EFFECTIVENESS OF CLASSROOM SEATING ARRANGEMENT ON STUDENTS' READING ACHIEVEMENT

TEE XUE TING

UTAR

A RESEARCH PROJECT
SUBMITTED IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE BACHELOR OF ARTS (HONS) ENGLISH EDUCATION
FACULTY OF ARTS AND SOCIAL SCIENCE
UNIVERSITI TUNKU ABDUL RAHMAN

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TEE XUE TING

APPROVAL FORM

This research paper attached here to, entitled "Effectiveness of Classroom Seating Arrangement on Students' Reading Achievement" prepared and submitted by Tee Xue Ting in partial fulfillment of the requirements for the Bachelor of Arts (Hons) English Education is hereby accepted.

_____ Date: _____

Supervisor

Dr. Joanna Tan Tjin Ai

ABSTRACT

This research examined the effectiveness of row, cluster, and horseshoe seating arrangements on students' reading achievement in an English class. Date were gathered from a sample of 24 Form Two students in a public secondary school located in Kampar, Perak. Through pre- and post-tests, students answered ten multiple-choice and comprehension questions regarding the reading passages they read. The questions followed a general pattern to test students' lower-, middle- and higher-order thinking skills. Following that, a focus group interview was conducted among five selected participants, each after intervening a new seating arrangement which lasted approximately two weeks. Throughout the interviews conducted, they were asked to share their feeling and experience upon seating a new arrangement. Results showed that seating in clusters led to the highest improvement in students' reading performance with an average reading score of 8.29%, as compared to seating in rows and horseshoe. This concludes that teachers should attempt different types of classroom seating arrangements, in order to find out what best suits the students' needs and creates an environment in which they can maximize students' reading performance. Suggestions are made for future researchers to examine underlying factors that might influence the empirical results of this study.

DECLARATION

I declare that the material contained in this paper is the end result of my own work and that due acknowledgement has been given in the bibliography and references to ALL sources be they printed, electronic or personal.

Name : TEE XUE TING

Student ID: 16AAB01359

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Date : 29 March 2019

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Chapter One

1.0 Introduction

Classroom learning has been a traditional method in formal education to impart knowledge to students. In Malaysia, it first began with religious schools during pre-Independence days and then shifted to classrooms where a rather formal teaching and learning takes place (Juhary, 2012). In the olden days, it was popular for teachers to use didactic approach to educate students. That is to say, a teacher had full control over the class and this method of teaching did not allow students to have much freedom to learn independently and think critically. Later, technological advancements press the government to make a change in the national education system. With this in mind, 21st-century teaching and learning are brought into the system, which now use a different teaching approach to educate students (Nurazuraini Mustapa, Mahzan Awang, & Abdul Rahzak Ahmad, 2016). Unlike traditional teaching approaches and methods which largely emphasize a teacher's role, 21st-century teaching and learning shifts the focus to students. Along with the growth in this new teaching and learning method, however, there is increasing concern over the classroom learning environment, which includes student seating arrangements. According to the Malaysia Education Blueprint 2013-2025, students nowadays need to be equipped with soft skills such as communication, leadership, critical thinking, and teamwork. Hence, student seating arrangement has to be altered in certain ways in order to meet the objective stated in the blueprint. Yet, it possesses challenges for teachers to achieve the end purpose of the newly implemented 21st-century teaching and learning.

1.1 Background of the Study

Three decades ago, classroom management is fast becoming a key instrument in establishing a conducive classroom environment to ease the student learning process (McCorskey & McVetta, 1978). As stated by Nur Hidayahtuljamilah Ramli, Mawar Haji Masri, Mohd Zafrullah, Haji Mohd Taib, and Norhazarina Abd Hamid (2012), Malaysian pupils spend an average of 25 hours per week in a classroom. Therefore, it is vital for teachers to manage classrooms to facilitate students' learning. In general, classroom management is something which the teacher has full control over a few elements to cater to the needs of students (Stringer, Irwing, Giles, McClenahan, Wilson, & Hunter, 2009). In conjunction with classroom teaching, seating arrangement is the core notion of classroom management in which this idea is considered as a naturalistic intervention that may unobtrusively increase learners' academic achievement in an English class (Fernandes, Huang, & Rinaldo, 2011; Meilia Lestari, Gita Mutiara Hati, & Alamsyah Harahap, 2016; Wannarka & Ruhl, 2008; Wasnock, 2010; Woodson, 2013).

