learning questionnaire, open-ended sections were provided for students to freely comment or express on their opinions, feelings and views of cooperative learning lessons they experienced during the intervention. A total of 164 comments were counted including 101 positive, 57 negative and 6 neutral comments. The majority of students who wrote comments favoured the cooperative learning lessons. Many students indicated both positive and negative views on the benefits and barriers of applying cooperative learning in their English lessons.

The overall comments tended to be more positive, advocating for cooperative learning, which is generally perceived as a useful instructional method for their English learning. The majority of positive comments viewed cooperative learning as beneficial in terms of offering students' opportunities to share, exchange and negotiate ideas with their group members. They indicated that students' prior knowledge was various, but they could learn different concepts, techniques or methods to deal with the learning tasks by listening and working with teammates. Examples of students' comments include the following:

All members have an opportunity to think, speak, and express their opinions freely through brainstorming to solve the problems.

By sharing ideas with friends, we could learn something different.

Working together allowed students to exchange knowledge and help each other get the work done in a shorter time.

Someone in the group might know something that other members did not, which helped expand our knowledge.

Most students also mentioned that they liked cooperative learning lessons because it was more comfortable and relaxing, making it easier to ask for help from their team members. They pointed out that working in teams, they can help each other to complete the work and share responsibility. Their team members can help explain, simplify and clarify difficult concepts they encounter in their English lessons. The language the students used to communicate among themselves is simplified to a similar level for their peers to comprehend; students rephrase or/and translate the teacher's language into 'student language'. Some students also stated that they preferred their friends to explain the lesson. It is possible that because learning a foreign language can create anxiety and can be frightening for students, they feel more comfortable and safer when they work in pairs or in groups with their friends who share similar characteristics, academic levels and foreign language ability. This idea is in accordance with a previous study by Pandiangan (2019) who reported that English learners were comfortable when they had their friends helping them.

These comments from students illustrated that cooperative learning was very much appreciated:

Cooperative learning makes the English lesson easier to understand because students can teach each other.

I think cooperative learning is useful for me and my friends. We could help each other and explain the lesson to friends who did not understand as they may afraid to ask the instructor. Working as a team allows us to talk more with friends in the group.

Cooperative learning gave me a better understanding of English through friends' explanations and our instructor's clarification.

It helped students to understand the lesson better as friends explained it to each other and that allowed us to exchange opinions.

It is easy to ask friends when you do not understand anything. There is a helping and sharing environment. It also made us know our weak points that should be improved.

We could openly ask friends in the group what we did not understand.

Friends who did not do well in the lesson would be helped by those who did well.

As a result of repeated and various levels of input during cooperative learning activities, both from instructors' presentations and team members' simplification, students also reported that their work was more efficient when working in teams. It might be that language is best learned through "the process of struggling to communicate" (Richards & Rodgers, 2001, p. 156); the development of communication skills through interactive cooperative activities can foster naturalistic second language acquisition (Richards & Rodgers, 2001). Their learning efficiency increased. For examples:

We got work done faster and more efficiently than doing it alone.

It made learning more efficient.

Cooperative learning gives very good learning results.

In addition, students demonstrated that cooperative learning not only helped enhance their relationships with friends, it also improved their team working skills. They also revealed that they enjoyed English lessons more and that they were more active in class. This led to creating a harmonious and supportive learning environment that helped reduce stress and anxiety, especially for second/foreign language learners. The findings were consistent with the previous research illuminated in the literature review that reported cooperative learning helped build effective interaction and cooperation skills (Maden, 2011), encouraged students to take more active roles in their learning process (Maden, 2011; Marzban & Alinejad, 2014; Nan, 2014) and promoted a positive and supportive classroom atmosphere (Azizinezhad et al., 2013; Er & Aksu Ataç, 2014; Long & Porter, 1985; Lucha et al., 2015; Marzban & Alinejad, 2014; Nan, 2014; Richards & Rodgers, 2001; Wichadee & Orawiwanakul, 2012). Examples of comments are listed below.

Everyone helped each other and tried hard to make the group work works. That made us like each other even more.

During the learning, we could consult, exchange ideas with each other and build good relationships in the group.

It was very useful for working as a team and making students improve relationships.

Cooperative learning is a great activity. It allowed friends to have good relationships, help each other and motivate students to catch up with friends.

I think this learning could give me teamwork skills. I could work with my friends and was not afraid to comment on something if it is wrong.

This method can improve explanatory and comprehension skills.

It allowed the students who are not good at studying to improve in several ways, such as study, work, or teamwork skills. It made students more active in studying.

Students could work together and talk to each other about how to work. It also made students in a group enjoy the lesson.

For this course, the instructor has a teaching method that is easy to understand and not boring. It allows students to be active and enjoying studying.

Conversely, the majority of students who reported negative attitudes and perspectives towards cooperative learning mentioned the ‘free-loading student’ issue. There were students in their team who did not contribute to the completion of the tasks. They suggested that it would be better and they would enjoy cooperative learning more if everybody in their team contributed and was responsible for their part of the work. This finding is congruent with several other studies (Chiriach, 2014; Gottschall & Garcia-Bayonas, 2008; Pfaff & Huddleston, 2003), which revealed that students do not favour or dislike or are unwilling to work in groups because of their unpleasant past experiences of having/working with free-loaders in groups. This issue is considered one of the major factors that can

demotivate students to willingly participate in cooperative learning activities. Below are some examples of their responses.

There was no cooperation as it should be. Some students helped do the work but some did not.

Cooperative learning may not provide enough knowledge for some students. It was because some students pushed all the work onto others. Without practice, they could not understand the lesson.

Cooperative learning may not be suitable for students who are not good at studying because some of them did not try to learn new things. Instead, they only wanted to rely on other people.

Furthermore, students noted issues around idea sharing when there was disagreement or conflict among team members. Students could not handle these situations leading disharmony in their team. For instance, two students commented thus:

There was a problem with some friends who did not accept the opinions of others.

There were some problems with different ideas. We sometimes wanted to answer one choice, but the majority chose another one. It turned out to be wrong and made us all in the group miss the point of that question.

Some students described the issue of student individual learning styles or students' different personal characteristics. This can also demotivate students to learn as teams. For examples, some students commented:

Some students did not want to work with others. If they open up, they will enjoy activities and understand the lesson and know each other better.

It was group work, but some friends did it by themselves. Some friends could do it on their own and told others the answers afterward. As a result, the others did not



have to think about answers and work together. By the way, some friends did not want to share their knowledge.

The problem was that some students did all the work by themselves causing others to be unable to learn as they should.

Some friends could not get along with others.

Some students had big egos when doing group work. They just did not listen to others.

Moreover, some students also revealed that there was an issue with instructors' explanations/instruction. The students thought that it would be better if the instructors simplified the instruction or gave some explicit examples of what the students needed to do. These comments are in line with the questionnaire item, "Cooperative learning activities are too difficult to follow". Females students, who were the majority of the participants, showed high agreement compared to their male counterparts. Some examples of comments are:

The teacher's teaching explanation should be easy to understand.

There was no explicit instruction. And if the teacher teaches a bit more slowly, it would be great.

Some lessons were too difficult. Questions and instructions were difficult to understand. The instructor should explain it better.

A few students indicated the time conflict issue, which resulted in negative views of cooperative learning, especially if the work required extra time outside the classroom. Some students might have part-time jobs after classes and/or some might live far from the university, which require a large amount of time to travel. As a result, they may not prefer to work in cooperative learning activities if extra time outside classes are required. For example, some of them said:

We could not find the time when everyone in the group was available to work together.

There was a schedule conflict in the group.

If doing group work after school hours, it is hard to find a time that everyone available.

Last, but not least, several students offered some suggestions on cooperative learning lessons. Students were generally positive in terms of cooperative learning methods and instruction; however, they stated that they needed more time in order to become familiar with their team members. For example, two students commented:

It was a good learning method, but groups needed time to get to know each other and got along. I would like cooperative learning more.

The duration for cooperative learning activities was too short. Students in a group needed time to get familiar with each other.

The findings on the time requirement issue is an accordance with numerous previous studies where the time given for students to become familiar with both the cooperative learning method and their teammates is vital (Fireston, 2018, as cited in Mohammad, 2018; Lucha et al., 2015; Pfaff & Huddleston, 2003; Sutrisno et al., 2018). Similarly, the work by Hsiung et al. (2014) suggested that learning difficulty is common in the early stages of cooperative learning, "...but is almost certain to disappear as the cooperative learning becomes more established" (Hsiung et al., 2014, p. 542). Therefore, an appropriate amount of time for cooperative learning to establish is necessary.

However, some students also noted that they preferred to work in a team made up of their close friends. This cannot be guaranteed; teams need to be heterogeneous and students benefit from diversity of members. For example, some students stated:

Students should be able to choose their groups for familiarity and more potential in learning. If we are in a group with people to whom we are not close, we will be

afraid to answer and be embarrassed that we might be wrong. However, if we are in a group with whom we are comfortable, we will not feel embarrassed.

Studying with friends who are not close makes students uncomfortable and unable to be themselves unlike when we are with close friends who we will not be shy when asking questions.

Sometimes working with friends who are not close could be difficult.

## 8.2 Teachers' attitudes towards cooperative learning as reflected on the questionnaire

All four instructors, two males and two females, from four different universities who were randomised into the experimental group completed the questionnaire. The number of years they had been teaching English at the tertiary level varied – 2, 5, 13 and 36 years. All of them have educational degree backgrounds; however, only one instructor obtained a doctoral degree, and the rest hold masters degrees. Two instructors indicated that they used both languages, English and their native language of Thai, as the medium of instruction. While one instructor used only English in the class and the other mainly used Thai.

Table 8.14 Analysis of each question

Items		Mean
1	CL fosters students' social skills and interaction.	8.75
2	CL creates positive relationships among students in the EFL classroom.	8.00
3	Students become more active in the learning process when I apply CL in my English classroom.	8.00
4	I need more training to be confident in applying CL in my English classroom.	8.00
5	CL fosters a better relationship between teacher and students.	7.75
6	I want to apply CL activities in my English classroom.	7.75
7	CL increases student participation/interaction in the learning process.	7.50
8	Students have positive attitudes towards the course after CL is applied.	7.50
9	CL helps students to learn English easier.	7.25

Items		Mean
10	CL motivates the students in an EFL classroom.	7.25
11	Students enjoy English lessons more when they work with other students.	7.25
12	Students learn best when they work with others in pairs and groups.	7.00
13	Because of the English curriculum content that needs to be covered each term, it is difficult to apply CL in the classroom.	6.50
14	CL offers more opportunities to practice English language skills.	6.50
15	CL activities waste much valuable teaching and learning time.	5.75
16	CL increases students' English language achievement.	5.75
17	Implementation of CL requires much time preparing and organising lessons.	5.50
18	Because of my workload, it is difficult to apply CL in the classroom.	5.50
19	Because of the time required for the activities in CL, it is difficult to apply CL in the classroom.	5.25
20	The students' desks are <u>not</u> appropriate to be organised into a cooperative classroom environment.	5.25
21	CL helps everyone reach their goals equally.	5.00
22	CL classroom is too noisy.	5.00
23	I do <u>not</u> see CL as better than other teaching methods.	3.00
24	CL method is complicated to apply in my English class.	2.75
25	I am <u>not</u> interested in applying CL in my classroom because I have limited knowledge of CL.	2.75
26	I have limited resources, materials and technology to support the implementation of CL in my English classroom.	4.50
27	The large number of students in my classroom makes it difficult to apply CL.	4.40
28	I prefer teaching methods other than CL.	4.25
29	Classrooms with CL activities are hard to control.	3.50
30	My classroom is too small for CL activities.	3.00

According to Table 8.14, the four instructors generally tended to be positive towards cooperative learning implementation in their English language classes. The highest mean

score of 8.75 was for the positive statement, “CL fosters students’ social skills and interaction”. The finding is generally congruent with the earlier research by Haidari (2013) and Alias et al. (2018) who reported teachers’ positive views and appreciation towards cooperative learning in terms of students’ social interaction, especially in educational context.

The second highest mean score (8.00) supported cooperative learning in creating positive relationships among students in EFL classrooms and students becoming more active in the learning process. As discussed in the literature review, Alias et al. (2018) and Taufix and Maat (2017) revealed teachers’ perception that students were more actively involved in their learning when in cooperative learning situations.

Instructors also indicated that cooperative learning fosters a better relationship between teachers and students and that they would apply cooperative learning activities in their English classrooms.

There were several positive statements reflected in high mean scores, such as, cooperative learning increases student participation/interaction in the learning process, helps students to learn English more easily, motivates students in EFL classrooms, generally fosters positive student attitudes towards the course and increase their enjoyment of learning English when working with others in pairs or groups. These support the findings of earlier research by Alias et al. (2018), Taufix and Maat (2017) and Warawudhi (2012).

Furthermore, the instructors revealed neutral attitudes and perspectives in terms of whether cooperative learning required much time in preparation and organisation. This finding is consistent with earlier research (Alias et al., 2018; Burgić et al., 2017; Haidari, 2013; Thanh, 2011; Warawudhi, 2012) that documented one of the potential limitations of cooperative learning in terms of requiring more time preparing material, designing lessons and organising classrooms. These issues can be considered as one of the major barriers impeding the implementation of cooperative learning in the English language classroom. Moreover, the neutral attitudes of the instructors also documented that cooperative learning increased students’ English language achievement and helped every student reach their goals equally.

Because of their workload, course content that needed to be covered, limited resources and inappropriate student desks might be the reason for difficulty in applying cooperative learning in English language classes. These limitations were found in this study and are consistent with the earlier research (Alias et al., 2018; Burgić et al., 2017; Thanh, 2011). Especially, Thanh (2011) who conducted his study in Vietnam, reported similar issues of local culture and institutional barriers such as class size, curriculum coverage and workload division. In addition, the finding of loss of content coverage is consistent with the studies by a number of researchers including Alias et al. (2018), Burgić et al. (2017) and Veenman et al. (2002).

Last, but not least, the second highest mean score (8.00) was reported regarding lack of instructor training. It is noticeable that the instructors strongly suggested that they needed more training before they were confident in applying cooperative learning in their English classrooms. Hence, teacher training in cooperative learning is crucial for proper implementation of cooperative learning. This confirms several previous studies, for example, Ali (2017), Haidari (2013), Reda (2015) and Veenman et al. (2002).

### **8.2.2 Teachers' comments on the questionnaire regarding cooperative learning lessons**

Because of the small numbers (only four instructors) who completed the questionnaire, there were limited comments in the comment or suggestion sections. Generally, the majority of instructor appeared to advocate cooperative learning; however, some instructors also revealed barriers and provided useful suggestions. The barriers or challenges hindering the implementation from the instructors' perspectives concern the amount of their workload, curriculum requirements and national tests that basically assess students on a paper-based test. This forced instructors to fall back on lecture-based instruction. Last, instructors also reported the challenge of students' different learning styles.

The most highlighted comment, mentioned by the three instructors, would be more training or workshop needed for cooperative learning implementation. This comment suggested that instructors were interested in applying cooperative learning in their classes but that they might need more knowledge in order to be confident before proper implementation. This

comment would be aligned to the high mean score of similar statements of questionnaire items. Instructors' comments included:

Having a training course of cooperative learning would increase my confidence.

Thai teachers may need more training and workshops on cooperative learning.

English for language teaching training for implementation of cooperative learning is necessary.

While two instructors gave positive statements supporting cooperative learning, they also mentioned some barriers and challenges to implementation.

Cooperative learning allows both students and teachers to learn to accept the differences of each person. This skill will somehow help them once they are in the real work situations and in dealing with people outside of the classroom. I think Thai teachers may need more training and workshops on cooperative learning.

I think it [cooperative learning] helps EFL students in learning English. I think it really engages students in participating in activities but because of my workload, the curriculum content and national test, I still don't have that much time to pay more attention to this cooperative learning method and process.

In addition, other instructors also mentioned learning styles or learning preferences preventing the implementation of cooperative learning:

I need more time to prepare. Some students prefer working alone.

Sometimes students are very used to working by themselves that even when they are assigned to work with groups, it is just hard for some students. Students have different learning styles.

Last, one instructor suggested integration of media and technology to support and adjust the use of this current cooperative learning method under the COVID-19 pandemic situation:

Due to the COVID-19 situation in Thailand, this term and the situation possibly might continue, online learning can be applied and adapted in cooperative learning instruction. Integrating media and technology into teaching can motivate students' learning in this century.

### **8.3 Summary**

In general, English major from the faculty of Education tended to have positive attitudes towards the implementation of cooperative learning in their English language classrooms. They liked working with their team members and thought that cooperative learning did not waste valuable teaching and learning time. However, students also thought that other methods of teaching might offer better academic results. The attitudes of male and female students were not much different. Also, the overall responses from four different experimental universities were not much different from each other. Furthermore, there was very weak to no correlation between the number of years students had studied English and cooperative learning. Positive correlations were found between cooperative learning items suggesting students who found that cooperative learning supported their English lesson learning would prefer more cooperative learning activities.

The majority of student comments tended to be positive. Students generally perceived cooperative learning as a useful instructional method for their English learning in terms of sharing, exchanging and negotiating ideas, helping each other to complete tasks, building better relationships among friends, practicing team working skills and enjoying English lessons. In contrast, students who reported negative attitudes and perspectives centred around the problematic issues of free-loading students, disharmony in the team, students' different learning styles and characteristics and instructors' explanation of lessons and instruction.

Instructors who teach EFL at the tertiary level and had experienced cooperative learning lessons as an experimental group for a term appeared to be generally interested and positive towards cooperative learning implementation. They thought that cooperative learning



fostered students' social skills and ability to interact, created positive relationships among students and encouraged students to be more active in the learning process. On the other hand, instructors' workload, curriculum requirement, students' different learning styles and inappropriate student desks are barriers impeding cooperative learning implementation. Last, teacher training and workshops were strongly recommended by the instructors in order to be confident in their application of cooperative learning in their English classrooms.

## CHAPTER 9

### PROCESS EVALUATION RESULTS

#### **What is the fidelity of cooperative learning implementation?**

In educational intervention, several factors can improve, weaken or interfere with the effect of the intervention. Therefore, ‘process evaluation’ or ‘implementation evaluation’ of RCT can help explain the context of an intervention as well as the factors that influenced its outcomes (Moore et al., 2003; Siddiqui et al., 2018). Process evaluation aims to examine the fidelity of the implementation. If the intervention is effective, the process evaluation can provide evidence as to why it worked; on the other hand, if the intervention is not effective, process evaluation can help explain whether the result was because of the implementation process or the intervention itself. Process evaluation is there to help explain the mechanism of the intervention process and the outcomes it produces.

In the main study, observational visits of lesson delivery of both experimental and control groups and *ad hoc* interviews with participants were conducted as part of the process evaluation. For experimental groups, observations of the lesson delivery of intervention were carried out in order to assess the fidelity of the implementation and to check whether the instructors delivered the lesson and used the teaching materials as they were trained to do. During breaks and after the observations of lesson delivery, interviews took place. Thus, in order to answer the first research question, the main purpose of the process evaluation is to identify the fidelity of cooperative learning implementation and to identify the facilitated factors and barriers/challenges that occurred during the implementation process.

A total of 14 observations of complete lesson deliveries were carried out. In the experimental universities, ten observations were conducted in the actual normal classroom settings with the intervention in operation. Furthermore, only one observation was possible in each control university. During the lesson observations, detailed field notes, instructors’ general feedback and comments were recorded.

#### **9.1 Fidelity of implementation**

Before the observational visits, the arrangement of date and time and the researcher’s plans to observe the lessons were mutually arranged with all instructors. The instructors were

informed and aware that the observational visits were for research purposes only and not to judge their teaching. The researcher was present only as a classroom observer and did not interfere with the teaching and learning process in any way. Some instructors introduced the researcher and the reasons for being in the class. The researcher made detailed field notes of what happened during the lesson, the activities and the teaching materials, students' reactions, participation and involvement in the lesson, and the general classroom setting and environment. The instructors' comments and general feedback were also recorded. Any questions that arose during the observation were addressed after class.

According to lesson observations in the experimental classes, all instructors tried their best to deliver the lessons and follow the teaching steps as they had been trained in spite of somewhat restricted conditions. To be more specific, it was agreed that on teaching steps (if it was not possible to deliver the lesson in normal face-to-face classroom), the instructors could do this step via online learning. As a result, some instructors did teach steps online, then students practiced in team study and completed individual quizzes in the following class in the normal face-to-face classroom, however, with some restrictions of social distancing classroom organisation. Later, the team recognition was announced online. Nevertheless, if universities were able to organise the intervention in normal classrooms, they followed the normal teaching steps as they had been trained.

There was likely no diffusion because of the cluster randomisation at university level. One university was either randomised to experimental or control groups. Universities are located in different provinces and some are located in different regions. There was no evidence that control instructors had access to or used the instructional materials of cooperative learning used in experimental classes. Therefore, it was likely impossible that students in experimental groups had discussed, shared or exchanged class materials or learning methods.