Investigating seating arrangement is a continuing concern within the educational field. As today's education system starts to emphasize the importance of 21st-century learning, the need for modifying seating arrangements in classrooms is rising. The introduction of this new education system emphasizes 4Cs: collaboration, communication, creativity and innovation, critical thinking and problem solving (Bruniges, 2012; Yusup Hashim, 2014). It is believed that all the 4Cs can be achieved when different types of seating arrangements are brought into a classroom where students no longer learn in isolation. In line

with the 21st-century teaching, the idea of learning by doing urges Standard-Based Curriculum for Secondary Schools (KSSM) to become a remedy for traditional teaching and learning issues (Malaysia Ministry of Education, 2013). Team projects and problem-solving are highlighted in this newly implemented curriculum. By modifying the tables in a classroom to create a student-centred learning environment, it positively affects student academic performance (Armbruster, Patel, Johnson, & Weiss, 2009; Derting & EbertMay, 2010).

Although previous studies have successfully reported that the modification of classroom seating arrangements academically improves students' performance in a classroom, far too little attention (Bennett & Blundell, 1983; Puckeridge, 1992) has been paid on their academic performance in terms of each specific English language skill. Such skills include reading, writing, listening, and speaking. For instance, the way students improve their reading skill by modifying their tables into a particular pattern. Nevertheless, the existing data of the above two studies is based from over 30 years ago and it is unclear if the data is still applicable to today's classroom context. In reflecting on the lack of knowledge presented on this particular issue and the possibility of not being able to generalize the existing data to the current classroom setting, the researcher aims to reexamine the effectiveness of different classroom seating arrangements, particularly emphasizing on skills.

The relevance to explore how different seating arrangements may affect learners' reading performance is even emphasized when Central Connecticut State University reports that Malaysia ranks the lowest sixth in the World's Most Literate Nation ranking (Asila Jalil, 2017). Referring to the ranking number, few reports published by online media claim that the literacy rate in Malaysia is only being 55% even though a report released by the Unesco Institute for Statistics states that Malaysia's literacy rate goes as high as 94.64% (Bernama, 2017). The latter figure in percentage creates doubt when the National Literacy Survey proves that on average, each Malaysian only reads two books per year, which the findings remain the same as in 1996 (Asila Jalil, 2017). By looking at the statistic presented, it is unquestionable that pupils nowadays are suffering from having difficulty in reading; that is, having a poor ability to comprehend texts (Ghanaguru, Ng, H., & Ng, L., 2010; Inderjit, 2014; Maryam Habibian, 2012).

When poor comprehenders find it challenging to decode printed texts, it will indirectly lead them to hardly retain vocabularies and grammar that have been integrated with reading passages (Hogan, Bridges, Justice, & Cain, 2011). In fact, the ideas in a reading passage are a powerful source to actively trigger their cognitive processes for later writing and communication. Hence, it can be deduced that all the language skills are interrelated to work towards the goal of producing a highly competent learner. Seeing "reading is the path to success in school" (Zurina Khairuddin, 2013, p. 160), altering students' seating arrangement acts as a mean to overcome this alarming issue. Through different seating arrangements, their English reading achievement is then measured by comparing the results of both pre- and post-tests to access their progress towards reading comprehension.

This research offers a broader view at what the best seating arrangement that can be used to improve their English reading achievement, and how the facilitation of different tasks in a language classroom can be influenced by different seating arrangements. By extrapolating new insights from this research, the findings obtained will then suggest certain seating arrangements that are more suitable to assist the teacher (Woodson, 2013) to work hand in hand with the government in enhancing Malaysian students' academic performance (Nur Hidayahtuljamilah Ramli, Shamsidar Ahmad, & Mawar Haji Mastri, 2013). On the same note, the results of this research will add to the extant literature which is first based

in 1983 by elucidating why there is no difference in the quality of work produced by learners when the group and row seating arrangements are introduced in their study.

In order to answer the aforementioned questions, this research is shaped using Bandura's Reciprocal Determinism Theory (1986), particularly his model of Triadic Reciprocal Causation and Scott and Wheeless's Instructional Communication Theory (1977). Focusing on the interventions of two out of three elements in Bandura's model: behaviour, and environmental influence, and of interactional level in Wheeless's model; these elements will thus further discuss the obtained findings in details.

1.2 Statement of Problem

In most classrooms today, the tables are arranged in certain ways, and students will attend up to 35 hours of lessons per week in assigned seats. Without any realization, this imposed learning environment influences student academic success remarkably (Fernandes et al., 2011). Thus, it can be said that teachers should consider the factor of changing student seating arrangements in order to fulfil what students need in their learning.

Despite universal agreement on the effectiveness of different seating arrangements, there is a great deal of controversy over how and when different seating arrangements are best included to deliver the needs of students. Much uncertainty still exists about the relation between different seating arrangements used and student academic success in a classroom. Kinahan (2017) noted that teachers are not fully aware of how students can benefit academically from their seating arrangements in the classroom.

With respect to the above statement, the physical environment of a classroom is to be seen as a salient element in providing an optimum learning experience for students (Fernandes et al., 2011). Yet, the implementation of different seating arrangements in a classroom and how these arrangements can be fitted into daily lessons are to be determined (Van den Berg & Cillessen, 2015). This is because each seating arrangement directly affects how students receive knowledge and indirectly influences their academic performance (Van den Berg & Cillessen, 2015; Wannarka & Ruhl, 2008).

In the past three decades, a number of researchers have sought to understand the effects of classroom seating arrangements on student academic performance (Fernandes, et al., 2011; Meilia Lestari, et al., 2016; Wannarka & Ruhl, 2008; Wasnock, 2010; Woodson, 2013). However, little is known about how each seating arrangement influences learners to particularly master each English language skill. To date, only two studies are investigated on how learners acquire reading and writing skills by configuring their seating arrangements; these are Bennett and Blundell's study (1983), and Puckeridge's study (1992). As there is a need to improve reading skill among English learners, Bennett and Blundell's study is used as the main reference to conduct the research. Their study becomes nonetheless one of the gaps in this research. As the results of their study are dated back to 30 years and due to the advancement of technology and education, the findings are not able to be generalized to current teaching and learning atmosphere.

1.3 Research Objectives

Addressing the above gaps, the following objectives are set.

1. To determine the most effective seating arrangement that can be used to increase students' academic achievement in an English reading class.

2. To explore the effectiveness of different seating arrangements on students' academic achievement in an English reading class.

1.4 Research Questions

Two research questions are then used to conduct this study.

1. What is the most effective seating arrangement that can be used to increase students' academic achievement in an English reading class?

2. How do different seating arrangements affect students' academic achievement in an English reading class?

1.5 Hypothesis

H_0 : There is no statistically significant relationship between different types of classroom seating arrangements and students' English reading achievement.

H_1 : There is a statistically significant relationship between different types of classroom seating arrangements and students' English reading achievement.

If H_0 is rejected, then different types of classroom seating arrangements remarkably influence students' English reading achievement and vice versa.

1.6 Significance of the Study

This research offers some important insights into how different seating arrangements can academically improve students' achievement in an English reading class. With this in mind, this study aims to benefit two groups of people, students and teachers, who in turn, help in achieving the aspirations set by the ministry.

Since students are naturally the focus of any classroom, they are the main benefactors of the effect of different seating arrangements. Through project and group-based work, they enrich both of their individual and group learning experiences when they are seated in different seating arrangements. These learning experiences hence make them recognize the importance of different classroom seating arrangements in a classroom after getting know which seating arrangement best facilitates their journey of acquiring knowledge (Abcede & Esguerra, 2015). As a result, it benefits them as they tend to easily absorb inputs disseminated by their teacher during the lesson when a conducive classroom atmosphere is compromised.

As for teachers, it is necessary for them to be flexible towards classroom seating arrangements when this element is one of the key factors influencing student academic success in an English reading class. By being flexible in altering student seating arrangement, it unconsciously opens doors for them to facilitate a more effective teaching and learning process (Abcede & Esguerra, 2015). In relevance to this, teachers decide the types of classroom activities that match with different seating arrangements in hopes of maximizing student performance. It then indirectly adds a new dimension to their teaching strategies. This is because focusing on student seating arrangement may help them discretely to reduce disruptive classroom behaviours. In the meantime, students are encouraged to be advocates for themselves so that teachers manage to identify what classroom seating arrangement that supports students' learning and best meets their real needs.