For the control classes, it was observed that the instructors' teaching style were not different from the experimental instructors. Even though the control instructors mostly applied group work as the main activity, students were assessed as a group not as individuals. The pseudo learning group and traditional group work of classroom situation (Johnson & Johnson, 1999) were observed. In the learning groups in the control classes, students basically grouped themselves, and the number of students in each group was not a major concern;

some groups consisted of a small number of students (3 to 5) while some groups were around 12 to 14 students. It could easily be noticed that only some students did all the work, some did the work individually and some were free-riders. Assessments made at group level and no individual accountability was established in the group resulted in no contribution from some group members. Basically, after the teachers arranged the groups, they were left them to work on their own either with an agreed-upon time or until the task was finished. It was observed that some students worked on other subjects while their friends completed the assigned tasks or made presentations.

## **9.2 Factors that facilitate the implementation of cooperative learning**

The process evaluation has suggested some key factors that can facilitate and support the implementation of cooperative learning in EFL lessons. They are as follows.

### **9.2.1 Teacher training and support**

One of the vital factors that ensures successful, effective and proper implementation of cooperative learning lessons is the training of teachers as their role is crucial, although it is undeniable that each teacher/instructor has a unique teaching style. Hence, teachers/instructors need to understand the concepts of cooperative learning; simply assigning students to work in groups is not all there is to cooperative learning. The majority of control instructors had claimed that they organised cooperative learning lessons; however, classroom observational visits found that there was some extent of traditional group work. This is similar to the findings of Haidari (2013) where some teachers thought that any group activity was considered cooperative learning.

Teachers need to be shown how to organise and deliver cooperative learning lessons and activities. Teachers should emphasise social skills and student interaction that they need to support students when working in groups. Furthermore, consistent with the study by Veenam et al. (2002), 'lack of self-confidence on the part of the teachers' is one of challenges where even experienced teachers are reluctant to apply cooperative learning in their classrooms.

This is aligned with the questionnaire analysis in the previous chapter. Three out of four instructors who experienced cooperative learning intervention mentioned in the comment section the importance of and need for teacher training or workshop in order to be confident

in the proper delivery cooperative learning lessons. The following are examples of comments from the *ad hoc* interviews, which are similar to their suggestions on the questionnaire:

Teachers would need at least some training or a workshop before the application of cooperative learning.

Because of the training, I have a better understanding of cooperative learning. I think it would be better for any teachers who wishes to integrate cooperative learning in their classes to receive training beforehand.

All four instructors received training before the intervention started and significant support from the researcher during the whole period of the intervention.

This finding is congruent with a number of previous studies that highly recommend teacher training to be organised for teachers/instructors in order to have sufficient cooperative learning knowledge and be familiar enough with cooperative learning methods to be confident to deliver proper and successful lessons and minimise potential negative factors (Ali, 2017; Haidari, 2013; Reda, 2015; Saborit et al., 2016; Veenman et al., 2002). In addition, cooperative learning may become ineffective if there is no continuity in the training and monitoring (Hsiung et al., 2014). Hence, it can be concluded that teacher training in cooperative learning is crucial for its implementation.

### **9.2.2 Preparation and availability of teaching resources and materials**

All teaching resources and materials to support cooperative learning lessons in the study were prepared for the instructors. These included the exercises for the team study stage, quizzes, answer keys for each quiz, and a Microsoft Excel programme containing tables and registered formula for calculating individual improvement scores and team scores. As a result of this preparation, the instructors were quite receptive to the intervention. All the instructors used the prepared teaching resources and materials, and some instructors modified, adapted and added a few extra teaching materials themselves. Therefore, with the preparation and availability of teaching resources and materials along with the teacher training offered instructors confidence and facilitated their cooperative learning lessons. In addition, it saved teachers time in preparing and sorting for relevant and appropriate

teaching and learning materials, and reduced their workload. One instructor stated, “It was convenient to implement cooperative learning this time because the materials were provided”.

This finding is supported by numerous studies that stated the need for teaching aids in order to support the implementation of cooperative learning (Alias et al., 2018; Alijanian, 2012; Burgić et al., 2017; Taufik & Maat, 2017). Especially, support from their institution can be responsible for both positive attitudes of teachers towards cooperative learning and its implementation (Alias et al., 2018).

### **9.2.3 Teachers’ attitudes and perceptions**

In order to deliver cooperative learning lessons, positive attitudes and supports from teachers/instructors is considered vital and necessary. It is undeniable that cooperative learning lessons need more explanation and guidance from the teachers than other methods of directed instruction. If the teachers/instructors do not perceive the value or benefits of cooperative learning, they will not be able to organise the lessons as they have been trained to do. This finding is in line with Alias et al. (2018, p. 1) who found that “the good quality of the implementation should come from the teachers who have positive perceptions and strong awareness about the benefit of cooperative learning”. This study confirms previous studies that found that in order to implement cooperative learning efficiently, a strong commitment from teachers/instructors is required (Alias et al., 2018; Pfaff & Huddleston, 2003; Taufik & Maat, 2017).

Throughout the intervention period, it was noticeable that the instructors who were interested in cooperative learning were more engaged, supportive and enthusiast to try new methods of English teaching and learning. They shared some ideas, asked for some extra information and were willing to adjust their teaching style to support cooperative learning. They were always active and closely communicated with researcher at all stages of the intervention.

Cooperative learning classrooms appear to be more active and noisier than traditional classrooms of whole-class or lectured-based instruction. As cooperative learning lessons encourage increased communication among students, the noise and students’ energy are undeniable. Teachers/instructors with positive attitudes towards cooperative learning tend

to be patient, calm and able to handle any challenging situation or students' behaviours. As in previous work by Saborit et al. (2016), teachers with positive attitudes and detailed knowledge of cooperative learning were able to provide ways to guide students' behaviour in a positive manner, no matter how they behaved.

#### **9.2.4 Longer duration of instruction**

As cooperative learning requires time for students to become familiar with each other, comfortable sharing ideas and allow positive interdependence to occur, a longer duration of instruction is suggested for more successful and effective implementation. According to student's comments on the questionnaire and the interviews during the observational visits, it would be more effective if they were allowed more time to meet face-to-face with their teammates, especially in class. This view is supported by Fireston (2018, as cited in Mohammad, 2018) and Sutrisno et al. (2018) who stressed that both instructors and students needed time to become accustomed to and to feel comfortable with cooperative learning. Alijanian (2012) also suggested an implementation of cooperative learning, especially the STAD method, for a full academic year. Relating to this, several earlier studies (Lucha et al., 2015; Pfaff & Huddleston, 2003) documented students' views that the longer the cooperative group exists, the greater the social support provided for each other. When the bond between team members occurs, it is logical to expect for more positive perceptions of experiences. Students expressed some comments towards this issue:

It would be better if we had more time to work in teams, we only worked in groups three to four times.

I think it is a good method, but I think we need more time to get along.

A possible explanation for the inadequate time for the current study was limited by the COVID-19 pandemic situation where the normal classroom setting was limited. During the whole term of intervention in some experimental groups, students were under almost-normal classroom conditions for only eight lessons. They were able to complete only two cycles of the method or only two or three lessons of team study.

### **9.3 Barriers to effective cooperative learning implementation**

According to the classroom observations and the interviews with experimental instructors and students, the barriers that may impact the effective delivery of cooperative learning lessons in the English classroom are revealed as follows:

#### **9.3.1 Students' attitudes and perceptions**

Students' negative attitudes towards cooperative learning is considered the main challenge. If the students do not see the value of cooperative learning, they may show an unfavourable attitude and behaviour when the instructors apply cooperative learning lessons. For example, they may not engage in team study and group discussion. Some students sat in the team but did the work individually. This can cause frustration and disharmony in the groups. Even though students claimed that they favoured individual learning, the cooperative learning method implemented in this study were designed mainly to assess individual performance, that is, the group reward accounted for only a small part of a student's total grade. The team study serves as a mechanism to arouse learning through discussion with their team members since the purpose of cooperative learning is for students to learn and work together as a group to prepare each other to perform better as individuals (Johnson & Johnson, 2014).

In the interviews, the majority of students who described challenges of cooperative learning stated that some members in their groups did not cooperate, mainly because of the negative attitudes or dislike cooperative learning. The students indicated that their friends did not dedicate or work for the teams as much as they expected. Some students mentioned:

I'm not interested in group work; some friends always pushed their work onto others.

I don't think cooperative learning will help me learn.

I like working in groups but there is a friend in my group who did not help doing the work. That friend would do the work alone. This frustrated the other group members.



There were some students taking advantage. Some did the work, but some did not, which made other students lose the opportunity to study.

If friends did not cooperate or share ideas, the group could not learn effectively as much as the groups where friends cooperated.

The majority of instructors also revealed that sometimes it was difficult to encourage students who preferred to work by themselves to participate in the group study.

One of the main reasons for the negative attitudes towards cooperative learning is students' unpleasant experiences working in groups in the past with the free-riders, which is similar to the earlier research (Chiriac, 2014; Gottschall & Garcia-Bayonas, 2008; Pfaff & Huddleston, 2003). It should be noted that when negative attitudes towards cooperative learning occur, all parties involved in educative activities are likely to return to traditional teacher-centred instruction (R. M. Felder & Brent, 1994).

As the current cooperative method was designed to handle free-riding or hitchhiking issues with the equal individual accountability in the scoring calculating system, and the short duration of the intervention period in some experimental groups, the students did not have enough time to experience and adjust to the method. That might be the reason many students made unflavoured comments towards cooperative learning and linked it back to previous experiences before entering university.

### **9.3.2 Classroom setting and facilities**

Another barrier to effective delivery of cooperative learning was the classroom settings and facilities. In one experimental university, the class was assigned to room with large lectured-style tables that could not be moved or rearranged to support cooperative learning activities. One other experimental university's classroom was too small to organise students' desks into groups or even move the desks around. It was not possible for students to sit facing each other; instead mostly they were sitting side by side. Both instructor and students reported this issue during the classroom observations and showed frustration over the classroom settings and facilities. Some students who had difficult times figuring out their sitting positions and comfortable working spaces may give up cooperative work to complete the tasks individually. Examples of students' comments include the following:

It is difficult to sit face-to-face as a group working with my friends because the tables are big and cannot be moved.

With these lectured-style tables where they were permanently placed in this room, I don't like it when my instructor asked me to turn back and work in teams. I was uncomfortable to sit that way.

My English classroom is too small, so I cannot move my own desk to be arranged as a group when my instructor assigned group activities. We end up working together in two small desks, which is uncomfortable for some of us to study in teams.

One instructor also mentioned, "I was assigned to teach in this lecture/theatre-style room this term, which is not appropriate to do cooperative learning activities".

Therefore, inappropriate classroom settings and facilities can be one of barriers to the application of cooperative learning. This finding is congruent with earlier researchers that reported the seating arrangement as a factor hindering active student participation in cooperative learning lessons (Er & Aksu Ataç, 2014; Lucha et al., 2015).

### **9.3.3 Instructors' workload**

The combination of instructor's workload and English curriculum content requirements each term is another barrier to cooperative learning implementation. Instructors' views on this matter were found in these comments during the interviews:

It was convenient to implement cooperative learning this time because the materials were provided, however it can be time-consuming in the preparation process. I'm not sure with my workload I would be able to do cooperative learning lesson again later.

With the content that needs to be covered each term, sometimes it is not possible to try different methods of teaching, not only cooperative learning method.

This finding confirms the work of other researchers who found the problem of content coverage in the subject syllabus can be one the barriers in implementation (Alias et al., 2018; Thanh, 2011). In accordance with Veenman et al. (2002) who studied cooperative learning and teacher education, ‘fear of the loss of content coverage’ is one of the challenges to the teachers’ reluctance of using cooperative learning.

It is undeniable that, when compared to other directed instruction, cooperative learning instruction and activities requires careful preparation and much time in organisation for not only fruitful interaction but also positive relationships among students. Therefore, if the number of lessons is shortened or the large amount of content to be covered each term, the instructors may have to modify, rush or skip some steps in the method or cannot provide enough time for team study. This can impact the effective implementation of cooperative learning.

#### **9.4 Summary**

Observation of classes and interviews during the visits revealed a number of both facilitated factors and barriers towards cooperative learning implemented in the EFL classroom. In general, teacher training and support, preparation and availability of teaching resources and materials, and longer duration of instruction are factors that support the proper implementation cooperative learning. In addition, teachers/instructors who express positive attitudes and perceptions tended to handle cooperative learning lessons as they had been trained to do.

In contrast, the greatest challenge to cooperative learning instruction was students’ attitudes and perceptions towards cooperative learning. Some students did not fully participate in cooperative activities as they did not perceive the value of its implementation. Most students who expressed a dislike of cooperative learning indicated their past unpleasant experiences working in groups with the free-riders. The instructors also reported this challenge as students might prefer to work individually. A common complaint from students was their friends’ unwillingness to work together for their teams or not to do their share of the work. This lowered other group members’ motivation to learn as a team. Nevertheless, there was no objection or resistance from instructors and students towards cooperative learning. Other barriers to inappropriate classroom settings and facilities and instructors’ workload were found to impede cooperative learning implementation.

Moreover, instructors and students generally showed positive attitudes and perceptions to cooperative learning implementation. They also showed their interest and support to its activities. However, concern by most of instructors was the lack of knowledge and confidence in applying cooperative learning in their English classes. Hence, one of the key factors to ensure its effective and proper implementation is teacher training.

The process evaluation suggested that cooperative learning is feasible to deliver English lessons in tertiary education in Thailand. Significant resistance from instructors and students was not found. Nonetheless, the documented barriers should not be neglected.

## CHAPTER 10

### CONCLUSIONS

This study concerned cooperative learning in tertiary English as a foreign language (EFL) classroom in Thailand and focused on the Student Teams Achievement Divisions (STAD) method, as developed by Slavin (1982). The study involved a structured review of existing empirical studies to see if STAD could be a promising method to use in developing English proficiency in EFL contexts. The review also helped identify the challenges and barriers to implementing the method and informed the primary research.

To establish the effect of this method, a new cluster randomised control trial (RCT) at university level was carried out involving 13 instructors and 614 university students from 13 Rajabhat Universities in Thailand. A total of eight universities agreed to be randomised to the STAD intervention or not (four per group). Another five universities only agreed to complete the pre- and post-tests, and were used here as an additional comparison group. The students participating in this study were first-year pre-service teachers who were majoring in English in the Faculty of Education. The research instruments consisted of two parallel standardised English achievement tests, two attitude questionnaires (teacher and student) and classroom observations with *ad hoc* interviews. The questionnaires to all students in the treatment group examined participants' attitudes towards cooperative learning. The trial was carried out in one term of sessions consisting of 16 face-to-face classes. Unfortunately, since the study was carried out during the COVID-19 pandemic, the average number of classes students could possibly meet in their normal classroom condition was approximately 8 to 12.

As mentioned in the introduction, English language teaching in Thailand remains largely based on rote memorisation of vocabulary and grammar structures, mostly using text-based instructional materials. Teaching English at the university level is also based on a teacher-centred lecture format. This traditional learning approach is linked to lack of motivation, low participation and even boredom among Thai students learning English. With few opportunities to be exposed to and interact in the target language, many Thai students do not see the importance and/or the real use of learning English. Many students also have difficulties applying what they have learned in real-life contexts. For all these reasons, English teaching and learning in Thailand is in a difficult and challenging situation.

Hence, cooperative learning is a suggested approach to shift from traditional ‘passive’ learning to more active learning classrooms. Cooperative learning also supports the education reforms encouraged by the Ministry of Education to promote student-centred education (Ministry of Education, 2008a, 2012). Thus, the primary research investigated the effects of implementing the STAD cooperative learning method on the English language achievement of pre-service teachers in tertiary English language classrooms in Thailand.

## **10.1 Summary of the findings**

The summary of the findings is presented to answer the five research questions mentioned at the start of this thesis and enumerated here.

### **10.1.1 Is it feasible to implement cooperative learning in Thai tertiary EFL classes?**

Generally, the findings from this study, gathered through conducting a pilot study and the cluster RCT, exploring students’ and instructors’ attitudes in questionnaires and interviews and classroom observational visits, revealed that the use of cooperative learning is feasible. There was no objection or resistance from instructors and students towards the intervention; they responded well to the cooperative learning lessons and activities. Students and instructors generally showed positive attitudes towards cooperative learning, and they supported its activities. They indicated that cooperative learning was a useful instructional method for their English language teaching and learning. Overall, the participants welcomed and seemed to appreciate its application. Hence, cooperative learning is feasible to be implemented in tertiary English classes in Thailand.

This practical implementation of the lessons in this study also shows that the cooperative learning method, especially STAD, can be integrated into hybrid/blended modes of teaching when that is unavoidable.

#### ***a. What are the factors that facilitate the cooperative learning implementation?***

The findings of this study suggest several factors that potentially support and facilitate the proper implementation of cooperative learning in EFL classrooms. They are summarised as followed.

### *Teacher training and support*

The training of teachers is vital in order to ensure successful and proper implementation of cooperative learning lessons. Teachers/instructors play crucial roles in the implementation process; therefore, they need to be demonstrated how to organise and deliver cooperative learning lessons and activities. In this study, the instructors received training before the intervention started and a lot of support from the researcher during the entire period of the intervention. This helped with their willingness to participate and welcome cooperative learning implementation.

### *Preparation and availability of teaching resources and materials*

All teaching resources and materials necessary for the implementation in this study were prepared for the instructors in order to facilitate their delivery of cooperative learning lessons and activities. Even though some instructors modified, adapted and added a few extra teaching materials to match their contexts and conditions, this helped facilitate instructors in terms of saving time in preparing and sorting existing resources for relevant and appropriate teaching and learning materials for cooperative lessons and activities.

### *Teachers' attitudes and perceptions*

It is undeniable that cooperative learning requires more preparation, explanation and guidance from the teachers than other directed instructions. If the teachers/instructors do not perceive the value or benefits of cooperative learning, the efficient delivery and implementation its lessons will not occur. Teachers/instructors with positive attitudes towards cooperative learning tend to be patient, calm and able to handle any challenging situation or students' behaviours.

### *Longer duration of instruction*

As cooperative learning requires time for students to become familiar with each other, comfortable enough to share ideas with teammates and to allow positive interdependence to occur, a longer duration of instruction is suggested for more successful and effective implementation.

***b. What are the barriers/challenges to implementation of cooperative learning in EFL classrooms?***

The findings from the trial indicated a number of possible barriers that might impede the successful implementation of cooperative learning.

*Students' attitudes and perceptions*

Students' negative attitudes towards instruction and activities can obstruct the efficient implementation of cooperative learning. For instance, if the students do not see the value of cooperative learning, they may show unfavourable attitudes and behaviours when the instructors apply cooperative learning lessons. If students express an unwillingness to work together in teams or if they do not do their shared parts of the work, the other group members' motivation to learn as a group are diminished. This issue is considered one of the main challenges to the successful implementation of cooperative learning.

*Classroom settings and facilities*

According to the findings of this study, both students and instructors revealed their frustration over classroom settings and facilities, such as table arrangement or limited classroom size. When the classroom arrangement is difficult to change or adjust, the instructors and students may find it uncomfortable to organise the lessons and activities in ways that facilitate cooperative learning. This could affect not only instructors' choice of instruction and interest but also students' responses to the intervention.

*Instructors' workload*

As mentioned earlier, cooperative learning instruction and activities requires careful preparation and much time in organisation for fruitful interaction between students to occur. This will later lead to academic support and progress. The combination of instructor's workload and English curriculum content requirements may be one of the reasons for the instructor to disregard or be reluctant to the value of cooperative learning and its implementation.

**10.1.2 To what extent does the STAD method of cooperative learning enhance pre-service teachers' achievement in English language?**

In a structured review of existing empirical studies that implemented the STAD method, a total of 28 relevant studies were identified and synthesised. The overall evidence was mixed



showing mostly positive outcomes, but the studies of this method in the areas of EFL/ESL are generally weak in terms of quality of evidence.

In addition, the impact evaluation from the RCT produced mixed results with no clear benefit for learning English through cooperative learning method, STAD. The intervention students made slightly better progress than the randomised control and non-randomised comparison groups combined ( $ES = +0.09$ ). To some extent, this looks promising. However, this difference can be explained by very poor scores for the passive natural comparator group of five universities. Comparing the randomised intervention and control groups of four universities had an effect size of  $-0.13$ . This is the fairest comparison, even though it is on a smaller scale than the comparison using all 13 universities.

Combining these results with those from the structured review, the conclusion has to be that this cooperative learning method, STAD, has not yet been shown to be effective for teaching tertiary students in the EFL contexts. Overall, there is no strong evidence of the cooperative learning method, namely STAD, leading to improved pre-service teachers' English language achievement, compared to not doing it. However, this does not necessarily mean the method does not work. The lack of impact might be due to the challenges faced in the delivery of the intervention during the pandemic. This was compounded by the lack of complete randomisation used in the study. It is, therefore, difficult to draw more definite conclusions about the effectiveness of STAD. Of course, this is only one new experiment with limited degrees of freedom, and the review shows that more work is needed. Any interpretation or conclusion drawn from this study should be considered with caution. It might be wise to conduct further robust evaluations involving a large number of educational institutions before any considerable investment can be made to introduce this method in higher education institutions in Thailand.

In addition, the trial suggested that effective implementation of cooperative learning instruction should be undertaken for at least a term or more for group members to build relationships and work on academic progress through the support and encouragement from each other both cognitively and socially (Johnson & Johnson, 2009, 2014; Jolliffe, 2007). Since the study was carried out during the COVID-19 pandemic, the intervention, the duration, the number of classes and the activities were affected and adapted under

university and government restrictions. Thus, a larger and more vigorous study is needed for more robust results.

At present, stakeholders would be advised to use the time and resources available to consider other, more promising, approaches. For example, other active learning approaches that the Thai Ministry of Education has promoted and encouraged, such as experiential learning, learning-by-doing, role-playing and the use of case studies (Chi, 2009), which might offer better learning outcomes. In addition, due to the current situation of rapid advances in technology as well as the uncertain situation of the disease outbreak where teaching and learning might have to switch to or integrate online learning at any time, education technology of various types of computer-assisted language learning (CALL) programmes have been highlighted, introduced and applied in language classrooms. Rahmati et al (2021) reported a meta-analysis of 67 articles and theses out of 1000 relevant studies from 2009-2020; they found that the use of educational technology on English language teaching were generally positive with a large effect size of 1.68 as compared to traditional teaching methods without technology. The study suggested that with the help of education technology including computers, mobile phones, laptop devices and software could facilitate English language teaching and learning. Thus, this approach might be a possible alternative to support and enhance Thai students' English language ability.

### **10.1.3 What are the participants' attitudes towards cooperative learning?**

#### ***a. What are pre-service teachers' attitudes towards cooperative learning implemented in EFL classrooms?***

The overall attitudes tended to be positive, advocating for cooperative learning. Students generally perceived cooperative learning as a useful instructional method for their English learning in terms of sharing, exchanging and negotiating ideas, helping each other complete tasks, building better relationships among friends, practicing team working skills and enjoying English lessons.

In contrast, students who reported negative attitudes and perspectives revealed some problematic issues including free-riding students, disharmony in the teams, students' different learning styles and personal characteristics, and instructors' explanations of lessons and instruction.

These findings reveal that students did not fully participate in cooperative activities because they did not understand or appreciate their value. Students who disliked cooperative learning indicated that their peers did not work for the teams as much as they expected. A common complaint from students was their teammates' unwillingness to work together or do their shared parts of the task. This lowered other group members' motivation to learn as a group.

***b. What are university instructors' attitudes towards implementing cooperative learning in EFL classrooms?***

The instructors who teach EFL at the tertiary level and had experienced cooperative learning lessons in an experimental group for a term appear to be generally interested in and positive towards cooperative learning implementation. They viewed cooperative learning as fostering students' social skills and interactions, creating positive relationships among students and encouraging students to be more active in the learning process.

On the other hand, instructors' workload, curriculum content requirements, students' different learning styles, inappropriate student desks were all cited as barriers impeding cooperative learning implementation. Last, but not least, teacher training and workshops were strongly recommended by the instructors in order to be confident in implementing cooperative learning in their English classrooms.

## **10.2 Limitations of the study**

Before any implications of the results can be discussed, the limitations of the study need to be addressed. The major limitation of this study was the COVID-19 pandemic outbreak and the country-wide lockdown situation in Thailand. The universities were closed according to the orders of the Thai Ministry of Education. The beginning of the term was postponed; hence, the study was also delayed. The participating universities announced that all lessons needed to switch to distance or online learning. This was a unique critical problem for implementing cooperative learning wherein students are required to work together closely in teams. It inevitably had a great impact on the study. For safety reasons and to follow university and state regulations, a mutual agreement was made with all instructors that the intervention would start when teaching was resumed in normal classroom environments or until, at least, the Ministry of Education eased some teaching and learning restrictions.

The universities participating in the study are located in different regions and some were located in high-risk areas for the COVID-19 inflection; therefore, each university announced their own specific regulations and adaptations under the circumstances. The numbers of classes available to delivery cooperative learning lessons varied depending on the location of the university. Hence, none of the universities involved in this study completed the whole 16 classes as planned; some were able to deliver only 8 classes. The short duration of the intervention was certainly a significant limitation.

Moreover, students in the experimental groups inevitably received different modes of teaching: face-to-face, online or hybrid due to the university regulations. All the instructors had to adapted the cooperative learning lessons they had been trained to deliver due to the unique conditions, which was another limitation of the study.

In addition, in this cluster randomised controlled trial, the randomisation could not be done at the individual level because the university administration system assigned students into each class according to university admission orders; however, they were possibly randomised at the university level. As a result, the study was composed of a smaller number of cases, which may have decreased the possibility of accurately identifying the effect.

### **10.3 Implications of the study**

In the light of the findings and evidence in this current study, the implications on the practicality of implementing cooperative learning in tertiary English classes are made as follows.

#### **10.3.1 Implications for policy and practice**

As the findings of this study reveal, cooperative learning is feasible in university English classes, especially in teacher education courses, in Thailand. Instructors and students also demonstrated their appreciation and welcome of its application. To reach the aims of the educational reforms of the Thai Ministry of Education, integrating a method like cooperative learning into the curriculum is practicable, beginning with teacher education courses with the hope that pre-service teachers will be the future of English teachers in Thailand. If the Thai Ministry of Education or any educational institution wishes to try cooperative learning and transform their classrooms from traditional or so-called ‘passive’

learning to more active learning environments, then they might have to do more than legislate. Then, effective policy can be established to suit the local contexts and conditions.

Therefore, long-term, teacher education may be the most suitable place to start any shift in classroom environments, activities and materials to help enhance student English language achievement in Thailand. Generally, students follow in their own teachers' footsteps; that is, they tend to apply the same teaching style as their teachers when they are teachers themselves (Haidari, 2013). It has been suggested that if educators want prospective teachers to use cooperative learning (or any other teaching approach) in the future, teacher education classes are the place to clearly demonstrate and experience its use and value (Haidari, 2013; Veenman et al., 2002). If the prospective teachers have not experienced, practiced or reflected on the value of cooperative learning during their teacher education, it is 'very' unlikely that they will apply it in their future classrooms (Veenman et al., 2002). Thus, this cooperative learning method can be integrated into teacher education courses, if active and positive learning environment (not improving test scores) is the main objective.

Last, but not least, if any educational institution wishes to introduce cooperative learning into its curriculum, instructional support, such as infrastructure settings (appropriate desks, rooms and space for group works), classroom equipment, technical aids and effective internet connection will need to be provided. These may assist the proper and effective implementation of cooperative learning. Of course, the findings of this study provide no evidence yet that cooperative learning is indeed the way to go if improving test scores is the sole or main objective.

### **10.3.2 Implications for researchers**

There is a dearth of evidence-based evaluation in education of large-scale research projects in Thailand. Most of the research was conducted in small-scale teacher-as-researcher studies carried out research in their own classrooms or simply done 'action research'. Large-scale projects are normally assigned under government or Ministry of Education orders. Nevertheless, the current study can be considered a call for education research to engage in RCT research studies. This study has proven that conducting an RCT, especially at the cluster level, is possible in the Thai context. The results from RCT are trustworthy and are accepted at the policy level. Similar studies covering the whole province or region might be undertaken to provide stronger evidence to Thai education. Moreover, work could

be done individually or cooperatively with other researchers from the same departments or from different schools/universities. Mutual benefits and interests can be arranged between several researchers to conduct an RCT on a large scale. Research projects could also be carried out with various levels of students, such as pre-service teachers in different years or majors or secondary school students and in various provinces throughout Thailand.

However, this study reveals no strong evidence of the STAD cooperative learning method enhanced students' learning of English. Conducting more RCTs to evaluate the application of new teaching and learning interventions can strengthen Thai educational research with robust and vigorous evidence provided by trustworthy research methods. This research utilised a cluster RCT to examine the effectiveness of a particular cooperative learning method, STAD, and, even though the results were inconclusive, conducting RCT in Thailand is entirely practical. The university instructors and students well cooperated with the researcher, and it can be useful for them to be trained, guided or supported in doing their own robust research or including them as a part of larger research teams. This would later empower them to conduct their own future research. It is recommended that more RCT studies should be conducted to evaluate teaching and learning approaches and methods in order to provide stronger evidence in Thai education.

Since the current study was conducted during the COVID-19 pandemic, the intervention duration, number of experimental classes, intervention steps and activities were inevitably adapted to meet university and state restrictions. As suggested, for effective implementation, cooperative learning instruction should be applied for at least a term or longer in order for group members to build their relationships so as to work on their academic progress through the support and encouragement of each other both cognitively and socially (Johnson & Johnson, 2009, 2014; Jolliffe, 2007). For possible future research, all classes should be delivered only by face-to-face mode of instruction in normal classroom settings where students meet regularly. All intervention steps should strictly follow the cycle of instructional stages of the STAD method: teach, team study, test, team recognition for students to be familiar and feel comfortable with cooperative learning method. In addition, allowing an ample amount of time in class for students to work in group regularly in order to get accustomed to their group members and to build their relationships. Hence, a trial of a one-term intervention without COVID-19 interruption could be conducted in order to investigate the effectiveness of cooperative learning

instruction and to confirm whether the current findings were affected by the pandemic restrictions on teaching and learning.

Moreover, research should continue to address the complex nature of group work. The study could be extended to investigate the impact of cooperative learning on different genders or academic levels to see whether the intervention works the same on different groups. Future research should examine the impact of such methods on the different English aspects, skills, courses or even different student majors. Further investigation on the correlation between students' learning styles, preferences or characteristics and cooperative learning on students' English language performance would be of significant interest.

Another interesting research path is the influence of cultural issues on cooperative learning since most previous research has been conducted in Western cultures where negotiating ideas is acceptable, unlike Asian countries where concerns with cultural customs and beliefs are different. Research done in Vietnam by Thanh (2011) reported the issue of group work in Asian cultures, where students value a harmonious atmosphere considering as effective group work, found that students were reluctant to initiate comments or express their opinions. Therefore, it would be interesting to examine whether this issue applies to the Thai context and whether this has any effect on students' English achievement or on teaching and learning in EFL contexts like Thailand.

### **10.3.3 Implications for teacher educators**

Education policy makers, education authorities, researchers and education institutions must all work together to help support teachers and university instructors in improving their English language pedagogies by providing them with up-to-date information and training. Again, the overall findings of this study showed no clear benefit of cooperative learning to improve students' English language achievement. More positive evidence is still needed before introduce the STAD method in higher education institutions to improve students' test scores. However, if active and positive learning environment is the goal in EFL classrooms, cooperative learning can be an alternative approach in teaching and learning of English. Then, it is recommended that teacher educators may offer teacher training on cooperative learning. Teacher educators should also provide trainee teachers with up-to-date and reliable research studies and resources including websites and journals, both

national and international. In addition, it is important that teacher educators should provide instructional manuals or toolkits on the application of cooperative learning including the steps and teaching and learning materials involved. This would be very helpful as a guide for trainee teachers to follow after they return to their own classrooms after training.

Furthermore, at the outset, the participants in this study, both university instructors and pre-service teachers, misunderstood the concept of cooperative learning. The study reveals that many of them originally thought that simply placing students together at the same table or assigning pair-work or group-work activities without any structured conditions and instruction would be considered cooperative learning. Teacher training delivered by teacher educators is considered important to provide a correct and clear definition, major elements of cooperative learning as well as examples of cooperative learning methods and models. Especially, to incorporate the cooperative learning into EFL/ESL classrooms neither classroom management nor course content can be neglected. Teacher training could also be a crucial opportunity for trainee teachers/instructors to explore the concepts and to engage in activities that allow them to become familiar and confident with cooperative learning methods and techniques in order to be able to apply it later in their own classes. Teacher training would be the place where all the matters related to cooperative learning implementation can be discussed since cooperative learning might not be effective without it (Hsiung et al., 2014).

In addition, teacher educators can offer training or workshops not only on the teaching and learning content but also on conducting robust research studies as mentioned earlier. The training or workshops can cover how to carry out an experimental research to evaluate any teaching approach, guidance on where to start, what to keep in mind when conducting a trial and examples of vigorous experimental studies. These can be provided by teacher educators to support teachers, instructors and lecturers who are not familiar with conducting research so later they can do their own studies. Since strong research projects can support academic development and progression, especially for novice researchers (Siddiqui & Gorard, 2022).

#### **10.3.4 Implications for teachers/instructors**

Even though the findings from this study might not be as effective as expected in terms of improving test scores, it might be suitable for a particular group or an individual learner



concerned with building better relationships among students, supporting social skills and interactions, and encouraging active participation in the learning process. These results might raise awareness among Thai instructors and teachers of English and prompt them to consider modifying their classroom environments, activities and materials. Moreover, it is possible for cooperative learning methods in tertiary English classes to be integrated or blended with other modes of teaching. Hence, the cooperative learning method can be an alternative for instructors who teach English at the tertiary level who wish to transform their classes from passive to active. Instructors and teachers can adjust and adapt the cooperative learning method to be more localised for their contents, subject or cultural context.

In the meantime, if teachers/instructors would like to apply cooperative learning in their English classrooms, they need to be trained better than they are currently, in order to be familiar and confident with cooperative learning. The findings of this study strongly suggest that teacher training and continuing professional development is a must to ensure the proper and correct application of cooperative learning.

In order to support the future instructional practice of cooperative learning, the implication and recommendation for instructors who wish to create more positive experiences of group work are presented. First, there must be an ample amount of in-class time for students to work in their groups since it is undeniable that cooperative learning requires more time than direct methods of instructions (Fireston, 2018, as cited in Mohammad, 2018; Lucha et al., 2015; Pfaff & Huddleston, 2003; Sutrisno et al., 2018). This study also documented that both instructors and students need time to get accustomed to and feel comfortable with cooperative learning. This is a critical issue not only for the academic process to occur but also to build the social and emotional support required time. Without the appropriate amount of time for students to work in groups, they are likely to work individually to complete assigned work in order to save time. Providing an appropriate amount of class time for students to meet in groups enables them to work together and helps reduce possible scheduling issues for meeting after school.

Second, the issue of free-riding or social loafing is one of the main barriers to the effective implementation of cooperative learning. Thus, monitoring free-riding is essential, especially, in the group processing stage where students reflect on and review group

experiences. These behaviours should be discussed together at the beginning of the course and may be incorporated into the ground rules in order to peacefully work together in a group. The free-rider behaviour should be identified early and instructors should intervene by meeting with the group members or individuals (Pfaff & Huddleston, 2003). The instructors' attention to accountability and intervene in unproductive or problematic situations would be appreciated. Pfaff and Huddleston (2003, p. 44) asserted that "positive student teamwork experiences can be fostered by instructors who are willing to tend to student needs and interests so as to carefully situate group work in their courses and to monitor group dynamics and student attitudes".

### **10.3.5 Implications for materials development**

In terms of the feasibility of cooperative learning in language classrooms, the ineffective results of academic achievement in English language indicated that the cooperative learning method, especially STAD, might not be suitable for pre-service teachers in learning English structures. However, the findings reveal that cooperative learning offered opportunities for students to share, exchange and negotiate ideas among peers, created comfortable learning environments for foreign language lessons and positive relationships between classmates which, in turn, increased and improved students' social skills, self-confidence, relationships and understanding of English lessons. Since cooperative learning can reduce barriers between students and their teachers (Syafiq & Rahmawati, 2017), it would not only benefit academic performance but also support social relationships in the classrooms. Therefore, syllabus designers or materials developers should take into account that providing some parts or sections of interactive and cooperative learning activities when designing materials, especially for foreign language students (Saniei & Ghadikolaei, 2015). These would provide more opportunities for students to engage in exercising the target language with their peers, especially for students in the EFL context where their opportunities for exposure to English outside the classrooms are limited. The activities could be any peer work or group work with cooperative learning conditions that require students to work together to complete a common goal. The instructions should also be provided for teachers to follow as a guideline to make sure that groups truly work cooperatively, rather than working individually in a group.

## Appendix 1: Calculating New Base Scores (Slavin, 1986)

Total of Quiz Score	Old Base Score										
	3	4	5	6	7	8	9	10	11	12	13
16	3	3	4	4	4	5	5	5	6	6	6
17	3	4	4	4	5	5	5	6	6	6	7
18	4	4	4	5	5	5	6	6	6	7	7
19	4	4	5	5	5	6	6	6	7	7	7
20	4	5	5	5	6	6	6	7	7	7	8
21	5	5	5	6	6	6	7	7	7	8	8
22	5	5	6	6	6	7	7	7	8	8	8
23	5	6	6	6	7	7	7	8	8	8	9
24	6	6	6	7	7	7	8	8	8	9	9
25	6	6	7	7	7	8	8	8	9	9	9
26	6	7	7	7	8	8	8	9	9	9	10
27	7	7	7	8	8	8	9	9	9	10	10
28	7	7	8	8	8	9	9	9	10	10	10
29	7	8	8	8	9	9	9	10	10	10	11
30	8	8	8	9	9	9	10	10	10	11	11
31	8	8	9	9	9	10	10	10	11	11	11
32	8	9	9	9	10	10	10	11	11	11	12
33	9	9	9	10	10	10	11	11	11	12	12
34	9	9	10	10	10	11	11	11	12	12	12
35	9	10	10	10	11	11	11	12	12	12	13
36	10	10	10	11	11	11	12	12	12	13	13
37	10	10	11	11	11	12	12	12	13	13	13
38	10	11	11	11	12	12	12	13	13	13	14
39	11	11	11	12	12	12	13	13	13	14	14
40	11	11	12	12	12	13	13	13	14	14	14
41	11	12	12	12	13	13	13	14	14	14	15
42	12	12	12	13	13	13	14	14	14	15	15
43	12	12	13	13	13	14	14	14	15	15	15
44	12	13	13	13	14	14	14	15	15	15	16
45	13	13	13	14	14	14	15	15	15	16	16
46	13	13	14	14	14	15	15	15	16	16	16
47	13	14	14	14	15	15	15	16	16	16	17
48	14	14	14	15	15	15	16	16	16	17	17
49	14	14	15	15	15	16	16	16	17	17	17
50	14	15	15	15	16	16	16	17	17	17	18
51	15	15	15	16	16	16	17	17	17	18	18
52	15	15	16	16	16	17	17	17	18	18	18
53	15	16	16	16	17	17	17	18	18	18	19
54	16	16	16	17	17	17	18	18	18	19	19
55	16	16	17	17	17	18	18	18	19	19	19
56	16	17	17	17	18	18	18	19	19	19	20
57	17	17	17	18	18	18	19	19	19	20	20
58	17	17	18	18	18	19	19	19	20	20	20
59	17	18	18	18	19	19	19	20	20	20	21
60	18	18	18	19	19	19	20	20	20	21	21

Total of Quiz Score	Old Base Score											25
	14	15	16	17	18	19	20	21	22	23	24	
16	7	7	7	8	8	8	9	9	9	10	10	10
17	7	7	8	8	8	9	9	9	10	10	10	11
18	7	8	8	8	9	9	9	10	10	10	11	11
19	8	8	8	9	9	9	10	10	10	11	11	11
20	8	8	9	9	9	10	10	10	11	11	11	12
21	8	9	9	9	10	10	10	11	11	11	12	12
22	9	9	9	10	10	10	11	11	11	12	12	12
23	9	9	10	10	10	11	11	11	12	12	12	13
24	9	10	10	10	11	11	11	12	12	12	13	13
25	10	10	10	11	11	11	12	12	12	13	13	13
26	10	10	11	11	11	12	12	12	13	13	13	14
27	10	11	11	11	12	12	12	13	13	13	14	14
28	11	11	11	12	12	12	13	13	13	14	14	14
29	11	11	12	12	12	13	13	13	14	14	14	15
30	11	12	12	12	13	13	13	14	14	14	15	15
31	12	12	12	13	13	13	14	14	14	15	15	15
32	12	12	13	13	13	14	14	14	15	15	15	16
33	12	13	13	13	14	14	14	15	15	15	16	16
34	13	13	13	14	14	14	15	15	15	16	16	16
35	13	13	14	14	14	15	15	15	16	16	16	17
36	13	14	14	14	15	15	15	16	16	16	17	17
37	14	14	14	15	15	15	16	16	16	17	17	17
38	14	14	15	15	15	16	16	16	17	17	17	18
39	14	15	15	15	16	16	16	17	17	17	18	18
40	15	15	15	16	16	16	17	17	17	18	18	18
41	15	15	16	16	16	17	17	17	18	18	18	19
42	15	16	16	16	17	17	17	18	18	18	19	19
43	16	16	16	17	17	17	18	18	18	19	19	19
44	16	16	17	17	17	18	18	18	19	19	19	20
45	16	17	17	17	18	18	18	19	19	19	20	20
46	17	17	17	18	18	18	19	19	19	20	20	20
47	17	17	18	18	18	19	19	19	20	20	20	21
48	17	18	18	18	19	19	19	20	20	20	21	21
49	18	18	18	19	19	19	20	20	20	21	21	21
50	18	18	19	19	19	20	20	20	21	21	21	22
51	18	19	19	19	20	20	20	21	21	21	22	22
52	19	19	19	20	20	20	21	21	21	22	22	22
53	19	19	20	20	20	21	21	21	22	22	22	23
54	19	20	20	20	21	21	21	22	22	22	23	23
55	20	20	20	21	21	21	22	22	22	23	23	23
56	20	20	21	21	21	22	22	22	23	23	23	24
57	20	21	21	21	22	22	22	23	23	23	24	24
58	21	21	21	22	22	22	23	23	23	24	24	24
59	21	21	22	22	22	23	23	23	24	24	24	25
60	21	22	22	22	23	23	23	24	24	24	25	25