When learners and teachers make significant gains in this research, it consequentially facilitates the Malaysian education system which is under transformation. Throughout this transformational journey, it helps each stakeholder to enjoy the benefits it receives and better understands the critical role it plays. It is envisaged that this journey progressively achieves the student aspirations set in the Malaysia Education Blueprint 2013-2025. As stated in the blueprint, the nation demands education to produce all-rounded individuals who are fully literate and numerate. In terms of literacy, every pupil is required, at a minimum, to skilfully operate in both Malay and English languages so that upon leaving school, one is able to work in a language environment that needs him/her to use either one of those languages.

By integrating different types of classroom seating arrangements in reading lessons, it aids pupils to hone their thinking skills. Such skills include creative thinking, reasoning, innovation. and critical thinking. This, in fact, is also stated as one of the student aspirations in the Malaysia Education Blueprint 2013-2025 which demands every young soul in learning how to connect different strands of learning to construct new knowledge. Hence, a conducive environment should be first created in order to shape students' learning experiences and these learning experiences, in turn, nurture their success in life.

1.7 Scope and Limitations of the Study

To answer the research questions, this study is designed by including a group of 24 Form 2 students. This, in turn, serves as a potential limitation of this study due to smaller sample size is chosen when it is compared with the extant studies. As a result, the findings cannot be generalized to the entire student population especially primary school students because different grades of students will have different maturity levels.

Besides, this research only examines two elements under Bandura's Reciprocal Causation Model in which student behavioural responses are scrutinized through their academic achievement whereas environmental influences are seen in the perspective of different seating arrangements. In other words, this research does not attempt to investigate the influence of personal factor, which is the third element under Bandura's Reciprocal Causation Model, on the students' academic achievement in an English reading class upon seating 3 different types of seating arrangements as the emphasis is not made based on that factor.

Additionally, due to time constraints, each seating arrangement in this research only intervenes for about two weeks. Consequently, three different types of seating arrangements will make this research to only take up to about six weeks to collect the findings. It might deduce that the results of this study are unreliable due to the tendency that the sample group might still remember the test answers when they

answer the same test questions for the second time each after the intervention. Therefore, another potential problem might be aroused from that.

1.8 Operational Definitions of Key Terms Used

Classroom management. Theoretically, classroom management is a teacher's thorough plan (Los Angeles County Office of Education, 2000) to create an environment which is advantageous for his/her students to engage in the learning process so that he/she delivers the needs of the students (Arikunto, 2007; Emmer & Stough, 2001; Evertson & Weinstein, 2006; Stringer et al., 2009). While managing the class, few elements are controlled by him/her and these include physical classroom environment, classroom routines, and codes of conduct in a classroom (Los Angeles County Office of Education, 2000).

Classroom seating arrangement. To create the physical environment of a classroom, one aspect that should be prioritized is the seating arrangement. According to Abcede and Esguerra (2015) and Chitravelu, Nesamalar, Sithamparan, and Teh (1995), the seating arrangement is defined as "the formation of the seats in a given setting" (p. 7) assigned by a teacher to facilitate classroom instructions (Dunbar, 2004). As a result, utilization of different forms of seating arrangements (Silberman, 2005; Wiyani, 2013) in a classroom needs to be based on "the nature of students involved" (Ramsden, 1999, para. 1) and the conducted classroom activities (Abcede & Esguerra, 2015).

Row seating arrangement. Traditionally, pupils are arranged to be seated in rows (Abcede & Esguerra, 2015) in which two tables join together to form a unit. Usually, 4 rows of desks are formed in a classroom and the spaces in a classroom result to be somehow restrictive (Meilia Lestari, et al., 2016). This is then described by Rosenfeld and Civikly (1976) as "something like tombstones in a military cemetery" (p. 161). Despite the restrictive space, a teacher is still able to freely walk around these tables to monitor the learning progression of the students.

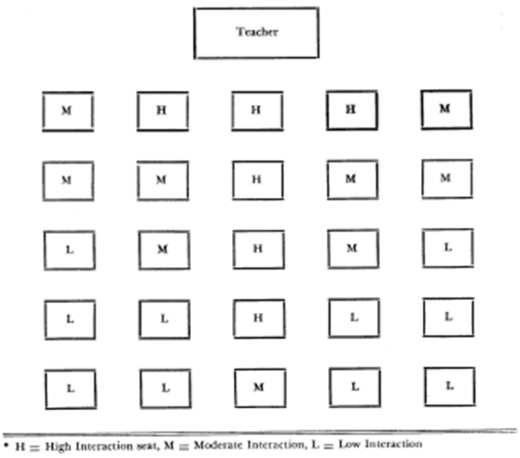


Figure 1: *Row seating arrangement* (McCorskey & McVetta, 1978, p.100)

Cluster seating arrangement. As asserted by Abcede and Esguerra (2015), learners are divided into small groups by joining 4 to 6 desks in a group. If it is happened to place the fifth or sixth table, this table will automatically go to the end of the combination of 4 tables (Ramsden, 1999). Therefore, these clusters of tables are scattered around in a classroom. Unlike row arrangement that requires the learners to face their teacher, this type of seating arrangement will need the learners to face each other when the

class is conducted. As a result, collaborative learning is being emphasized in this learning context (Atherton, 2005; Rosenfield, Lambert, & Black, 1985).

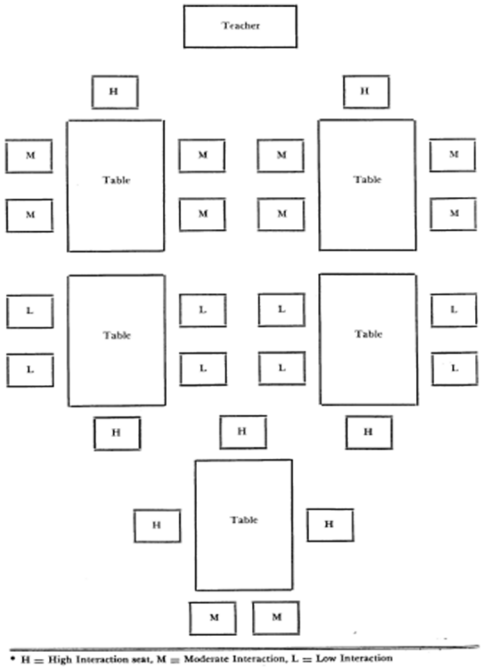


Figure 2: *Cluster seating arrangement* (McCorskey & McVetta, 1978, p.102)

Horseshoe seating arrangement. The arrangement of desks resembles a horseshoe and it is also often called as a U-shaped arrangement by allowing all the tables to connect each other facing to the front of the class (Ramsden, 1999). According to Wengel (1992), when the pupils are seated in this configuration, they have much freedom of interaction as compared with the other 2 types of seating arrangements meanwhile engage in a lesson by paying full attention to their teacher (Papalia, 1994). Conventionally, a horseshoe seating arrangement is designed to meet the requirements of the condition needed to hold a class discussion such as debates (Ramsden, 1999; Rosenfield et al., 1985). The teacher thus can observe his/her students by walking inside the semi-circle space.

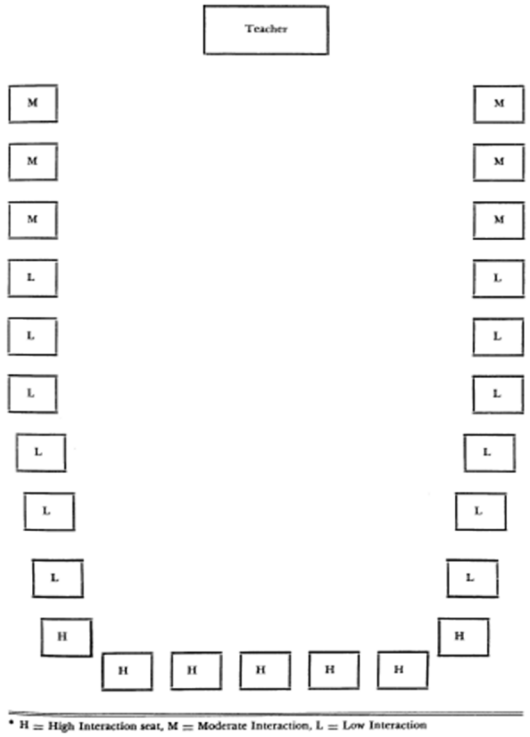


Figure 3: *Horseshoe seating arrangement* (McCorskey & McVetta, 1978, p.101)