## Appendix 2: Data extraction table

Notes: Intervention implemented for all included studies of this review was Student Team Achievement Division (STAD)

CL = Cooperative Learning, ES = Effect Size, NS = Not stated

English areas	References + Country	Research design + Sampling technique stated by researcher(s)	Sample size + Age/level	Research instrument	Duration of intervention + Intervention provider (s)	Comparison condition	Major findings + Outcome reported by author(s)	Major limitations stated by the author(s)	Quality judgement based on the "Sieve" (See Table 4.1)
Grammar	Slavin & Oickle, 1981  USA	Factorial design - Pre-test post-test control group  Cluster randomisation by class	230 students (84 – 4 classes in experimental and 146 – 6 classes in control)  Grade 6 - 8	Two paralleled standardised Junior High School English Tests	12 weeks  Teachers	Non-cooperative learning / non-team – individual learning	Students in experimental group showed greater gains compared to Non-Team classes, especially for black students.  <i>Positive effect</i>	NS	<b>2*</b>  Cluster randomisation  Used two paralleled standardises tests  Teacher taught classes
	Ghaith & Yaghi, 1998  Lebanon	Pre-test post-test control group design  Cluster randomisation by class	318 students (161 – 6 classes in experimental and 157 – 6 classes in control)  Grade 4 - 6	Pre/post – domain-referenced test (developed for this study with content validity checked by more than one measurement)	6 weeks  Teachers (received 4 - day training)	Individualistic instructional approach based on exercise in regular textbooks	No significant difference between the experiment and control on the post-test on their acquisition of ESL rules and mechanics	Short intervention period  Same teachers taught both experiment and control classes	<b>1*</b>  Cluster randomisation  Test specifically developed for the study with content

English areas	References + Country	Research design + Sampling technique stated by researcher(s)	Sample size + Age/level	Research instrument	Duration of intervention + Intervention provider (s)	Comparison condition	Major findings + Outcome reported by author(s)	Major limitations stated by the author(s)	Quality judgement based on the “Sieve” (See Table 4.1)
							Low-achieving students in experiment group gain higher scores than their high-achieving counterparts  <i>No effect</i>		validity checked  Same teachers taught both classes
	Anwer et al., 2018  Pakistan	Experiment Pre-test post-test control group design  Matching pair sampling technique on the basis of PEC (Punjab Education Commission) results of English subject	60 students (30 in experimental and 30 in control)  Grade 9	English Achievement Tests – tenses (teacher-made test without validity and reliability check)	8 weeks  Teacher (trained by researcher)	Lecture	Experimental group performance was significantly higher in all tenses scores than traditional method  <i>Positive effect</i>	NS	<b>0</b>  Very small sample size  Teacher-made test without validity and reliability check  Same test was used for pre and post-test

English areas	References + Country	Research design + Sampling technique stated by researcher(s)	Sample size + Age/level	Research instrument	Duration of intervention + Intervention provider (s)	Comparison condition	Major findings + Outcome reported by author(s)	Major limitations stated by the author(s)	Quality judgement based on the "Sieve" (See Table 4.1)
	Fauziningrum, 2012  Indonesia	Experiment Factorial design - Pre-test post-test control group  Purposive sampling	24 students (12 in experimental and 12 in control)  Grade 3	Multiple-choice test (Teacher-made test with validity and reliability tested)	4 lessons  Researcher	Three Minutes Review (TMR)	Students' achievement of both STAD and TMR increased, especially STAD method demonstrated better achievement than TMR.  <i>Positive effect</i>	NS	<b>0</b>  Very small sample size  Lack of details on research instrument  Researcher taught classes
	Khan & Akhtar, 2017  Pakistan	Quasi-experiment  Pre-test post-test control group design  Cluster randomisation by class	178 students (90 – 2 classes in experimental and 88 – 2 classes in control)  Grade 7	Pre/post – achievement test (developed and used by researcher - piloted to test reliability and validity checked by 4 English teachers)	12 weeks  Researcher	Whole class traditional method	Experimental group showed high increase in achievement, both male and female in learning English grammar at elementary level  <i>Positive effect</i>	NS	<b>0</b>  Test developed by researchers with reliability and content validity check  Same test used for pre- and post-tests  Researcher taught classes

English areas	References + Country	Research design + Sampling technique stated by researcher(s)	Sample size + Age/level	Research instrument	Duration of intervention + Intervention provider (s)	Comparison condition	Major findings + Outcome reported by author(s)	Major limitations stated by the author(s)	Quality judgement based on the "Sieve" (See Table 4.1)
	Malelohit, 2016  Thailand	One group pre-test post-test design  Purposive sampling	26 students in experimental  Undergraduate	Grammar achievement test (made by researcher without validity and reliability tests)	8 weeks (3 periods)  Researcher	No comparison group	STAD can improve undergraduate students' English grammar ability.  <i>Positive effect</i>	NS	<b>0</b>  No comparison group Used purposive sampling  Teacher-made test without validity and reliability check  Researcher taught classes
	Saniei & Ghadikolaie, 2015  Iran	Pre-test post-test control group design  NS	64 students (32 in experimental and 32 in control)  16-21 years old/ Intermediate level of English proficiency	English collocations test (developed by the researcher with content validity and reliability tested)	8 sessions  Researchers	Individualistic instruction	Students who received STAD method had significantly improved their English collocation achievement compared to students who studied with	NS	<b>0</b>  Lack of information on sampling technique  Teacher-made test with content validity and reliability tested



English areas	References + Country	Research design + Sampling technique stated by researcher(s)	Sample size + Age/level	Research instrument	Duration of intervention + Intervention provider (s)	Comparison condition	Major findings + Outcome reported by author(s)	Major limitations stated by the author(s)	Quality judgement based on the "Sieve" (See Table 4.1)
							individualistic instruction.  <i>Positive effect</i>		Same test was used for pre- and post-tests Researchers taught classes
Achievement	Nikou et al., 2014  Iran	Quasi-experiment  Pre-test post-test control group design  Randomly assigned	80 students (40 in experimental and 40 in control)  14-18 years old/ Intermediate level of English proficiency	2 almost paralleled English achievement tests – Top Notch standardised test (content validity and reliability tested - piloted)	13 weeks 20 sessions 30 hours  Researchers	Traditional method – lecturer	Students engaged in STAD produced higher improvement on post-test scores.  STAD had positive effects on the learners' language learning offering equal benefits to both boys and girls.  <i>Positive effect</i>	NS	<b>*1</b>  Standardised test with content validity and reliability check (piloted)  Researchers taught classes

English areas	References + Country	Research design + Sampling technique stated by researcher(s)	Sample size + Age/level	Research instrument	Duration of intervention + Intervention provider (s)	Comparison condition	Major findings + Outcome reported by author(s)	Major limitations stated by the author(s)	Quality judgement based on the "Sieve" (See Table 4.1)
	Alijanian, 2012  Iran	Pre-test post-test control group design  By chance	60 students (30 in experimental and 30 in control)  Grade 3	2 English Achievement Tests (teacher-made test based on the material from the textbook)	2 months (8 weeks/ 90 minutes each)  Teacher + researcher	Grammar Translation Method (GTM) + Audio-Lingual Method (ALM) + isolated learning context	STAD gained significantly higher in terms of their English achievement  <i>Positive effect</i>	Only two months of experiment period  Participant received English classes for only two 90-minute classes each week	<b>0</b>  Very small sample size  Teacher-made English achievement tests without validity and reliability tested  English Teacher + Researcher taught classes
	Aranban et al., 2012  Iran	Experiment Pre-test post-test control group design  Randomly assigned	60 students (30 in experimental and 30 in control)  High school	English achievement test (made by researcher without validity and reliability check)	4 weeks  Researchers	Not mention the method used in control group	Students' self-efficacy and academic achievement in English were higher in STAD group.  <i>Positive effect</i>	NS	<b>0</b>  Very small sample size  Limited information on control group  Test developed by

English areas	References + Country	Research design + Sampling technique stated by researcher(s)	Sample size + Age/level	Research instrument	Duration of intervention + Intervention provider (s)	Comparison condition	Major findings + Outcome reported by author(s)	Major limitations stated by the author(s)	Quality judgement based on the "Sieve" (See Table 4.1)
									<p>researchers without validity and reliability check</p> <p>Limited information on test and its quality</p> <p>Researchers taught classes</p>
	<p>Motaei, 2014</p> <p>Iran</p>	<p>Quasi-experiment</p> <p>Pre-test post-test control group design</p> <p>Purposive sampling</p>	<p>80 students (40 in experimental and 40 in control)</p> <p>Undergraduate</p>	<p>General English achievement test (teacher-made test based on commercial textbook with reliability check)</p>	<p>4 months (2 sessions each week)</p> <p>Researcher</p>	<p>Teacher-fronted classrooms (lecture)</p>	<p>Students in STAD group gained higher scores in all component of general English</p> <p><i>Positive effect</i></p>	<p>NS</p>	<p>0</p> <p>Purposive sampling</p> <p>Teacher-made test based on commercial textbook with reliability check</p> <p>Same test used for pre- and post-tests</p>

English areas	References + Country	Research design + Sampling technique stated by researcher(s)	Sample size + Age/level	Research instrument	Duration of intervention + Intervention provider (s)	Comparison condition	Major findings + Outcome reported by author(s)	Major limitations stated by the author(s)	Quality judgement based on the "Sieve" (See Table 4.1)
									Researcher taught classes
	Munir et al., 2017  Indonesia	Post-test only control group design  Stratified random sampling	60 students (30 in experimental and 30 in control)  Junior high school	English achievement test	NS  Researchers	CL - Jigsaw	STAD method is more effective than Jigsaw method in improving English learning outcomes  STAD is more suitable for improving English learning outcome of visual and kinesthetics learning style, while Jigsaw is more appropriate for students with audio learning style  <i>Positive effect</i>	NS	0  Post-test only without baseline assessment Limited information on research instrument  Researcher taught classes  Duration of intervention not stated

English areas	References + Country	Research design + Sampling technique stated by researcher(s)	Sample size + Age/level	Research instrument	Duration of intervention + Intervention provider (s)	Comparison condition	Major findings + Outcome reported by author(s)	Major limitations stated by the author(s)	Quality judgement based on the "Sieve" (See Table 4.1)
	Ritonga et al., 2016  Indonesia	Quasi-experiment  Factorial design - Non-equivalent control group  Saturated sampling	47 students (26 in experimental and 21 in control)  Vocational education	English achievement test (teacher-made test with reliability tested)	NS  Researchers	Expository (applied lecture in implementing the learning process)	Students in STAD group are superior compared to students in expository method  <i>Positive effect</i>	Pre-test and post-test were the same	<b>0</b>  Non-equivalent control group  Teacher-made test with reliability tested  Same test used for pre-and post-test  Researcher taught classes  Duration of intervention not stated
Speaking	Ghasemi & Baradaran, 2018  Iran	Pre-test post-test control group design  Randomly selected	60 students (30 in experimental and 30 in control)	Pre-test - Preliminary English Test (PET)  Post-test -	10 sessions (20 hours – 2 hours/ session)  Researchers	CIRC (Cooperative Integrated Reading and Composition)	Statistically significant difference in speaking complexity measures between the	NS	<b>*1</b>  Very small sample size

English areas	References + Country	Research design + Sampling technique stated by researcher(s)	Sample size + Age/level	Research instrument	Duration of intervention + Intervention provider (s)	Comparison condition	Major findings + Outcome reported by author(s)	Major limitations stated by the author(s)	Quality judgement based on the "Sieve" (See Table 4.1)
			Intermediate level of English proficiency	Speaking Post-test (PET)			STAD and CIRC  CIRC was more effective than STAD to enhance speaking complexity of EFL learners  <i>No effect</i>		Used standardised test  Speaking tasks were selected from commercial text books and fictions  Researcher taught classes
	Kurniawan et al., 2017  Indonesia	Quasi-experiment  Post-test only control group design  Cluster sampling	56 students (28 in experimental and 28 in control)  Grade 9	Speaking test (oral performance - presentation)	NS  Researchers	Not mention the method used in control group	Students who were taught using STAD gain significant effect toward their speaking skill achievement and their class participation.  <i>Positive effect</i>	NS	<b>0</b>  Post-test only without baseline assessment  Lack of information on control group, duration of the experiment, and research

English areas	References + Country	Research design + Sampling technique stated by researcher(s)	Sample size + Age/level	Research instrument	Duration of intervention + Intervention provider (s)	Comparison condition	Major findings + Outcome reported by author(s)	Major limitations stated by the author(s)	Quality judgement based on the “Sieve” (See Table 4.1)
									instrument, its quality and assessment  Researcher taught classes
	Mudofir, 2017  Indonesia	Quasi experiment  Non-equivalent group design - pre-test post-test control group  Purposive random sampling	88 students (44 in experimental and 44 in control)  Vocational education	English fluency speaking test (developed by the researcher without validity and reliability tested)	8 sessions (2 hours each)  Researcher	Conventional learning strategies	Students in STAD group gained higher scores than conventional learning group especially for visual learning style  <i>Positive effect</i>	NS	0  Purposive sampling  Teacher-made test without validity and reliability tested  Researcher taught classes
Reading comprehension	Jalilifar, 2010  Iran	Pre-test post-test control group design	90 students (30 in experimental 1 - STAD, 30 in experimental 2 – Group	Pre-test – A sample Nelson English Language Proficiency Test	2 months (16 sessions)  Researcher	Conventional Instruction (CI) – individualistic instructional approach based on	STAD more effective than CI  STAD not significant	Localize in Iranian EFL context	0  Very small sample size  Used standardised

English areas	References + Country	Research design + Sampling technique stated by researcher(s)	Sample size + Age/level	Research instrument	Duration of intervention + Intervention provider (s)	Comparison condition	Major findings + Outcome reported by author(s)	Major limitations stated by the author(s)	Quality judgement based on the "Sieve" (See Table 4.1)
		Systematic random sampling	Investigation (GI) and 30 in control)  Undergraduate	Post-test – reading comprehension test (based on the English textbook – piloted twice)		exercises in regular textbook	different from GI  <i>Positive effect</i>		test for pre-test but teacher-made test with reliability tested for post-test  Researcher taught classes
	Al-Zu'bi & Kitishat, 2013  Jordan	Pre-test post-test control group design  Assigned randomly and stratified by the researcher based on their academic potential and performance	41 students (20 in experimental and 21 in control)  Undergraduate	English Reading comprehension test (developed by researcher with content validity and reliability tested - piloted)	8 weeks  Teacher (received 20 hours of training)	Traditional methods: lecture, GTM, ALM	High- and average-achievers in STAD group showed better achievement results as compared to traditional method group  Low-achieving students was in favour with traditional method of teaching rather than STAD	Short periods of experiment - only 50 minutes classes each week  The sample is geographically limited sample of students	<b>0</b> Very small sample size  Sampling technique based on researcher's judgement  Teacher-made test with content validity and reliability tested



English areas	References + Country	Research design + Sampling technique stated by researcher(s)	Sample size + Age/level	Research instrument	Duration of intervention + Intervention provider (s)	Comparison condition	Major findings + Outcome reported by author(s)	Major limitations stated by the author(s)	Quality judgement based on the "Sieve" (See Table 4.1)
							<i>Positive effect</i>		Same test used for pre- and post-tests
	Chotimah & Rukmini, 2017  Indonesia	Quasi-experiment  Factorial design - Pre-test post -test control group  Purposive sampling	52 students (26 in experimental and 26 in control)  Grade 8	Reading comprehension test	NS  Teacher	CL – Group Investigation (GI)	STAD technique is more effective than GI to students with both high and low level of motivation  There is no interaction between motivation and technique in teaching reading comprehension  <i>Positive effect</i>	NS	0  Very small sample size  Used purposive sampling technique  Not enough information about research instruments and statistic results  Duration of intervention not stated
	Pandiangan, 2019  Indonesia	Pre-test post-test control group design	NS  Grade 7	Reading comprehension ability test (teacher-made test with piloted	2 months (10 sessions/ 2 hours each)	Cooperative leadership model	Students who were treated using cooperative leadership	NS	0  Lack of information on sampling

English areas	References + Country	Research design + Sampling technique stated by researcher(s)	Sample size + Age/level	Research instrument	Duration of intervention + Intervention provider (s)	Comparison condition	Major findings + Outcome reported by author(s)	Major limitations stated by the author(s)	Quality judgement based on the "Sieve" (See Table 4.1)
		NS		to validate the test)	Researcher		model performed better than students in STAD group.  <i>No effect</i>		technique, number of participants and research instrument  Researcher taught classes
	Sunarti & Rachman, 2018  Indonesia	Factorial design - Post-test only control group  Cluster randomisation	50 students (25 in experimental and 25 in control)  Undergraduate (1 <sup>st</sup> year)	Reading test	NS  Researchers	Traditional Instruction	Flip classroom with STAD is more effective than Traditional Instruction to teach reading, especially with high learning interest.  Traditional Instruction is more effective than Flip classroom with STAD to teach reading to students having low learning interest	NS	<b>0</b>  Very small sample size  Post-test design only without baseline assessment  Lack of information on research instrument and its quality  Researcher taught classes

English areas	References + Country	Research design + Sampling technique stated by researcher(s)	Sample size + Age/level	Research instrument	Duration of intervention + Intervention provider (s)	Comparison condition	Major findings + Outcome reported by author(s)	Major limitations stated by the author(s)	Quality judgement based on the "Sieve" (See Table 4.1)
							<i>Positive effect</i>		Duration of intervention not stated
	Syafiq & Rahmawati, 2017  Indonesia	Experiment Pre-test post-test control group design  Purposive sampling based on historical factors and pre-existing ability	80 students (40 in experimental and 40 in control)  High school	Reading comprehension test	NS  Researcher	Conventional method (Direct method)	Students in STAD group showed significantly better performance in reading comprehension than students in conventional group  <i>Positive effect</i>	NS	0  Lack of information on research instrument and its quality  Researcher taught classes
	Warawudhi, 2012  Thailand	Pre-test post-test control group design  NS	154 students (82 in experimental and 72 in control)  Undergraduate (1 <sup>st</sup> year) / low English proficiency	Free Penguin Readers' Placement Test (pre-intermediate level)  Formative / summative test (teacher-made test to double	10 weeks  Researcher	Lecture	Both Lecture and STAD methods could raise English reading score, but students in LM group performance was slightly better than	Short duration of the study	0  Lack of information on sampling technique  Used both standardised test and teacher made

English areas	References + Country	Research design + Sampling technique stated by researcher(s)	Sample size + Age/level	Research instrument	Duration of intervention + Intervention provider (s)	Comparison condition	Major findings + Outcome reported by author(s)	Major limitations stated by the author(s)	Quality judgement based on the "Sieve" (See Table 4.1)
				check the results)			students in STAD group  <i>No effect</i>		test without validity and reliability tested  Researcher taught classes
	Wichadee, 2005  Thailand	One-group pre-test post-test design  Purposive sampling	40 students in experimental  Undergraduate (1 <sup>st</sup> year)	Reading comprehension test (teacher-made test with validity and reliability tested)	8 weeks  Researcher	No comparison group	Students experienced STAD gained higher reading comprehension scores  <i>Positive effect</i>	NS	<b>0</b>  No comparison group  Purposive sampling  Lack of information on research instrument and its quality  Researcher taught classes
Listening comprehension	Khansir & Alipour, 2015	Pre-test post-test control group design	60 students (30 in experimental)	Pre-test - Oxford Placement Test	NS  Researchers	Not mention the method used in	Statistically significant difference	NS	<b>0</b>  Very small sample size

English areas	References + Country	Research design + Sampling technique stated by researcher(s)	Sample size + Age/level	Research instrument	Duration of intervention + Intervention provider (s)	Comparison condition	Major findings + Outcome reported by author(s)	Major limitations stated by the author(s)	Quality judgement based on the "Sieve" (See Table 4.1)
	Iran	Convenient sampling	and 30 in control)  17 -28 years old/ intermediate level of English	Pre-/post-test - syllabus-based listening comprehension test (designed by researcher with content validity checked by 5 experts and reliability – piloted)		control group	between participants of experimental and control groups' scores  EFL learners in experimental group outperformed in listening comprehension post-test  <i>Positive effect</i>		Convenient sampling  Lack of information of comparison group  Test developed by researchers with reliability and content validity check  Same test was used for pre- and post-tests  Research taught classes  Duration of intervention not stated

English areas	References + Country	Research design + Sampling technique stated by researcher(s)	Sample size + Age/level	Research instrument	Duration of intervention + Intervention provider (s)	Comparison condition	Major findings + Outcome reported by author(s)	Major limitations stated by the author(s)	Quality judgement based on the "Sieve" (See Table 4.1)
Writing	Sutrisno et al., 2018  Indonesia	Experiment Pre-test post-test control group design  NS	32 students (16 in experimental and 16 in control)  Undergraduate	English essay writing test	NS  Researchers	CL - Think-Pair-Share	English essay writing skill in the group of students who treated with Think-Pair-Share technique was higher than students who taught with STAD, especially with students with introvert personality type.  <i>No effect</i>	NS	<b>0</b>  Very small sample size  Limited information on research instrument, its quality and assessment  Researcher taught classes  Duration of intervention not stated
Communication skills	Glomo-Narzoles, 2015  Bahrain	Quasi-experiment Pre-test post-test control group design  NS	54 students (28 in experimental and 26 in control)  Undergraduate	English communication skill test (teacher-made test developed by the researcher)	NS  Researcher	Traditional teaching method – lecture and independent learning	Students who were exposed to STAD had enhanced their academic performance on English communication skills than	NS	<b>0</b>  Lack of information on sampling technique and duration of the intervention

English areas	References + Country	Research design + Sampling technique stated by researcher(s)	Sample size + Age/level	Research instrument	Duration of intervention + Intervention provider (s)	Comparison condition	Major findings + Outcome reported by author(s)	Major limitations stated by the author(s)	Quality judgement based on the "Sieve" (See Table 4.1)
							students employed with traditional teaching method  <i>Positive effect</i>		Teacher-made test without reliability tested  Same test was used for pre- and post-tests  Researcher taught classes
Translation	Upa & Ridho, 2019  Indonesia	One group pre-test post-test design  Purposive sampling	20 students in experimental  Undergraduate	Translation test	2 months (4 meetings)  Researchers	No comparison group	Teaching translation using STAD is effective to improve students' translation ability  <i>Positive effect</i>	NS	<b>0</b>  No comparison group  Purposive sampling  Lack of information on the research instrument, its' quality and assessment

English areas	References + Country	Research design + Sampling technique stated by researcher(s)	Sample size + Age/level	Research instrument	Duration of intervention + Intervention provider (s)	Comparison condition	Major findings + Outcome reported by author(s)	Major limitations stated by the author(s)	Quality judgement based on the “Sieve” (See Table 4.1)
									Researcher taught classes



## Appendix 3: B1 Preliminary English Test (Pre-test)



### PRELIMINARY ENGLISH TEST

Listening

#### SAMPLE TEST

For Research Purposes Only

Time Approximately 15 minutes (including 5 minutes' transfer time)

#### INSTRUCTIONS TO CANDIDATES

Do not open this question paper until you are told to do so.

**Write your name, student ID and university on your answer sheet.**

Listen to the instructions for each part of the paper carefully.

Answer all the questions.

While you are listening, write your answers on the question paper.

You will have 5 minutes at the end of the test to copy your answers onto the separate answer sheet.

At the end of the test, hand in both this question paper and your answer sheet.

#### INFORMATION FOR CANDIDATES

Each question carries one mark.

You will hear each piece twice.

For each part of the test there will be time for you to look through the questions and time for you to check your answers.

PV1

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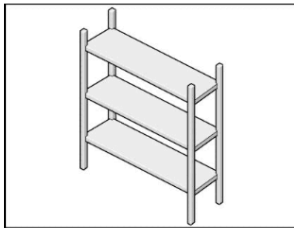
Cambridge English Entry Level Certificate in ESOL International (Entry 3)

Questions 1 - 7

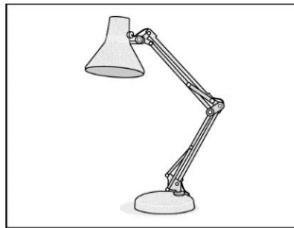
For each question, choose the correct answer.

---

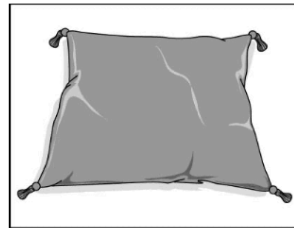
1 What did the girl buy on her shopping trip?



A

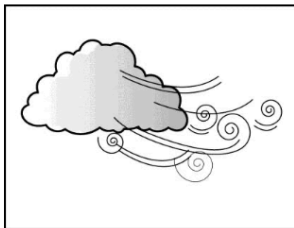


B

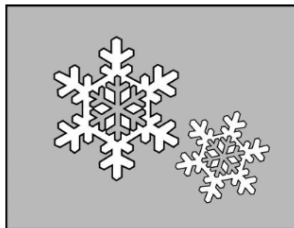


C

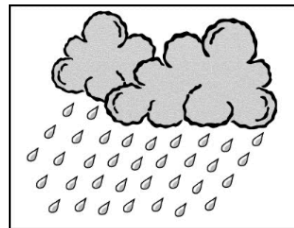
2 Why did the plane leave late?



A



B

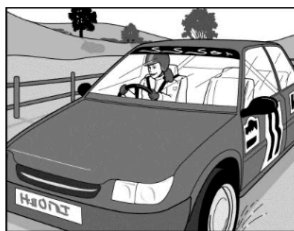


C

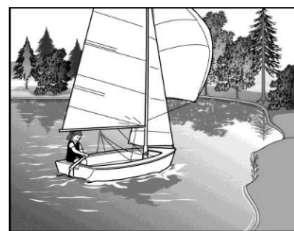
3 What activity does the woman want to book for the weekend?



A

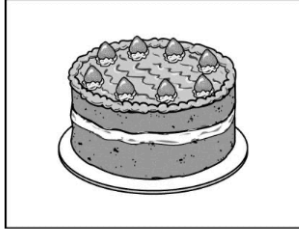


B

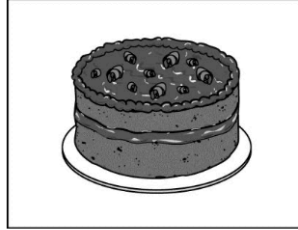


C

4 Which cake will the girl order?



A



B

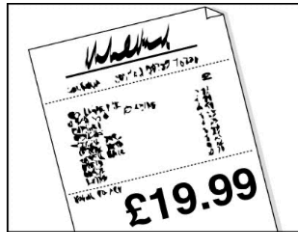


C

5 How much must customers spend to get a free gift?



A



B

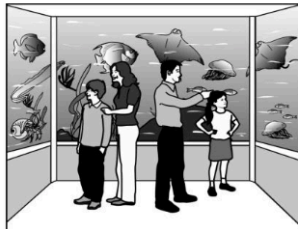


C

6 What did the family do on Sunday?



A



B



C

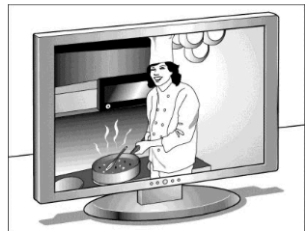
7 Which programme is on first?



A



B



C

**PRELIMINARY ENGLISH TEST**

Reading

**SAMPLE TEST**

For Research Purposes Only

**Time** 30 minutes

**INSTRUCTIONS TO CANDIDATES**

Do not open this question paper until you are told to do so.

**Write your name, student ID and university on your answer sheet.**

Read the instructions for each part of the paper carefully.

Answer all the questions.

Read the instructions on the answer sheet.

Write your answers on the answer sheet.

You **must** complete the answer sheet within the time limit.

At the end of the test, hand in both this question paper and your answer sheet.

**INFORMATION FOR CANDIDATES**

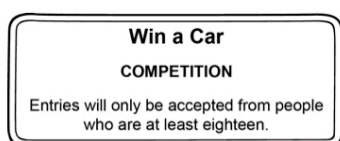
Questions **1-15** carry one mark.

## Part 1

### Questions 1 – 5

For each question, choose the correct answer.

1



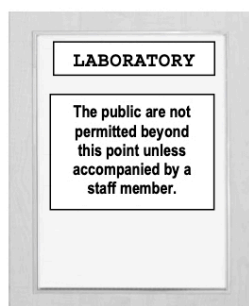
- A The competition is open to people over a certain age.
- B There is a maximum age limit for this competition.
- C Only eighteen-year-olds are allowed to enter this competition.

2



- Adam is telling Rachel to
- A post something for him.
  - B find out how to do something.
  - C give him something he needs.

3



- A Members of staff must be accompanied if they wish to pass this point.
- B Members of the public can't go through unless they are visiting someone working here.
- C Members of the public may go further if a company employee goes with them.

2

4

Jane,  
Mum's leaving really  
early tomorrow, so  
could you wake me at  
7 when you leave for  
work? I mustn't be  
late for college again!  
Tom

- A Tom wants to persuade Jane to take him to college tomorrow morning.
- B Tom would like Jane to do him a favour tomorrow morning.
- C Tom is reminding Jane they have to get up early tomorrow morning.

5

**FREE COPIES OF  
ADVERTISEMENTS ON  
THIS BOARD ARE  
AVAILABLE FROM THE  
CAREERS CENTRE**

- A The Careers Centre will give you a copy of any advertisement on this board.
- B This board is used to advertise the work done by the Careers Centre.
- C If you ask the Careers Centre, you can advertise for free on this board.

## Part 2

### Questions 6 – 10

For each question, choose the correct answer.

---

The people below all want to visit a city market.  
On the opposite page there are descriptions of eight markets.  
Decide which market would be the most suitable for the people below.

6



Jenny wants to buy locally-produced food traditional to the area. She needs somewhere convenient to eat, and as she's sightseeing in the city, the market shouldn't be far from local attractions.

7



Matt wants a market where he can get something to wear at reasonable prices, and something hot to eat. He's also keen on music, and likes finding rare recordings by different bands.

8



Sammie wants to visit a market after spending the day in the city. He would like to photograph a historic place, and buy a painting by someone unknown.

9



Alexia is looking for a really special necklace for her grandmother's birthday. She'd like to spend the whole day at the market, and wants to avoid the cold by staying inside.

10



Ella is looking for objects from other countries for her friends. She'd like to choose a second-hand book to read on the journey home, and wants a snack at the market, too.

## City Markets

**A Beckfield Market**

This market's world-famous for second-hand camera equipment and books on photography. As well as an amazing range of cameras, we have old pictures of local places of interest for you to buy, and of course the stall owners are happy to give you advice for free! Don't miss our hot soup stall in cold weather.

**B Rosewell Hill**

Our market's in an amazing building that's hundreds of years old. Visitors find our late-night opening hours convenient, and there are always performers entertaining the crowds. We've recently opened more stalls specializing in pictures both from well-known artists and also those beginning their careers.

**C Camberwall Market**

There's lots to see in this interesting indoor market, so it's open from morning until late, in a fantastic modern setting. Find everything from rare gold and silver jewellery to designer clothes – although the prices aren't cheap, the quality's excellent. After shopping, enjoy a meal in a nearby restaurant.

**D Cobbledown Road**

A small market that's open in all weathers. Come and find something really fantastic – treat yourself or someone special! We have a wide selection of jewellery and musical instruments, produced locally by highly-skilled people, and home-made cakes to enjoy.

**E Oldford Lane**

Situated in the historic city centre, you'll find a wide range of jewellery and clothes. Arrive early to avoid disappointment – bargains are found in the morning, and the stalls pack up after lunch. If the weather's good, enjoy watching the world go by, although it gets very busy in the tourist season.

**F Purford Market**

Close to museums and art galleries, this is the place to buy something for lunch, as well as fresh fruit and special breads. Try the region's famous cheese – the producers are there with advice on different types. Eat on the seats situated around the market, watching the colourful scene and enjoying music from local bands.

**G Teddingley Market**

Situated under historic city walls, in this busy market you'll find a huge selection of great-value new and second-hand clothes. There are also stalls offering unusual albums by international singers, often hard to find in shops. Our world-food area allows you to taste food from abroad, cooked in front of you by international chefs.

**H Frome Place**

Stalls open during normal daytime shopping hours so, depending on the weather, there's plenty to entertain you the whole day. Try our sandwich bar if you're hungry, and look for an old copy of something by a favourite author. We also have gifts from all over the world.



### Part 3

#### Questions 11 – 15

For each question, choose the correct answer.

#### **Artist Peter Fuller talks about his hobby**

There's a popular idea that artists are not supposed to be into sport, but mountain biking is a huge part of my life. It gets me out of my studio, and into the countryside. But more importantly, racing along as fast as you can leaves you no time to worry about anything that's going on in your life. You're too busy concentrating on not crashing. The only things you pay attention to are the pain in your legs and the rocks on the path in front of you.

I'm in my sixties now, but I started cycling when I was a kid. In the summer my friends and I would ride our bikes into the woods and see who was brave enough to go down steep hills, or do big jumps. The bikes we had then weren't built for that, and often broke, so I used to draw pictures of bikes with big thick tyres that would be strong enough for what we were doing. They looked just like modern mountain bikes. However, it wasn't until many years later that someone actually invented one. By the 1980s, they were everywhere.

At that time I was into skateboarding. I did that for a decade until falling off on to hard surfaces started to hurt too much. Mountain biking seemed a fairly safe way to keep fit, so I took that up instead. I made a lot of friends, and got involved in racing, which gave me a reason to train hard. I wanted to find out just how fit and fast I could get, which turned out to be fairly quick. I even won a couple of local races.

In the end I stopped racing, mainly because I knew what it could mean to my career if I had a bad crash. But I still like to do a three-hour mountain bike ride every week. And if I'm out cycling in the hills and see a rider ahead, I have to beat them to the top. As I go past I imagine how surprised they would be if they knew how old I am.

- 11 Peter enjoys mountain biking because
- A it gives him the opportunity to enjoy the views.
  - B he can use the time to plan his work.
  - C he is able to stop thinking about his problems.
  - D it helps him to concentrate better.
- 12 What does Peter say about cycling during his childhood?
- A He is sorry he didn't take more care of his bike.
  - B His friends always had better quality bikes than he did.
  - C His bike wasn't suitable for the activities he was doing.
  - D He was more interested in designing bikes than riding them.
- 13 Peter says he returned to cycling after several years
- A because he had become unfit.
  - B so that he could enter races.
  - C in order to meet new people.
  - D to replace an activity he had given up.
- 14 How does Peter feel about cycling now?
- A He is proud that he is still so fast.
  - B He is keen to do less now that he is older.
  - C He regrets the fact that he can no longer compete.
  - D He wishes more people were involved in the sport.
- 15 What would be a good introduction to this article?

A

For Peter Fuller, nothing matters more than mountain biking, not even his career. Here, in his own words, he tells us why.

B

Artist Peter Fuller takes mountain biking pretty seriously. Here he describes how it all began and what he gets out of it.

C

In this article, Peter Fuller explains how he became an artist only as a result of his interest in mountain biking.

D

After discovering mountain biking late in life, Peter Fuller gave up art for a while to concentrate on getting as good as possible.

## Appendix 4: B1 Preliminary English Test (Post-test)



### PRELIMINARY ENGLISH TEST

Listening

### SAMPLE TEST

For Research Purposes Only

**Time** Approximately 15 minutes (including 5 minutes' transfer time)

### INSTRUCTIONS TO CANDIDATES

Do not open this question paper until you are told to do so.

**Write your name, student ID and university on your answer sheet.**

Listen to the instructions for each part of the paper carefully.

Answer all the questions.

While you are listening, write your answers on the question paper.

You will have 5 minutes at the end of the test to copy your answers onto the separate answer sheet.

At the end of the test, hand in both this question paper and your answer sheet.

### INFORMATION FOR CANDIDATES

Each question carries one mark.

You will hear each piece twice.

For each part of the test there will be time for you to look through the questions and time for you to check your answers.

\*

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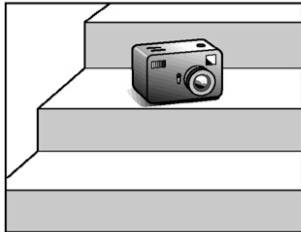
© UCLES 2015

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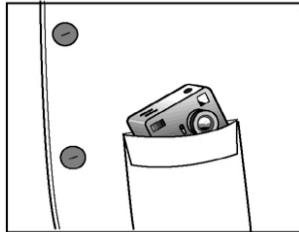
### Questions 1 – 7

There are seven questions in this part.  
For each question there are three pictures and a short recording.  
Choose the correct picture and put a tick (✓) in the box below it.

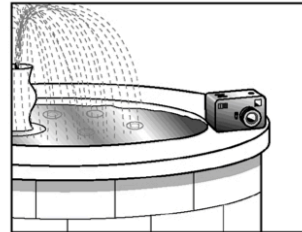
**Example:** Where did the man leave his camera?



A ☒

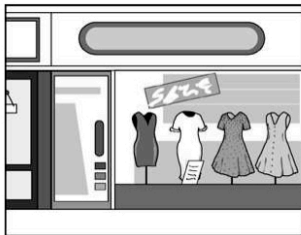


B ☐

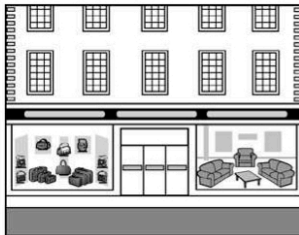


C ☐

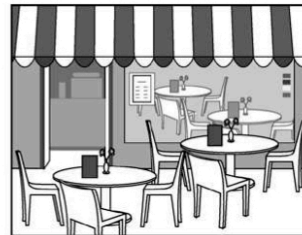
1 Where will the women meet tomorrow?



A ☐



B ☐



C ☐

2 When will the man go to see the dentist?



A ☐

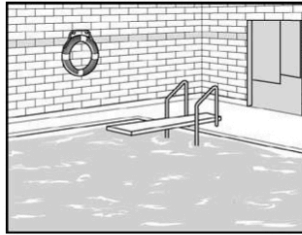


B ☐



C ☐

3 Where are they at the moment?



A ☐

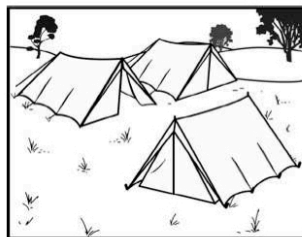


B ☐



C ☐

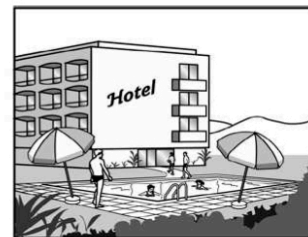
4 Where did the man stay on holiday?



A ☐



B ☐



C ☐

5 Who is the man going to work with?



A ☐



B ☐



C ☐

6 Where is the boy at the moment?



A ☐

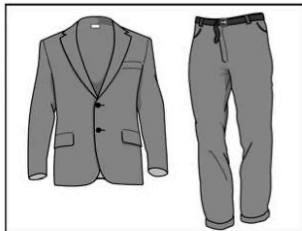


B ☐



C ☐

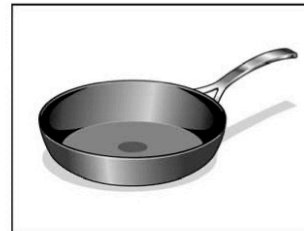
7 Which goods are reduced in price in the store now?



A ☐



B ☐



C ☐

**PRELIMINARY ENGLISH TEST**

Reading

**SAMPLE TEST**

For Research Purposes Only

**Time** 30 minutes

**INSTRUCTIONS TO CANDIDATES**

Do not open this question paper until you are told to do so.

**Write your name, student ID and university on your answer sheets.**

Read the instructions for each part of the paper carefully.

Answer all the questions.

Read the instructions on the answer sheets.

Write your answers on the answer sheets.

You **must** complete the answer sheets within the time limit.

At the end of the test, hand in both this question paper and your answer sheets.

**INFORMATION FOR CANDIDATES**

Questions **1 – 15** carry one mark.

\*

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## Part 1

### Questions 1 – 5

Look at the text in each question.

What does it say?

Mark the correct letter **A**, **B** or **C** on your answer sheet.

#### Example:

0



- A** Andy would prefer to go sailing with Julia on Saturday rather than on Sunday.
- B** Andy can go sailing with Julia on Friday if she's not free on Saturday.
- C** Andy wants to go sailing with Julia on both Saturday and Sunday if possible.

Answer:

0	<b>A</b>	<b>B</b>	<b>C</b>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

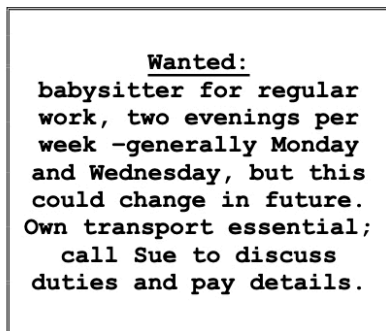
1



The note tells Sarah she

- A** can buy new games now at a special price.
- B** can get new and used games in the current sale.
- C** can sell her used games to the shop.

2



The advertisement says

- A** the babysitter should call Sue about weekly transport to her house.
- B** the jobs the babysitter is responsible for will change each week.
- C** the babysitter might work on different days each week.

2

Turn over ►



3

**Due to staff holidays,  
shop closes early on  
weekdays during  
August;  
Saturdays as normal.**

- A** The shop is closed during some weekdays in August due to holidays.
- B** The shop's opening hours are different on Monday to Friday in August.
- C** The shop is closing at different times at weekends in August.

4

**Gym changing rooms  
Place personal items  
in lockers.  
Staff will remove  
anything on floor.**

- A** If staff find items on the floor, they will put them away in a locker.
- B** You must only leave belongings in the areas provided.
- C** Lockers are regularly checked by staff.

5

***Museum Café*  
These tables are for  
customers only.  
Follow signs for picnic  
areas.**

- A** You should take all food to the special picnic area.
- B** You can eat picnics in this section of the café.
- C** You may sit here if you buy something from the café.

## Part 2

### Questions 6 – 10

The people below all enjoy music.

On the opposite page there are descriptions of eight places where people can have different musical experiences.

Decide which place would be the most suitable for the following people.

For questions 6 – 10, mark the correct letter (A – H) on your answer sheet.