1.9 Conclusion

To sum up, this chapter has provided a comprehensive background of the Malaysia education system and the issues that need to be addressed and solved in today's context. With this in mind, research objectives and questions are framed based on this research. Besides, the importance of the study on individual parties and how this affects the educational goals set by the ministry have also been discussed in this chapter. Following that, the chapter has included a thorough discussion of the scope and constraints of the study. Lastly, the key terms are operationally defined before proceeding to the next chapter.

Chapter Two

2.0 Introduction

Extending from primary to tertiary education, classroom management is one of the aspects that all teachers need to consider before they start to teach. This makes humans a special species; by this, it means that without having a rigid structure to control and shape students, students tend to become unruly. It is captivating that when students first step into a classroom, the first impression they make of a teacher is room management. This is explainable as humans always act fast in capturing what first appears in front of them. There are many considerations that perceive in the eyes of students and a teacher such as room ambience, room colour, and seating arrangement which these factors go under the umbrella of classroom management. In relevance to this, these factors will need to be painstakingly examined if the aforementioned ones catalyze the learning of the students.

Apart from that, student academic achievement is always highly emphasized within a classroom. This is because, through student academic performance, a teacher can only truly evaluate the learning progression of the students and his/her teaching success. With regard to their academic achievement, a tremendous surge of researches (Fernandes, et al., 2011; Meilia Lestari, et al., 2016; Wannarka & Ruhl, 2008; Wasnock, 2010; Woodson, 2013) explores how seats are arranged or grouped differently in a classroom. These seating arrangements can vary across classrooms and are tied to student behaviour and subsequently affect their academic success in a class.

2.1 Past Studies

2.1.1 Classroom Management

According to Sobel, Basile, Powell, Bryan and Green (2002), the main function of classroom management is to "establish and maintain a learning environment that fosters both effective and efficient instruction while maintaining a positive social culture for students" (p. 2). It hence is important to practice different dimensions of how to manage a class effectively so that the learning experience of the pupils is dynamic and exciting when a class is well-managed (Kaliska, 2002).

In relevance to the aforementioned statements, English teachers are required to make decisions wisely in the midst of teaching the language and the process of decision-making is mostly related to the discipline issues. This is in line with the statement made by Marzano (2003) in which she asserted that "effective teachers appear to be effective with students of all achievement levels regardless of the levels of heterogeneity in their classes" (p. 1). No two students are the same and every decision made has to be right when the decision made indirectly affects how students make progress in their learning. Therefore, English teachers have to be good at tackling and managing what happens in a classroom so that an inviting and appealing learning environment is compromised.

2.1.2 Classroom Management Strategies

As stated above, the strategies used by a teacher to manage the class are not only meant to solve discipline problems but also are seen as precautions taken by him/her to prevent such problems to happen in the class again. Taking the above statement into account, classroom management strategies are useful tools for teachers to regulate student behaviour. Only when the teachers succeed in mastering classroom management strategies, students are able to achieve the stated learning outcomes set by the teachers. In other words, effective classroom management is tightly linked to teaching success and what the learners should accomplish throughout their schooling days.

Brophy and Evertson (as cited in Jones, V. & Jones, L., 2004) claimed that "almost all surveys of teacher effectiveness report that classroom management skills are of primary importance in determining teaching success" (p. 3), through the measurement of student learning and ratings. Therefore, the primitive discipline of teaching is the mastery of classroom management skills. To illustrate, teachers who are grossly inadequate in handling a class fail much of the learning outcomes that they have set for the students.