---

6



Joe's interested in classical music and wants to talk to professional musicians about their work. He'd like to find out more about classical instruments, and actually play some music.

7



Will wants to learn to play some of his favourite band's songs, and to know how his favourite singers create their own special sound. He'd like to try out some different instruments.

8



Jess loves watching spectacular concerts with fantastic dancers, and wants to feel some of the atmosphere of a big musical event. She'd like to see performances by famous people she's heard about.

9



James likes exploring the personal backgrounds of his favourite bands, and also the stories behind their well-known songs. He has his own band, and wants some advice about performing live on stage.

10



Zoe likes listening to all sorts of pop music, and wants a fun way to learn various dance styles. She'd like to bring something home to show her friends what she's learnt during her visit.

## Musical experiences

- |  |   |
|--|---|
| <p><b>A    The Core</b><br/>This is the place for musical history. You'll learn where your favourite singers and musicians grew up and discover the processes involved in writing famous songs and producing the videos. Find out about their journey to fame, and get some tips on what makes a good concert! There's all you ever wanted to know about famous musicians!</p>                           | <p><b>B    Rhythm-Studio</b><br/>Get your body moving in the studio and learn to move to rhythms and sounds from the past to now, including Soul and Disco. Learn your steps from our professional onscreen dance instructor, then watch your performance and become the star in your own video recording which you can take away!</p>  |
| <p><b>C    WorldScene</b><br/>For one month only, experience the amazing sights and sounds of the WorldScene band, a large international group of traditional musicians and dancers. You'll experience music and dance styles never heard or seen before in this country. Book a ticket to meet the musicians, talk about their experiences and get some new ideas!</p>                                  | <p><b>D    Universe of Sound</b><br/>Create your own musical experience - record yourself making music with a huge orchestra as they play on the video background screen – you can even download it to disc to take home! You can also learn about violins, flutes, trumpets and many more with our computer demonstrations, and meet real musicians who are present every day.</p> |
| <p><b>E    Archived Images</b><br/>Want to find out about a new band, or just want more information about an old favourite? Visit our collection to find out facts and figures, or see the actual possessions of famous bands and musicians you are interested in. You can actually get to touch things worn on stage at major rock and pop events, and there are plenty of other concert souvenirs.</p> | <p><b>F    Finale</b><br/>Imagine being in the crowd for amazing performances from the past. Enjoy 3D life-size videos from the stars of yesterday and today. You can experience the excitement of a massive rock stadium, and the sounds, movement and rhythms that created some of the most exciting music ever known.</p>  |
| <p><b>G    Rave-on!</b><br/>How about learning new skills on the guitar, drums and keyboard by video? Follow the touch-screen instructions to find lessons on each instrument, or search for a song to practise playing along to. Try our Professional Selection, with video clips of band members who will explain the techniques that make their recordings so individual.</p>                         | <p><b>H    Show-in-a-day!</b><br/>Be a star singer or dancer for the day in a one-time-only special performance! Experts in international music and dance styles will train you, and costumes provided for the performance help create a really special, individual show. Get your friends and family to come and see you perform, as no videoing or photography is allowed.</p>    |

**Part 3**

**Questions 11 – 15**

Read the text and questions below.

For each question, mark the letter next to the correct answer **A, B, C** or **D** on your answer sheet.

---

**My Job at a Summer Camp, by Charlie Rose**

Every year I work at a summer camp for kids and I really enjoy seeing the children do things they never thought they could do. Nearly all the kids know how to swim and play table-tennis before they come, but things like rock climbing are new experiences for most. Some of them are very nervous, but after a bit of encouragement, they agree to try and they all get to the top in the end, which makes them feel great.

The kids stay several weeks and some do miss home. You might expect it to be the really young ones who feel like that the most but it's actually the ten- to thirteen-year-olds. We don't let them use their mobile phones all the time. First we tell them they can phone home after lunch. Then when they ask again, usually after dinner, we say it's a bit too late to phone and suggest doing it the next day. Most children are fine in a couple of days and at the end of their stay, it's amazing how many come and thanks us because they have had a great time.

It's not just the children who get lonely. We get parents who are on the phone the whole time, asking how their child is getting on, which is quite unnecessary. Often their son or daughter will be busy, playing games or doing something else, so we have to tell parents to ring back another time.

Some kids arrive dressed in smart, designer, new clothes and they sometimes argue when we tell them to change into something they won't mind getting dirty, but before long they realise what we mean.

- 11** What is the writer trying to do in this text?
- A** describe how children make friends at a summer camp
  - B** suggest how parents should choose a summer camp for children
  - C** explain what it is like for children at a summer camp
  - D** advise children how to behave at a summer camp
- 12** What does the writer say about rock climbing at the camp?
- A** Some children already know how to do it.
  - B** Some children prefer to swim or play table-tennis.
  - C** Some children refuse to take part.
  - D** Some children find it more enjoyable than they expected to.

13 What surprises the writer about the children who stay at the camp?

- A The youngest ones find it hard to be away from home.
- B They complain if they cannot phone their parents.
- C They miss meal times with their parents.
- D They seem grateful for their experience here.

14 What does the writer think about some parents?

- A They should visit their children instead of phoning them.
- B They don't need to keep on phoning the camp.
- C They shouldn't allow their children to bring phones to camp.
- D They need to be reminded to phone their children.

15 Which postcard might a child at the camp send home?

A

I was annoyed when they suggested I put on old jeans, but I guess they were right.	<input type="checkbox"/>
--	--------------------------

B

It's so unfair that everyone else can use their mobile phone, but they won't let me use mine.	<input type="checkbox"/>
---	--------------------------

C

I've made some good friends but we're all bored because there isn't much to do here.	<input type="checkbox"/>
--	--------------------------

D

I was really frightened every time we went rock climbing, so they let me do something else instead.	<input type="checkbox"/>
---	--------------------------

## Appendix 5: Answer sheet



**Cambridge Assessment  
English**

**Scores:**

**22**

### Preliminary English Test

#### Answer Sheet

**Name:** \_\_\_\_\_ **ID No.:** \_\_\_\_\_

**University:** \_\_\_\_\_

#### Listening Answer Sheet

**Instruction:**

Choose the correct answer by putting a cross (X) in the box. Or put two lines against the previous answer (~~X~~) to indicate your new choice.

Part 1			
	A	B	C
1			
2			
3			
4			
5			
6			
7			

#### Reading Answer Sheet

**Instruction:**

Choose the correct answer by putting a cross (X) in the box. Or put two lines against the previous answer (~~X~~) to indicate your new choice.

Part 1			
	A	B	C
1			
2			
3			
4			
5			

Part 2									
	A	B	C	D	E	F	G	H	
6									
7									
8									
9									
10									

Part 3				
	A	B	C	D
11				
12				
13				
14				
15				

**Note:** This test is a part of research project.

## Appendix 6: Students' attitudes towards cooperative learning questionnaire



Shaped by the past, creating the future

### Students' Attitudes Towards Cooperative Learning Questionnaire แบบสอบถามความคิดเห็นของนักศึกษาต่อการเรียนรู้แบบร่วมมือ (Cooperative Learning)

This survey is a part of a research project conducted by Durham University Evidence Centre for Education, United Kingdom. The purpose of this questionnaire is to gather information about the attitudes towards cooperative learning of first-year student teachers, English major, Faculty of Education, Rajabhat Universities, Thailand. The success of this study depends on the quality of the information you provide. Your response will be used only for research purposes and will be kept confidential. You will never be identified.

Thank you.

การสำรวจนี้จัดทำขึ้นเพื่อประกอบโครงการวิจัย จัดทำโดยศูนย์หลักฐานเพื่อการศึกษา มหาวิทยาลัย  
เคอรัม ประเทศสหราชอาณาจักร โดยมีวัตถุประสงค์เพื่อรวบรวมข้อมูลความคิดเห็นต่อการเรียนรู้แบบ  
ร่วมมือของนักศึกษาชั้นปีที่ 1 สาขาวิชาภาษาอังกฤษ คณะครุศาสตร์ มหาวิทยาลัยราชภัฏ ในประเทศไทย

ความสำเร็จของการศึกษานี้ขึ้นอยู่กับคุณภาพของข้อมูลที่นักศึกษาคอบ ซึ่งข้อมูลที่นักศึกษาคอบ  
จะถูกรับเป็นความลับและนำมาใช้เพื่อประโยชน์ในการวิจัยเท่านั้น จะไม่มีการระบุตัวตนของนักศึกษา

ขอบคุณค่ะ

#### Part I: Information about students' attitudes towards cooperative learning.

Instruction: With reference to your experience of cooperative learning in your "English Structure for Teacher of English" class. Please indicate your level of agreement with each the following statements on a scale from "strongly disagree" (0) to "strongly agree" (10). Put a tick in the appropriate box.

#### ตอนที่ 1: ข้อมูลเกี่ยวกับความคิดเห็นของนักศึกษาต่อการเรียนรู้แบบร่วมมือ

คำชี้แจง: จากประสบการณ์การเรียนรู้แบบร่วมมือในวิชาหลักภาษาสำหรับครูสอนภาษาอังกฤษ กรุณาระบุ  
ระดับความคิดเห็นของนักศึกษาว่าข้อความต่อไปนี้ตรงกับความคิดเห็นของนักศึกษาในระดับใด โดยใส่  
เครื่องหมายลงในช่องแบบประเมินค่า จาก "ไม่เห็นด้วยอย่างมาก" (0) ถึง "เห็นด้วยอย่างมาก" (10)

No.	Statements	Strongly disagree					Strongly agree					
		0	1	2	3	4	5	6	7	8	9	10
1.	I like working in cooperative learning teams with my classmates. ฉันชอบการเรียนรู้กับเพื่อนร่วมชั้นในทีมที่มีรูปแบบการเรียนรู้แบบร่วมมือ											
2.	Cooperative learning makes the learning of the English course easier. การเรียนรู้แบบร่วมมือทำให้การเรียนรู้วิชาภาษาอังกฤษง่ายขึ้น											
3.	Cooperative learning activities are boring. กิจกรรมการเรียนรู้แบบร่วมมือน่าเบื่อ											

No.	Statements	Strongly disagree					Strongly agree					
		0	1	2	3	4	5	6	7	8	9	10
4.	Cooperative learning helps me increase my comprehension of the course content through working in a team. การเรียนรู้แบบร่วมมือช่วยให้ฉันเข้าใจเนื้อหาในวิชาได้มากขึ้นผ่านการทำงานร่วมกันในทีม											
5.	A cooperative learning classroom is too noisy. ห้องเรียนที่จัดการเรียนรู้แบบร่วมมือมีเสียงดัง											
6.	I feel actively involved in all activities through cooperative learning. ฉันรู้สึกมีส่วนร่วมในทุกกิจกรรมผ่านการเรียนรู้แบบร่วมมือ											
7.	Students learn best when they work with others in pairs and groups. นักศึกษาเรียนรู้ได้ดีที่สุดผ่านการทำงานกับผู้อื่นเป็นคู่ และเป็นกลุ่ม											
8.	I do <u>not</u> like it when people are depending on me in cooperative learning. ฉัน <u>ไม่</u> ชอบเมื่อผู้อื่นมาพึ่งพาฉันในการเรียนรู้แบบร่วมมือ											
9.	Cooperative learning creates positive relationships among team members. การเรียนรู้แบบร่วมมือช่วยสร้างความสัมพันธ์ที่ดีระหว่างสมาชิกในทีม											
10.	Trying to teach something to my team members in cooperative learning makes me tired. ฉันรู้สึกเหนื่อยเมื่อพยายามสอนบางสิ่งบางอย่างให้เพื่อนคนอื่นในทีม											
11.	I enjoy other methods of teaching more than cooperative learning. ฉันรู้สึกสนุกกับการเรียนด้วยวิธีการอื่น ๆ มากกว่าการเรียนรู้แบบร่วมมือ											
12.	Cooperative learning helps everyone reach their goals equally. การเรียนรู้แบบร่วมมือช่วยให้นักศึกษาทุกคนบรรลุถึงเป้าหมายอย่างเท่าเทียม											
13.	Cooperative learning motivates students in an EFL classroom. การเรียนรู้แบบร่วมมือกระตุ้นให้นักศึกษาในชั้นเรียนภาษาอังกฤษเป็นภาษาต่างประเทศ											
14.	Other methods of teaching offer better results. วิธีการสอนแบบอื่น ๆ ให้ผลลัพธ์ที่ดีกว่า											
15.	I do <u>not</u> want to work with my team members. ฉัน <u>ไม่</u> ต้องการทำงานร่วมกับเพื่อนในทีมของฉัน											



No.	Statements	Strongly disagree					Strongly agree					
		0	1	2	3	4	5	6	7	8	9	10
16.	I am satisfied that my lecturer applies cooperative learning in English course. ฉันพึงพอใจเมื่ออาจารย์ใช้การเรียนรู้แบบร่วมมือในวิชาภาษาอังกฤษ											
17.	Cooperative learning is <u>not</u> suitable for me. การเรียนรู้แบบร่วมมือ <u>ไม่</u> เหมาะสมกับฉัน											
18.	When I work together with others, I achieve more than when I work alone. เมื่อทำงานร่วมกันกับผู้อื่น ฉันประสบความสำเร็จมากกว่าฉันทำงานคนเดียว											
19.	Cooperative learning can improve my attitude towards work. การเรียนรู้แบบร่วมมือสามารถพัฒนาทัศนคติของฉันต่อการเรียนให้ดีขึ้น											
20.	Cooperative learning wastes a lot of valuable teaching and learning time. การเรียนรู้แบบร่วมมือทำให้เสียเวลาอันมีค่าในการเรียนการสอน											
21.	I enjoy English lessons more when I work with other students. ฉันรู้สึกสนุกกับวิชาภาษาอังกฤษมากขึ้นเมื่อฉันทำงานร่วมกับเพื่อนคนอื่น ๆ											
22.	Cooperative learning activities are too difficult to follow. กิจกรรมการเรียนรู้แบบร่วมมือ ยากที่จะเข้าใจ											
23.	I prefer my English classrooms to be organised for cooperative learning activities. ฉันต้องการให้ชั้นเรียนภาษาอังกฤษมีการจัดกิจกรรมการเรียนรู้แบบร่วมมือ											
24.	My classroom is too small for cooperative learning activities. ห้องเรียนของฉัน มีขนาดเล็กเกินไปสำหรับการจัดกิจกรรมการเรียนรู้แบบร่วมมือ											
25.	My desk is <u>not</u> appropriate to be organised into a cooperative classroom environment. โต๊ะเรียนของฉันมีลักษณะ <u>ไม่</u> เหมาะสมสำหรับการจัดกิจกรรมการเรียนรู้แบบร่วมมือ											
26.	I am familiar with cooperative learning activities. ฉันคุ้นเคยกับการจัดกิจกรรมการเรียนรู้แบบร่วมมือ											
27.	I received sufficient assistance and feedback from my lecturer. ฉันได้รับความช่วยเหลือและข้อเสนอแนะที่เพียงพอจากอาจารย์ของฉัน											

No.	Statements	Strongly disagree					Strongly agree					
		0	1	2	3	4	5	6	7	8	9	10
28.	My team lacks teamwork skills. ทีมของฉันขาดทักษะการทำงานร่วมกัน											
29.	Students in my team do <u>not</u> share the same grade expectations. เพื่อนร่วมทีมของฉัน <u>ไม่</u> มีความคาดหวังเหมือนกันในเรื่องเกรด											
30.	I did <u>not</u> receive enough explanation/instruction on cooperative learning activities. ฉัน <u>ไม่</u> ได้รับการอธิบายและการชี้แจงคำสั่งอย่างชัดเจนเพียงพอต่อการทำกิจกรรมการเรียนรู้แบบร่วมมือ											
31.	Are there any other benefits or problems with cooperative learning? Please write down below. นักศึกษาพบว่าการเรียนรู้แบบร่วมมือมีประโยชน์หรือปัญหาใด ๆ อีกหรือไม่ กรุณาเขียนด้านล่าง											

## Part II: General Information

### ตอนที่ 2: ข้อมูลทั่วไปของผู้ตอบคำถาม

Instruction: Please tick or fill in the appropriate box or blank.

คำชี้แจง: กรุณาเลือกหรือเติมข้อความในช่องว่าง

- Gender เพศ: ☐ Male ชาย ☐ Female หญิง
- How many years have you been learning English?  
นักศึกษาเรียนภาษาอังกฤษมาแล้วเป็นจำนวนกี่ปี \_\_\_\_\_
- What is the type of your previous school before entering the university?  
โรงเรียนเดิมของนักศึกษา (ในระดับมัธยมปลาย) ก่อนเข้ามาเรียน ในมหาวิทยาลัยเป็นโรงเรียน  
ประเภทใด  
☐ Government school โรงเรียนรัฐบาล ☐ Private school โรงเรียนเอกชน

Do you have any other comments or further suggestions about cooperative learning more generally?

นักศึกษามีความคิดเห็นอื่น ๆ หรือข้อเสนอแนะเพิ่มเติมเกี่ยวกับการเรียนรู้แบบร่วมมือหรือไม่

----- ขอขอบคุณในความร่วมมือค่ะ -----

## Appendix 7: Teachers' attitudes towards cooperative learning questionnaire



Shaped by the past, creating the future

### Teachers' Attitudes Towards Cooperative Learning Questionnaire

This survey is a part of a research project conducted by Durham University Evidence Centre for Education, United Kingdom. The purpose of this questionnaire is to gather information about the attitudes towards cooperative learning (CL) environment of teachers of English, Faculty of Education, Rajabhat Universities, Thailand. The success of this study depends on the quality of the information you provide. Your response will be used only for research purposes and will be kept confidential. You will never be identified.

Thank you.

#### Part I: Information about teachers' attitudes towards cooperative learning

**Instruction:** With reference to your experience of cooperative learning (CL) in your "English Structure for Teacher of English" class. Please indicate your level of agreement with each the following statements on a scale from "strongly disagree" (0) to "strongly agree" (10). Put a tick in the appropriate box.

No.	Statements	Strongly disagree → Strongly agree										
		0	1	2	3	4	5	6	7	8	9	10
1.	CL helps students to learn English easier.											
2.	CL fosters a better relationship between teacher and students.											
3.	CL increases student participation/interaction in the learning process.											
4.	CL activities waste much valuable teaching and learning time.											
5.	CL method is complicated to apply in my English class.											
6.	CL increases students' English language achievement.											
7.	Students learn best when they work with others in pairs and groups.											
8.	Because of the English curriculum content that needs to be covered each term, it is difficult to apply CL in the classroom.											
9.	CL creates positive relationships among students in the EFL classroom.											
10.	Implementation of CL requires much time preparing and organising lessons.											
11.	I do <u>not</u> see CL as better than other teaching methods.											
12.	CL helps everyone reach their goals equally.											
13.	CL motivates the students in an EFL classroom.											
14.	I am <u>not</u> interested in applying CL in my classroom because I have limited knowledge of CL.											
15.	Classrooms with CL activities are hard to control.											
16.	Students have positive attitudes towards the course after CL is applied.											
17.	CL offers more opportunities to practice English language skills.											
18.	CL classroom is too noisy.											

No.	Statements	Strongly disagree—————→Strongly agree										
		0	1	2	3	4	5	6	7	8	9	10
19.	CL fosters students' social skills and interaction.											
20.	Because of the time required for the activities in CL, it is difficult to apply CL in the classroom.											
21.	Students become more active in the learning process when I apply CL in my English classroom.											
22.	I want to apply CL activities in my English classroom.											
23.	I need more training to be confident in applying CL in my English classroom.											
24.	I have limited resources, materials and technology to support the implementation of CL in my English classroom.											
25.	Because of my workload, it is difficult to apply CL in the classroom.											
26.	Students enjoy English lessons more when they work with other students.											
27.	I prefer teaching methods other than CL.											
28.	My classroom is too small for CL activities.											
29.	The students' desks are <u>not</u> appropriate to be organised into a cooperative classroom environment.											
30.	The large number of students in my classroom makes it difficult to apply CL.											
31.	Are there any other benefits or problems with cooperative learning? Please write down below.											

## Part II: General Information

Instruction: Please tick or fill in the appropriate box or blank.

- Gender: ☐ Male ☐ Female
- Age: \_\_\_\_\_
- How many years have you been teaching English? \_\_\_\_\_
- What is your highest level of education that you have completed?  
☐ Master's degree ☐ Doctoral degree ☐ Others (Please specify) \_\_\_\_\_
- What degree have you obtained?  
☐ Educational study ☐ Others (Please specify) \_\_\_\_\_
- What language do you generally use for teaching?  
☐ English ☐ Thai ☐ Others (Please specify) \_\_\_\_\_

Do you have any other comments or further suggestions about cooperative learning more generally?

----- Thank you for your kind cooperation -----

## Appendix 8: Questionnaire evaluation forms of each item

### Student Questionnaire Evaluation Form

Please rate ✓these following items according to your opinion.

Congruent = 1

Questionable = 0

Incongruent = -1

No.	Statements	Evaluation			Comment
		-1	0	1	
1.	I like working in cooperative learning team with my classmates. ฉันชอบการเรียนกับเพื่อนร่วมชั้นในทีมที่มีรูปแบบการเรียนแบบร่วมมือ				
2.	Cooperative learning makes the learning of the English course easier. การเรียนรู้แบบร่วมมือทำให้การเรียนวิชาภาษาอังกฤษง่ายขึ้น				
3.	Cooperative learning activities are boring. กิจกรรมการเรียนรู้แบบร่วมมือน่าเบื่อ				
4.	Cooperative learning helps me to increase my comprehension of the course content through working in a team. การเรียนรู้แบบร่วมมือช่วยให้ฉันเข้าใจเนื้อหาในวิชาได้มากขึ้นผ่านการทำงานร่วมกันในทีม				
5.	A cooperative learning classroom is too noisy. ห้องเรียนที่จัดการเรียนรู้แบบร่วมมือมีเสียงดัง				
6.	I feel actively involved in all activities through cooperative learning. ฉันรู้สึกมีส่วนร่วมในทุกกิจกรรมผ่านการเรียนรู้แบบร่วมมือ				
7.	Students learn best when they work with others in pairs and groups. นักศึกษาเรียนรู้ได้ดีที่สุดผ่านการทำงานกับผู้อื่นเป็นคู่ และเป็นกลุ่ม				
8.	I do <u>not</u> like it when people are depending on me in cooperative learning. ฉัน <u>ไม่</u> ชอบเมื่อผู้อื่นมาพึ่งพาฉันในการเรียนรู้แบบร่วมมือ				
9.	Cooperative learning creates positive relationship among team members. การเรียนรู้แบบร่วมมือช่วยสร้างความสัมพันธ์ที่ดีระหว่างสมาชิกในทีม				
10.	Trying to teach something to my team members in cooperative learning makes me tired. ฉันรู้สึกเหนื่อยเมื่อพยายามสอนบางสิ่งบางอย่างให้เพื่อนคนอื่นในทีม				
11.	I enjoy other methods of teaching more than cooperative learning. ฉันรู้สึกสนุกกับการเรียนด้วยวิธีการอื่น ๆ มากกว่าการเรียนรู้แบบร่วมมือ				
12.	Cooperative learning helps everyone reach their goals equally. การเรียนรู้แบบร่วมมือช่วยให้นักศึกษาทุกคนบรรลุถึงเป้าหมายอย่างเท่าเทียม				
13.	Cooperative learning motivates students in an EFL classroom. การเรียนรู้แบบร่วมมือกระตุ้นให้นักศึกษาในชั้นเรียนภาษาอังกฤษเป็นภาษาต่างประเทศ				
14.	Other methods of teaching offer better results. วิธีการสอนแบบอื่น ๆ ให้ผลลัพธ์ที่ดีกว่า				
15.	I do <u>not</u> want to work with my team members. ฉัน <u>ไม่</u> ต้องการทำงานร่วมกับเพื่อนในทีมของฉัน				

No.	Statements	Evaluation			Comment
		-1	0	1	
16.	I am satisfied that my lecturer applies cooperative learning in English course. ฉันพึงพอใจเมื่ออาจารย์ใช้การเรียนรู้แบบร่วมมือในวิชาภาษาอังกฤษ				
17.	Cooperative learning is <u>not</u> suitable for me. การเรียนรู้แบบร่วมมือไม่เหมาะสมกับฉัน				
18.	When I work together with others, I achieve more than when I work alone. เมื่อทำงานร่วมกันกับผู้อื่น ฉันประสบความสำเร็จมากกว่าฉันทำงานคนเดียว				
19.	Cooperative learning can improve my attitude towards work. การเรียนรู้แบบร่วมมือสามารถพัฒนาทัศนคติของฉันต่อการเรียนให้ดีขึ้น				
20.	Cooperative learning wastes a lot of valuable teaching and learning time. การเรียนรู้แบบร่วมมือทำให้เสียเวลาอันมีค่าในการเรียนการสอน				
21.	I enjoy English lessons more when I work with other students. ฉันรู้สึกสนุกกับวิชาภาษาอังกฤษมากขึ้นเมื่อฉันทำงานร่วมกับเพื่อนคนอื่น ๆ				
22.	Cooperative learning activities are too difficult to follow. กิจกรรมการเรียนรู้แบบร่วมมือ ยากที่จะเข้าใจ				
23.	I prefer my English classrooms to be organised for cooperative learning activities. ฉันต้องการให้ชั้นเรียนภาษาอังกฤษมีการจัดกิจกรรมการเรียนรู้แบบร่วมมือ				
24.	My classroom is too small for cooperative learning activities. ห้องเรียนของฉัน มีขนาดเล็กเกินไปสำหรับการจัดกิจกรรมการเรียนรู้แบบร่วมมือ				
25.	My desk is <u>not</u> appropriate to be organised into a cooperative classroom environment. โต๊ะเรียนของฉันมีลักษณะไม่เหมาะสมสำหรับการจัดกิจกรรมการเรียนรู้แบบร่วมมือ				
26.	I am familiar with cooperative learning activities. ฉันคุ้นเคยกับการจัดกิจกรรมการเรียนรู้แบบร่วมมือ				
27.	I received sufficient assistance/feedback from my lecturer. ฉันได้รับความช่วยเหลือและข้อเสนอแนะที่เพียงพอจากอาจารย์ของฉัน				
28.	My team lacks teamwork skills. ทีมของฉันขาดทักษะการทำงานร่วมกัน				
29.	Students in my team do <u>not</u> share the same grade expectations. เพื่อนร่วมทีมของฉัน ไม่มีความคาดหวังเหมือนกันในเรื่องเกรด				
30.	I did <u>not</u> receive enough explanation/instruction on cooperative learning activities. ฉันไม่ได้รับการอธิบายและการชี้แจงคำสั่งอย่างชัดเจนเพียงพอต่อการทำกิจกรรมการเรียนรู้แบบร่วมมือ				
31.	Are there any other benefits or problems with cooperative learning? นักศึกษาพบว่าการเรียนรู้แบบร่วมมือมีประโยชน์หรือปัญหาใด ๆ อีกหรือไม่				

### Teacher Questionnaire Evaluation Form

Please rate ✓these following items according to your opinion.

Congruent = 1

Questionable = 0

Incongruent = -1

No.	Statements	Evaluation			Comment
		-1	0	1	
1.	CL helps students to learn English easier.				
2.	CL offers a better relationship between teacher and students.				
3.	CL increases student participation/interaction in the learning process.				
4.	CL activities waste much valuable teaching and learning time.				
5.	CL method is complicated to apply in my English class.				
6.	CL increases students' English language achievement.				
7.	Students learn best when they work with others in pairs and groups.				
8.	Because of the English curriculum content that needs to be covered each term, it is difficult to apply CL in the classroom.				
9.	CL creates positive relationships among students in the EFL classroom.				
10.	Implementation of CL requires much time preparing and organising lessons.				
11.	I do <u>not</u> see CL as better than other teaching methods.				
12.	CL helps everyone reach their goals equally.				
13.	CL motivates the students in an EFL classroom.				
14.	I am <u>not</u> interested in applying CL in my classroom because I have limited knowledge of CL.				
15.	Classrooms with CL activities are hard to control.				
16.	Students have positive attitudes towards the course after CL is applied.				
17.	CL offers more opportunities to practice English language skills.				
18.	CL classroom is too noisy.				
19.	CL fosters students' social skills and interaction.				

No.	Statements	Evaluation			Comment
		-1	0	1	
20.	Because of the time required for the activities in CL, it is difficult to apply CL in the classroom.				
21.	Students become more active in the learning process when I apply CL in my English classroom.				
22.	I want to apply CL activities in my English classroom.				
23.	I need more training to be confident in applying CL in my English classroom.				
24.	I have limited resources, materials and technology to support the implementation of CL in my English classroom.				
25.	Because of my workload, it is difficult to apply CL in the classroom.				
26.	Students enjoy English lessons more when they work with other students.				
27.	I prefer teaching methods other than CL.				
28.	My classroom is too small for CL activities.				
29.	The students' desks are <u>not</u> appropriate to be organised into a cooperative classroom environment.				
30.	The large number of students in my classroom makes it difficult to apply CL.				
31.	Are there any other benefits or problems with cooperative learning?				



## Appendix 9: Overall questionnaire evaluation forms

### Student Questionnaire Evaluation Form

Please rate / these following items according to your opinion.

Congruent = 1

Questionable = 0

Incongruent = -1

Statements	Evaluation			Comment
	1	0	-1	
<b>1. Questionnaire layout and design</b>				
1.1 The layout and design for questionnaire is appropriate and clear.				
1.2 The layout and design for questionnaire is organized effectively.				
1.3 The appropriateness of scales of measurement.				
1.4 The appropriateness of question ordering.				
1.5 The appropriateness of font and size.				
<b>2. Questionnaire content</b>				
2.1 The content relates to knowledge expected from students.				
2.2 The content is clear and comprehensible.				
2.3 The questions ask what is intended to ask?				
2.4 All questions that should have asked are included?				
2.5 The content of Thai version questionnaire is parallel with the English version?				
<b>3. Purpose</b>				
3.1 The questionnaire is comprehensive enough to collect all the information needed to address the purpose of the study.				

Other suggestions:

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### Teacher Questionnaire Evaluation Form

Please rate / these following items according to your opinion.

Congruent = 1

Questionable = 0

Incongruent = -1

Statements	Evaluation			Comment
	1	0	-1	
<b>1. Questionnaire layout and design</b>				
1.1 The layout and design for questionnaire is appropriate and clear.				
1.2 The layout and design for questionnaire is organized effectively.				
1.3 The appropriateness of scales of measurement.				
1.4 The appropriateness of question ordering.				
1.5 The appropriateness of font and size.				
<b>2. Questionnaire content</b>				
2.1 The content relates to knowledge expected from teachers.				
2.2 The content is clear and comprehensible.				
2.3 The questions ask what is intended to ask?				
2.4 All questions that should have asked are included?				
<b>3. Purpose</b>				
3.1 The questionnaire is comprehensive enough to collect all the information needed to address the purpose of the study.				

Other suggestions:

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## Appendix 10: The Item-Object Congruence Index (IOC) Results

### The IOC result of each item in students' attitudes questionnaire

No.	Statements	Experts			Total	Meaning	Comment
		A	B	C			
1.	I like working in cooperative learning team with my classmates. ฉันชอบการเรียนรู้กับเพื่อนร่วมชั้นในทีมที่มีรูปแบบการเรียนรู้แบบร่วมมือ	1	1	1	+1	Reserved	
2.	Cooperative learning makes the learning of the English course easier. การเรียนรู้แบบร่วมมือทำให้การเรียนรู้วิชาภาษาอังกฤษง่ายขึ้น	1	1	1	+1	Reserved	
3.	Cooperative learning activities are boring. กิจกรรมการเรียนรู้แบบร่วมมือน่าเบื่อ	1	1	1	+1	Reserved	
4.	Cooperative learning helps me to increase my comprehension of the course content through working in a team. การเรียนรู้แบบร่วมมือช่วยให้ฉันเข้าใจเนื้อหาในวิชาได้มากขึ้นผ่านการทำงานร่วมกันในทีม	1	1	1	+1	Reserved	
5.	A Cooperative learning classroom is too noisy. ห้องเรียนที่จัดการเรียนรู้แบบร่วมมือมีเสียงดัง	1	1	1	+1	Reserved	
6.	I feel actively involved in all activities through cooperative learning. ฉันรู้สึกมีส่วนร่วมในทุกกิจกรรมผ่านการเรียนรู้แบบร่วมมือ	1	1	1	+1	Reserved	
7.	Students learn best when they work with others in pairs and groups. นักศึกษาเรียนรู้ได้ดีที่สุดผ่านการทำงานกับผู้อื่นเป็นคู่ และเป็นกลุ่ม	1	0	1	0.67	Reserved	B - 'Students' mean the respondent or all students in a class.
8.	I do <u>not</u> like when people are depending on me in cooperative learning. ฉันไม่ชอบเมื่อผู้อื่นมาพึ่งพาฉันในการเรียนรู้แบบร่วมมือ	1	1	1	+1	Reserved	
9.	Cooperative learning creates positive relationship among team members. การเรียนรู้แบบร่วมมือช่วยสร้างความสัมพันธ์ที่ดีระหว่างสมาชิกในทีม	1	1	1	+1	Reserved	

No.	Statements	Experts			Total	Meaning	Comment
		A	B	C			
10.	Trying to teach something to my team members in cooperative learning makes me tired. ฉันรู้สึกเหนื่อยเมื่อพยายามสอนบางสิ่งบางอย่างให้เพื่อนคนอื่นในทีม	1	1	1	+1	Reserved	
11.	I enjoy other methods of teaching more than cooperative learning. ฉันรู้สึกสนุกกับการเรียนด้วยวิธีการอื่น ๆ มากกว่าการเรียนรู้แบบร่วมมือ	1	0	1	0.67	Reserved	B - Not sure whether students know other methods or can identify other teaching methods.
12.	Cooperative learning helps everyone reach their goals equally. การเรียนรู้แบบร่วมมือช่วยให้นักศึกษาทุกคนบรรลุถึงเป้าหมายอย่างเท่าเทียม	1	0	1	0.67	Reserved	Goals mean Grade or else?
13.	Cooperative learning motivates students in an EFL classroom. การเรียนรู้แบบร่วมมือกระตุ้นให้นักศึกษาในชั้นเรียนภาษาอังกฤษเป็นภาษาต่างประเทศ	1	0	1	0.67	Reserved	It seems like item No.2.
14.	Other methods of teaching offer better results. วิธีการสอนแบบอื่น ๆ ให้ผลลัพธ์ที่ดีกว่า	1	0	1	0.67	Reserved	Not sure whether students know other methods or can compare different teaching styles and assessment.
15.	I do <u>not</u> want to work with my team members. ฉันไม่ต้องการทำงานร่วมกับเพื่อนในทีมของฉัน	1	1	1	+1	Reserved	
16.	I am satisfied that my lecturer applies cooperative learning in English course. ฉันพึงพอใจเมื่ออาจารย์ใช้การเรียนรู้แบบร่วมมือในวิชาภาษาอังกฤษ	1	1	1	+1	Reserved	
17.	Cooperative learning is <u>not</u> suitable for me. การเรียนรู้แบบร่วมมือไม่เหมาะสมกับฉัน	1	1	1	+1	Reserved	
18.	When I work together with others, I achieve more than when I work alone.	1	1	1	+1	Reserved	

No.	Statements	Experts			Total	Meaning	Comment
		A	B	C			
	เมื่อทำงานร่วมกันกับผู้อื่น ฉันประสบความสำเร็จมากกว่าฉันทำงานคนเดียว						
19.	Cooperative learning can improve my attitude towards work. การเรียนรู้แบบร่วมมือสามารถพัฒนาทัศนคติของฉันต่อการเรียนให้ดีขึ้น	1	0	1	0.67	Reserved	It seems like item No.21. (Wordings in 21 might be better)
20.	Cooperative learning wastes a lot of valuable teaching and learning time. การเรียนรู้แบบร่วมมือทำให้เสียเวลาอันมีค่าในการเรียนการสอน	1	1	1	+1	Reserved	
21.	I enjoy English lessons more when I work with other students. ฉันรู้สึกสนุกกับวิชาภาษาอังกฤษมากขึ้นเมื่อฉันทำงานร่วมกับเพื่อนคนอื่น ๆ	1	1	1	+1	Reserved	
22.	Cooperative learning activities are too difficult to follow. กิจกรรมการเรียนรู้แบบร่วมมือ ยากที่จะเข้าใจ	1	1	1	+1	Reserved	
23.	I prefer my English classrooms to be organised for cooperative learning activities. ฉันต้องการให้ชั้นเรียนภาษาอังกฤษมีการจัดกิจกรรมการเรียนรู้แบบร่วมมือ	1	1	1	+1	Reserved	
24.	My classroom is too small for cooperative learning activities. ห้องเรียนของฉัน มีขนาดเล็กเกินไปสำหรับการจัดกิจกรรมการเรียนรู้แบบร่วมมือ	1	1	1	+1	Reserved	
25.	My desk is <u>not</u> appropriate to be organised into a cooperative classroom environment. โต๊ะเรียนของฉันมีลักษณะ <u>ไม่</u> เหมาะสมสำหรับการจัดกิจกรรมการเรียนรู้แบบร่วมมือ	1	1	1	+1	Reserved	
26.	I am familiar with cooperative learning activities. ฉันคุ้นเคยกับการจัดกิจกรรมการเรียนรู้แบบร่วมมือ	1	1	1	+1	Reserved	
27.	I received sufficient assistance/feedback from my lecturer. ฉันได้รับความช่วยเหลือและข้อเสนอแนะที่เพียงพอจากอาจารย์ของฉัน	1	1	1	+1	Reserved	
28.	My team lacks teamwork skills. ทีมของฉันขาดทักษะการทำงานร่วมกัน	1	1	1	+1	Reserved	
29.	Students in my team do <u>not</u> share the same grade expectations.	1	1	1	+1	Reserved	

No.	Statements	Experts			Total	Meaning	Comment
		A	B	C			
	เพื่อนร่วมทีมของฉัน ไม่มีความคาดหวังเหมือนกันในเรื่องเกรด						
30.	I did <u>not</u> receive enough explanation/instruction on cooperative learning activities. ฉันไม่ได้รับการอธิบายและการชี้แจงคำสั่งอย่างชัดเจนเพียงพอต่อการทำกิจกรรมการเรียนรู้แบบร่วมมือ	1	0	1	0.67	Reserved	May duplicate item No.27
31.	Are there any other benefits or problems with cooperative learning? นักศึกษาพบว่าการเรียนรู้แบบร่วมมือมีประโยชน์หรือปัญหาใด ๆ อีกหรือไม่	1	1	1	+1	Reserved	

#### The IOC result of overall evaluation of students' attitudes questionnaire

Statements	Experts			Total	Meaning	Comment
	A	B	C			
1. Questionnaire layout and design						
1.1 The layout and design for questionnaire is appropriate and clear.	1	1	1	+1	Reserved	
1.2 The layout and design for questionnaire is organized effectively.	1	1	0	0.67	Reserved	C - General information should come before attitude scales
1.3 The appropriateness of scales of measurement.	0	1	1	0.67	Reserved	A - Are the scales of 0-10 too detailed?
1.4 The appropriateness of question ordering.	1	1	1	+1	Reserved	
1.5 The appropriateness of font and size.	1	1	1	+1	Reserved	
2. Questionnaire content						
2.1 The content relates to knowledge expected from teachers.	1	1	1	+1	Reserved	

Statements	Experts			Total	Meaning	Comment
	A	B	C			
2.2 The content is clear and comprehensible.	1	1	1	+1	Reserved	
2.3 The questions ask what is intended to ask?	1	1	1	+1	Reserved	B - Some questions may have similar and related content and meaning, the research may delete or adjust as mentioned.
2.4 All questions that should have asked are included?	1	1	1	+1	Reserved	
2.5 The content of Thai version questionnaire is parallel with the English version?	1	1	1	+1	Reserved	
<b>3. Purpose</b>						
3.1 The questionnaire is comprehensive enough to collect all the information needed to address the purpose and goals of the study.	1	1	1	+1	Reserved	

**The IOC result of each item in the teachers' attitudes questionnaire**

No.	Statements	Experts			Total	Meaning	Comment
		A	B	C			
1.	Cooperative learning (CL) helps students to learn English easier.	1	1	1	+1	Reserved	
2.	CL offers a better relationship between teacher and students.	1	1	1	+1	Reserved	
3.	CL increases student participation / interaction in the learning process.	1	1	1	+1	Reserved	
4.	CL activities waste much valuable teaching and learning time.	1	1	1	+1	Reserved	
5.	CL method is complicated to apply in my English class.	1	1	1	+1	Reserved	
6.	CL increases student English language achievement.	1	1	1	+1	Reserved	
7.	Students learn best when they work with others in pairs and groups.	1	1	1	+1	Reserved	
8.	Because of English curriculum content that needs to be covered each term, it is difficult to apply CL in the classroom.	1	1	1	+1	Reserved	
9.	CL creates positive relationships among students in EFL classroom.	1	1	1	+1	Reserved	
10.	Implementation of CL requires much time preparing and organising.	1	1	1	+1	Reserved	
11.	I do <u>not</u> see CL as better than other teaching methods.	1	1	1	+1	Reserved	
12.	CL helps everyone reach their goals equally.	1	1	1	+1	Reserved	
13.	CL motivates the students in an EFL classroom.	1	1	1	+1	Reserved	
14.	I am <u>not</u> interested in applying CL in my classroom because I have limited knowledge of CL.	1	1	1	+1	Reserved	
15.	Classrooms with CL activities are hard to control.	1	1	1	+1	Reserved	
16.	Students have positive attitudes towards the course after CL is applied.	1	1	1	+1	Reserved	
17.	CL offers more opportunities to practice English language skills.	1	1	1	+1	Reserved	



No.	Statements	Experts			Total	Meaning	Comment
		A	B	C			
18.	A cooperative learning classroom is too noisy.	1	1	1	+1	Reserved	
19.	CL fosters students' social skills and interaction.	1	1	1	+1	Reserved	
20.	Because of the time required for the activities in CL, it is difficult to apply CL in the classroom.	1	1	1	+1	Reserved	
21.	Students become more active in the learning process when I apply CL in my English classroom.	1	1	1	+1	Reserved	
22.	I want to apply CL activities in my English classroom.	1	1	1	+1	Reserved	
23.	I need more training before I am confident to apply CL in my English classroom.	1	1	1	+1	Reserved	
24.	I have limited resources, materials and technology to support the implementation of CL in my English classroom.	1	1	1	+1	Reserved	
25.	Because of my workload, it is difficult to apply CL in the classroom.	1	1	1	+1	Reserved	
26.	Students enjoy English lessons more when they work with other students.	1	1	1	+1	Reserved	
27.	I prefer teaching methods other than CL.	1	1	1	+1	Reserved	
28.	My classroom is too small for cooperative learning activities.	1	1	1	+1	Reserved	
29.	The students' desks are <u>not</u> appropriate to be organised into a cooperative classroom environment.	1	1	1	+1	Reserved	
30.	The large number of students in my classroom makes it difficult to apply CL.	1	1	1	+1	Reserved	
31.	Are there any other benefits or problems with cooperative learning?	1	1	1	+1	Reserved	

**The IOC result of overall evaluation of teachers' attitudes questionnaire**

Statements	Experts			Total	Meaning	Comment
	A	B	C			
1. Questionnaire layout and design						
1.1 The layout and design for questionnaire is appropriate and clear.	1	1	1	+1	Reserved	
1.2 The layout and design for questionnaire is organized effectively.	1	1	0	0.67	Reserved	C - General information should come before attitude scales
1.3 The appropriateness of scales of measurement.	0	1	1	0.67	Reserved	A - Are the scales of 0-10 too detailed?
1.4 The appropriateness of question ordering.	1	1	1	+1	Reserved	
1.5 The appropriateness of font and size.	1	1	1	+1	Reserved	
2. Questionnaire content						
2.1 The content relates to knowledge expected from teachers.	1	1	1	+1	Reserved	
2.2 The content is clear and comprehensible.	1	1	1	+1	Reserved	
2.3 The questions ask what is intended to ask?	1	1	1	+1	Reserved	B - Some questions may have similar and related content and meaning, the research may delete or adjust as mentioned.
2.4 All questions that should have asked are included?	1	1	1	+1	Reserved	
3. Purpose						

Statements	Experts			Total	Meaning	Comment
	A	B	C			
3.1 The questionnaire is comprehensive enough to collect all the information needed to address the purpose and goals of the study.	1	1	1	+1	Reserved	

## Appendix 11: Ethics Approval

### Ethical Approval: EDU-2019-03-13T13:33:43-sxcg74



Ethics <no-reply@sharepointonline.com>

Thu 3/21/2019 11:53 PM



To: CHANTARASIRI, PHANATDAO

Cc: ED-ETHICS E.D.; GORARD, STEPHEN A.C.