With this in mind, Pedota (2007) came out with a list of classroom management strategies and these strategies are physical surroundings, displays, instruction, housekeeping procedures and seating plans. According to him, teachers are responsible for ensuring that all learners acquire knowledge in a supportive and safe learning environment. In accordance with this, teachers should take physical surroundings into account when they manage a class. Pedota (2007) suggested that a classroom should be designed in such a way that all pupils are able to see the board with proper lighting conditions. They should also not interfere with their peers when they move around. On the other hand, the teacher's table should place in a space where it eases him/her to monitor students; at the same time, it must also not block any movements made within the class.

Following this, housekeeping procedures are another factor interplaying with the discipline of classroom management (Pedota, 2007). Classroom equipment such as the whiteboard, dustbin, and chalks should be positioned appropriately in such a way that it is accessible for everyone in the class. A duty timetable should also be developed in order to keep the classroom clean. This works parallel with the fact that a hygienic environment guarantees the pupils to attend class lessons comfortably.

Moreover, the aspect of displays is also emphasized by Pedota (2007) in classroom management. In his perspective, a classroom functions as a mini-exhibition where it is used to display student work and visual learning aids such as magazine covers, posters, maps and charts. By showcasing student work, it indirectly tells the students that their hard work is acknowledged and recognized. In the meantime, it records their learning progression. Yet, the visual aids and student work should be updated and changed monthly when a new language unit is introduced in the class (Pedota, 2007). This is to ensure that all pupils are given an equal opportunity to showcase their work and have a sense of ownership.

Furthermore, the instruction is another vital element of how to handle a class properly (Pedota, 2007). This urges teachers to create a plan for that exposes students for a variety of learning experiences and keep them actively involved in the process of knowledge acquisition. When teachers make an effort in adding varieties in their teaching, it will help to attract student attention without hurting their throat to increase their voice volume. This situation ultimately guides the students to be active participants in the journey of their learning.

Apart from that, before a class is carried out, teachers should allocate time to prepare the class and create a plan that will aid them to maximize the effectiveness of their classroom instructions. Out of all the classroom management strategies, Pedota (2007) recommended that a seating plan is vital for the success of teaching. Although permanent seating arrangements help teachers to quickly remember their students, it is important to note that teachers should consider different types of seating arrangements to support the instructional activities, whether as a class, a small group or an individual.

2.1.3 Classroom Seating Arrangement in Relation to Student Academic Achievement

As the concern about the potentiality of the classroom seating arrangement in enhancing student academic success is growing year by year, more research studies are conducted to probe into this subject in different contexts. With this in mind, the studies are reviewed chronologically.

Beginning in the early 1970s, a large and growing body of literature has investigated the importance of classroom management, particularly seating arrangements to engage students in learning (Fernandes, et al., 2011; Meilia Lestari, et al., 2016; Wannarka & Ruhl, 2008; Wasnock, 2010; Woodson, 2013). During that time, all the teachers were committed to set the tables in their classrooms as rows. This issue of the engagement of students in learning is then extended to specifically examine how the students participate and perform in the class when the physical arrangement of a classroom has modified to cater for their academic needs (Rose-Duckworth & Ramer, 2009). This is because McCorskey and McVetta (1978) believed student participation is positively correlated with their academic performance.

Marx, Fuhrer, and Hartig (2000) then pointed out that horseshoe seating arrangement prompts students to ask more questions in a class as compared with the traditional row seating arrangement. Seeing above behaviour as a form of classroom participation, it surmises that the more active a student participates in the lesson, the better his/her academic performance (Jones, 2007; Wulf, 1973). Hence, a way to increase the likelihood of the above phenomena is through the modification of seating arrangements in a class.

According to a study conducted by Wannarka and Ruhl (2008), they synthesized 8 past studies that successfully proved row, cluster, and horseshoe seating arrangements have a positive impact on student academic outcomes. All the discussed studies involved students ranging from primary to secondary schools. However, the studies discussed in their article are dated back to 1970s. Hence, the reliability of the results is open to debate as the results may show the opposite to be true if one of the studies is to be duplicated to examine in a similar context. This may happen when today's education starts to emphasize 21st-century learning in which the technology is integrated into the teaching and learning process.