Please do not reply to this email.

Dear Phanatdao chantarasiri,

The following project has received ethical approval:

Project Title: *Model of Cooperative Learning to Enhance Student Teachers' Achievement in EFL Classroom in Thailand;*

Start Date: *03 June 2019;*

End Date: *18 October 2019;*

Reference: *EDU-2019-03-13T13:33:43-sxcg74*

Date of ethical approval: *22 March 2019.*

Please be aware that if you make any significant changes to the design, duration or delivery of your project, you should contact [ed.ethics@durham.ac.uk](mailto:ed.ethics@durham.ac.uk) for advice, as further consideration and approval may then be required.

If you have any queries regarding this approval or need anything further, please contact [ed.ethics@durham.ac.uk](mailto:ed.ethics@durham.ac.uk)

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If you have any queries relating to the ethical review process, please contact your supervisor (where applicable) or departmental ethics representative in the first instance. If you have any queries relating to the online system, please contact [research.policy@durham.ac.uk](mailto:research.policy@durham.ac.uk).

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## Appendix 12: Participant information sheet



Shaped by the past, creating the future

### Participant Information Sheet

You are invited to take part in a study of ***“Model of Cooperative Learning to Enhance Pre-service Teachers’ Achievement in Tertiary EFL Classrooms in Thailand”***

Please read this form carefully and ask any questions you may have before agreeing to be in the study.

The study is conducted by Miss Phanatdao Chantarasiri as part of her postgraduate studies at Durham University.

\*This research project is supervised by Professor Stephen Gorard (Email: [s.a.c.gorard@durham.ac.uk](mailto:s.a.c.gorard@durham.ac.uk)), and Associate Professor Beng Huat See (Email: [b.h.see@durham.ac.uk](mailto:b.h.see@durham.ac.uk)) from the School of Education at Durham University.

### Research Purpose

The purpose of this project is to examine the effectiveness of cooperative learning model implementing in Thai university EFL classroom to enhance student teachers’ achievement in the English language.

### Timeline

Data collection process of this project will start in May 2020 and end in November 2020.

### Research Participants

The participating teacher who is responsible for the module, English Structure for Teachers of English. The students participating in this study are first-year pre-service teachers who are majoring in English from Faculty of Education, Rajabhat University in Thailand, academic year 1/2020.

### Data Collection Procedure

The students who assent to be part of study will be assigned to experiment class which will be exposed to cooperative learning model. Students will be allocated to mixed-ability learning team of 4-5 members according to their pre-test score and will experience regular cycle of instructional activities: teach, team study, quiz, score announcement. With this model, students will be engaging in team learning and working together to achieve shared goals and complete tasks. The primary goal is everyone in this structured group is responsible for his/her own learning and also helps, motivates and encourages other group members to learn. The duration of the study will be one semester of academic year 2020.

### Offers of Anonymity

I, as the researcher, will make every attempt to anonymise the participants' data during the data collection and analysis stages. When discussing the data analysis with the researcher's supervisors, they will only see anonymised excerpts of data. In addition, during the reporting and dissemination of the findings, great care will be taken to ensure that the names of the participants and their sites are completely anonymised, and that their assigned aliases and any quotes or excerpts from the collected data will not be able to be attributed to any of them.

In any research report that may be published, no information will be included that will make it possible to identify you individually. There will be no way to connect your name to your responses at any time during or after the study.

#### **Offers of Confidentiality**

I, as the researcher, will make every attempt to promote the confidentiality by three following methods. First, I will conduct thorough anonymization of the data during the data collection and data analysis stages and ensure that any reports or disseminations generated from the project will not be able to attributed to the participants and their sites. Second, all responses you give or other data collected will be kept confidential and secure with password protection only accessible by the researcher. Third, hand-written materials will be kept secure in a locked cabinet only accessible by the researcher.

#### **Rights as Research Participants**

As the research participants, they have the rights on the four issues: the right to their own safety, the right as voluntary research participants to withdraw from the study at any time prior to analysis without proving a reason, the right to seek independent advice and guidance should any problems arise throughout the research process, and the right to complain if they have any concerns about the research process.

#### **Ethics Committee Review**

The project has been reviewed and approved by the School of Education Ethics Sub-Committee at Durham University.

#### **Uses of the Project's Results**

The findings of this project will be reported in the researcher's thesis. They may also be presented in academic journals or at conferences.

If you have any questions, requests or concerns regarding this research, please contact me via email at [phanatdao.chantarasiri@durham.ac.uk](mailto:phanatdao.chantarasiri@durham.ac.uk) / [phanatdao.design@gmail.com](mailto:phanatdao.design@gmail.com) or by telephone at +447549440375, +66616542495.

Thank you for reading this information.

Leazes Road  
Durham City, DH1 1TA  
Telephone +44 (0)191 334 2000 Fax +44 (0)191 334 8311  
[www.durham.ac.uk](http://www.durham.ac.uk)  
Durham University is the trading name of the University of Durham

## Appendix 13: Participant consent form



Shaped by the past, creating the future

### **Model of Cooperative Learning to Enhance Pre-service Teachers' Achievement in EFL Classrooms in Thailand.**

#### **Declaration of Informed Consent**

- I agree to participate in this project, the purpose of which is to examine the effectiveness of cooperative learning model implementing in Thai university EFL classroom to enhance pre-service teachers' achievement in the English language.
- I have read the participant information sheet and understand the information provided.
- I have been informed that I may decline to participate and answer any questions or withdraw from the study without penalty of any kind.
- I have been informed that all of my responses will be kept confidential and secure, and that I will not be identified in any report or other publication resulting from this research.
- I have been informed that the investigator will answer any questions regarding the study and its procedures. Miss. Phanatdao Chantarasiri, School of Education, Durham University can be contacted via email: [phanatdao.chantarasiri@durham.ac.uk](mailto:phanatdao.chantarasiri@durham.ac.uk) / [phanatdao.design@gmail.com](mailto:phanatdao.design@gmail.com) or telephone: +447549440375, +66616542495
- I will be provided with a copy of this form for my own records.

Any concerns about this study should be addressed to the School of Education Ethics Sub-Committee, Durham University via email to [ed.ethics@durham.ac.uk](mailto:ed.ethics@durham.ac.uk).

---

Date	Participant Name (please print)	Participant Signature
------	---------------------------------	-----------------------

I certify that I have presented the above information to the participant and secured his or her consent.

---

Date	Signature of Investigator
------	---------------------------

Leazes Road  
Durham City, DH1 1TA  
Telephone +44 (0)191 334 2000 Fax +44 (0)191 334 8311  
[www.durham.ac.uk](http://www.durham.ac.uk)  
Durham University is the trading name of the University of Durham

## **Appendix 14: Interview Questions**

### **For students**

1. Did you participate in the cooperative learning lessons?
2. Did you do all the activities in the course?
3. Are you familiar with cooperative learning activities?
4. How do you rate yourself as a participant in group activities on a scale of 1 to 5?
5. Did you make a contribution to the group?
6. How comfortable were you with cooperative learning lessons on a scale of 1 to 5?
7. Did you feel comfortable in expressing your opinions/ideas?
8. What do you think of this cooperative learning method you have experienced this term?
9. Does this cooperative learning method help you improve your English language learning? Why/ How?
10. What do you like most about this cooperative learning method?
11. What do you like least about this cooperative learning method?
12. Which part of the lesson is effective for your English language learning?
13. Would you like to take more English lessons that use cooperative learning method? Why or why not?
14. What suggestions or changes would you like to comment on this cooperative learning method?

### **For instructors**

1. Did you deliver the cooperative learning lessons?
2. Are you familiar with cooperative learning lessons?
3. What do you think of this cooperative learning method you have applied it to your English classes this term?
4. What do you like most about this cooperative learning method?
5. What do you like least about this cooperative learning method?
6. Which part of the method is difficult or complicated to be implemented?
7. Does this cooperative learning method help your students improve their English language learning? Why/ How?
8. What do you think about classroom management under the cooperative learning environment?
9. Would you like to apply more cooperative learning method? Why or why not?



10. What suggestions or changes would you like to comment to this cooperative learning method?

## Appendix 15: Correlation of each item on students' attitudes questionnaire

Correlation of questionnaire items 1-15

	Item1	Item2	Item3	Item4	Item5	Item6	Item7	Item8	Item9	Item10	Item11	Item12	Item13	Item14	Item15
Item1	1	0.68	-0.38	0.59	0	0.55	0.42	-0.05	0.38	-0.10	-0.29	0.23	0.29	-0.28	-0.32
Item2	0.68	1	-0.41	0.65	-0.09	0.57	0.47	-0.06	0.32	-0.11	-0.23	-0.36	0.39	-0.27	-0.29
Item3	-0.38	-0.41	1	-0.37	0.33	-0.35	-0.29	0.24	-0.29	0.34	0.39	-0.26	-0.23	0.39	0.38
Item4	0.59	0.65	-0.37	1	-0.10	0.58	0.51	-0.13	0.38	-0.09	-0.34	0.43	0.51	-0.34	-0.35
Item5	0.00	-0.09	-0.33	-0.10	1	-0.09	-0.12	0.17	0	0.33	0.08	-0.18	-0.21	0.18	0.20
Item6	0.55	0.57	-0.35	0.53	-0.09	1	0.50	-0.07	0.36	-0.15	-0.19	0.34	0.47	-0.29	-0.19
Item7	0.42	0.47	-0.29	0.51	-0.12	0.50	1	-0.11	0.30	-0.09	-0.25	0.42	0.45	-0.26	-0.17
Item8	-0.05	-0.06	0.24	-0.13	0.17	-0.07	-0.11	1	-0.20	0.40	0.25	-0.16	-0.07	0.27	0.32
Item9	0.38	0.32	-0.29	0.38	0	0.36	0.30	-0.20	1	-0.28	-0.32	0.27	0.35	-0.24	-0.46
Item10	-0.10	-0.11	0.34	-0.09	0.33	-0.15	-0.09	0.40	-0.28	1	0.25	-0.16	-0.19	0.37	0.46
Item11	-0.29	-0.23	0.39	-0.34	0.08	-0.19	-0.25	0.25	-0.32	0.25	1	-0.17	-0.26	0.46	0.34
Item12	0.23	0.36	-0.26	0.43	-0.18	0.34	0.42	-0.16	0.27	-0.16	-0.17	1	0.61	-0.28	-0.22
Item13	0.29	0.39	-0.23	0.51	-0.21	0.47	0.45	-0.07	0.35	-0.19	-0.26	0.61	1	-0.31	-0.20
Item14	-0.28	-0.27	0.39	-0.34	0.18	-0.29	-0.26	0.27	-0.24	0.37	0.46	-0.28	-0.31	1	0.34
Item15	-0.32	-0.29	0.38	-0.35	0.20	-0.19	-0.17	0.32	-0.46	0.46	0.34	-0.22	-0.20	0.34	1
Item16	0.38	0.45	-0.43	0.51	-0.33	0.49	0.41	-0.24	0.28	-0.25	-0.36	0.40	0.49	-0.34	-0.27
Item17	-0.38	-0.34	0.46	-0.41	0.20	-0.31	-0.34	0.20	-0.31	0.29	0.40	-0.28	-0.31	0.42	0.50
Item18	0.33	0.36	-0.27	0.32	-0.17	0.30	0.46	-0.18	0.21	-0.18	-0.21	0.39	0.31	-0.23	-0.24
Item19	0.34	0.45	-0.41	0.49	-0.26	0.47	0.46	-0.14	0.34	-0.26	-0.23	0.46	0.52	-0.26	-0.30
Item20	-0.26	-0.30	0.38	-0.32	0.17	-0.24	-0.29	0.30	-0.23	0.38	0.29	-0.23	-0.28	0.33	0.30
Item21	0.43	0.56	-0.38	0.56	-0.18	0.53	0.47	-0.15	0.37	-0.21	-0.33	0.43	0.51	-0.39	-0.31
Item22	-0.17	-0.22	0.33	-0.22	0.22	-0.21	-0.24	0.30	-0.20	0.41	0.29	-0.27	-0.23	0.39	0.43
Item23	0.51	0.50	-0.39	0.54	-0.19	0.43	0.46	-0.08	0.30	-0.13	-0.32	0.42	0.48	-0.35	-0.31
Item24	0.02	-0.06	0.15	-0.01	0.26	-0.06	-0.06	0.07	0.06	0.17	0.03	-0.03	-0.04	0.12	-0.02
Item25	-0.03	-0.11	0.13	-0.12	0.19	-0.08	-0.07	0.01	-0.07	0.15	0.11	-0.04	-0.09	0.16	0.20
Item26	0.34	0.31	-0.35	0.41	-0.14	0.31	0.37	-0.03	0.22	-0.13	-0.25	0.37	0.39	-0.19	-0.27
Item27	0.25	0.26	-0.26	0.39	-0.11	0.35	0.29	-0.09	0.28	-0.00	-0.20	0.35	0.42	-0.17	-0.12
Item28	-0.19	-0.19	0.27	-0.29	0.20	-0.26	-0.18	0.30	-0.35	0.35	0.23	-0.21	-0.29	0.32	0.51
Item29	-0.01	-0.03	0.18	-0.16	0.15	-0.03	-0.19	0.16	-0.15	0.25	0.15	-0.00	-0.03	0.14	0.18
Item30	-0.16	-0.16	0.36	-0.26	0.11	-0.29	-0.26	0.25	-0.27	0.25	0.31	-0.18	-0.28	0.30	0.33

# Correlation of questionnaire items 16-30

	Item16	Item17	Item18	Item19	Item20	Item21	Item22	Item23	Item24	Item25	Item26	Item27	Item28	Item29	Item30
Item1	0.38	-0.38	0.33	0.34	-0.26	0.43	-0.17	0.51	0.02	-0.03	0.34	0.25	-0.19	-0.01	-0.16
Item2	0.45	-0.34	0.36	0.45	-0.30	0.56	-0.22	0.50	-0.06	-0.11	0.31	0.26	-0.19	-0.03	-0.16
Item3	-0.43	0.46	-0.27	-0.41	0.38	-0.38	0.33	-0.39	0.15	0.13	-0.35	-0.26	0.27	0.18	0.36
Item4	0.51	-0.41	0.32	0.49	-0.32	0.56	-0.22	0.54	-0.01	-0.12	0.41	0.39	-0.29	-0.16	-0.26
Item5	-0.33	0.20	-0.17	-0.26	0.17	-0.18	0.22	-0.19	0.26	0.19	-0.14	-0.11	0.20	0.15	0.11
Item6	0.49	-0.31	0.30	0.47	-0.24	0.53	-0.21	0.43	-0.06	-0.08	0.31	0.35	-0.26	-0.03	-0.29
Item7	0.41	-0.34	0.46	0.46	-0.29	0.47	-0.24	0.46	-0.06	-0.07	0.37	0.29	-0.18	-0.19	-0.26
Item8	-0.24	0.20	-0.18	-0.14	0.30	-0.15	0.30	-0.08	0.07	0.01	-0.03	-0.09	0.30	0.16	0.25
Item9	0.28	-0.31	0.21	0.34	-0.23	0.37	-0.20	0.30	0.06	-0.07	0.22	0.28	-0.35	-0.15	-0.27
Item10	-0.25	0.29	-0.18	-0.26	0.38	-0.21	0.41	-0.13	0.17	0.15	-0.13	-0.00	0.35	0.25	0.25
Item11	-0.36	0.40	-0.21	-0.23	0.29	-0.33	0.29	-0.32	0.03	0.11	-0.25	-0.20	0.23	0.15	0.31
Item12	0.40	-0.28	0.39	0.46	-0.23	0.43	-0.27	0.42	-0.03	-0.04	0.37	0.35	-0.21	-0.00	-0.18
Item13	0.49	-0.31	0.31	0.52	-0.28	0.51	-0.23	0.48	-0.04	-0.09	0.39	0.42	-0.29	-0.03	-0.28
Item14	-0.34	0.42	-0.23	-0.26	0.33	-0.39	0.39	-0.35	0.12	0.16	-0.19	-0.17	0.32	0.14	0.30
Item15	-0.27	0.50	-0.24	-0.30	0.30	-0.31	0.43	-0.31	-0.02	0.20	-0.27	-0.12	0.51	0.18	0.33
Item16	1	-0.38	0.41	0.56	-0.35	0.58	-0.27	0.53	-0.17	-0.14	0.34	0.39	-0.28	-0.15	-0.33
Item17	-0.38	1	-0.29	-0.37	0.36	-0.51	0.43	-0.40	0.01	0.15	-0.40	-0.19	0.37	0.23	0.33
Item18	0.41	-0.29	1	0.52	-0.27	0.47	-0.24	0.43	-0.04	0.02	0.34	0.25	-0.20	0.04	-0.14
Item19	0.56	-0.37	0.52	1	-0.46	0.63	-0.32	0.55	-0.04	-0.08	0.40	0.37	-0.32	-0.11	-0.14
Item20	-0.35	0.36	-0.27	-0.46	1	-0.43	0.49	-0.38	0.16	0.04	-0.23	-0.14	0.25	0.12	0.24
Item21	0.58	-0.51	0.47	0.63	-0.43	1	-0.30	0.64	0.02	-0.07	0.39	0.31	-0.34	-0.16	-0.26
Item22	-0.27	0.43	-0.24	-0.32	0.49	-0.30	1	-0.30	0.17	0.14	-0.18	-0.20	0.41	0.15	0.34
Item23	0.53	-0.40	0.43	0.55	-0.38	0.64	-0.30	1	-0.01	-0.06	0.48	0.33	-0.28	-0.05	-0.20
Item24	-0.17	0.01	-0.04	-0.04	0.16	0.02	0.17	-0.01	1	0.50	0.02	-0.04	0.07	0.13	0.15
Item25	-0.14	0.15	0.02	-0.08	0.04	-0.07	0.14	-0.06	0.50	1	0.03	-0.03	0.24	0.17	0.18
Item26	0.34	-0.40	0.34	0.40	-0.23	0.39	-0.18	0.48	0.02	0.03	1	0.37	-0.26	-0.06	-0.18
Item27	0.39	-0.19	0.25	0.37	-0.14	0.31	-0.20	0.33	-0.04	-0.03	0.37	1	-0.17	0.02	-0.29
Item28	-0.28	0.37	-0.20	-0.32	0.25	-0.34	0.41	-0.28	0.07	0.24	-0.26	-0.17	1	0.28	0.39
Item29	-0.15	0.23	0.04	-0.11	0.12	-0.16	0.15	-0.05	0.13	0.17	-0.06	0.02	0.28	1	0.23
Item30	-0.33	0.33	-0.14	-0.14	0.24	-0.26	0.34	-0.20	0.15	0.18	-0.18	-0.29	0.39	0.23	1

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