Furthermore, Wasnock (2010) conducted a survey which involves 64 pre-K, Middle, and High school teachers from 10 different school districts. The questionnaires were distributed online and it took 5 weeks to collect the data. It was widely proven that teachers prefer to seat their students in groups rather than rows when they see that there is increased educational growth in students' learning. Despite the valuable data reported by Wasnock, the validity and reliability of the data are questionable as the method used to conduct this research is highly interplayed with the honesty of the answers provided by the participants. There is no triangulation of data involved in the research. Hence, the present study strives to triangulate the collected data with the use of two research instruments: summative assessments and focus group interviews.

One year later, Fernandes, Huang, and Rinaldo (2011) examined how classroom seating arrangements are impactful to student academic success. Unlike other studies, their focus was on teacher perception. They offered a deeper insight into how students are motivated when they are assigned to sit in different seating arrangements. Not only that, they gave an in-depth look at how teachers can use different seating arrangements to foster a strong relationship with the students. The suitability of different seating arrangements in a classroom to match the nature of classroom activities was also discussed in the article. The results showed that students are more active in their learning and learn better when they sat in front of the class.

The research on the positive impact of different seating arrangements has on the student academic success also sparks Barrett and Zhang's interest (2013) to conduct a one-year study. To increase the reliability and validity of the data collected, they involved 34 classrooms in their study. To add on, these 34 classrooms were from 7 primary schools which had different age groups and learning environments. For the data triangulation, the study employed student surveys and tests which measured student literacy, such as reading and writing, and numeracy. Barret and Zhang received a striking result that classroom seating arrangements do influence student performance in a class, whether positively or negatively.

Conversely, Woodson (2013) argued the opposite to be true. In his study, he examined the effectiveness of horseshoe, traditional, fixed lab, modules, and circular different classroom seating arrangements in regard to student learning and teaching experiences. His study employed student surveys, teacher interviews, and administered questionnaires to collect data from 50 students and 5 teachers. In terms of academic achievement, it was found that the students perceive seating arrangement do not affect their academic grading. Rather, they believe they are able to get good grades regardless of any positions they sit.

In view of all that has been mentioned so far, one may suppose that modifying seating arrangements indeed affects student academic success despite the contradiction made by Woodson (2013). However, all of the aforementioned literature does not specifically examine language skills. That is to say, how a person learns to write is different from the way he/she learns to read. Professor Gerken (as cited in Florman, 2003, p. 1) hence argued that "different lessons [should] call for different seating arrangements and that teachers should be flexible in their room arrangement." To date, only one study specifically dwells into reading skill when it attempts to examine the effectiveness of different seating arrangements in a classroom.

In Bennett and Blundell's study (1983), they investigated how groups and row seating arrangement affect the quality of work produced by 2 classes of 80 students who age from 10- to 11-year-old. To measure the quality of work, the correct answers attempted by the students in reading comprehension are indicated in a form of percentages. The most striking result from their study is that the students maintain their quality of work even when they interchangeably sit in two different seating arrangements. This indeed marks another reason why there is a need to reinvestigate this issue when in fact, the physical arrangement of a classroom has a role in enhancing how pupils learn to read.

2.2 Importance of Seating Arrangement

As altering seating arrangements seeks to remedy traditional teaching and learning issues, various seating arrangements undeniably bring several benefits in a classroom. This is because through modifying

student seats in different patterns, it can help the stakeholders such as the government, heads of the schools, teachers, and parents to understand how students behave, participate, and perform in a classroom.

2.2.1 Student Behavior

Over the years, educators sought to find solutions to minimize students' misbehaviours. Such misbehaviours are mainly due to the fact that students disrespect the teacher when a lesson is carried out in a classroom. For example, they become rebellious and break classroom rules even when the teacher is in the class. Ultimately, when the teacher is required to intervene in students' misbehaviours, it, in turn, disrupts other students' learning process and upsets teaching and learning in a class.

However, the seriousness of the whole scenario seems to be reduced when Bicard David, Ervin, Bicard Sara, and Baylot-Casey (2012) find seating students in various types of seating arrangements can be one of the effective methods to eliminate their misbehaviours in a class (Szparagowski, 2014). In fact, it introduces no punishment and teacher intervention in a class when they are no longer to be seen as the problematic ones in the eyes of their teacher. With the use of this powerful classroom management tool, Hood-Smith and Leffingwell (1983) also assert that there are remarkable changes in students' behaviours when a teacher arranges tables and places students differently. Such changes include prolonged attentiveness, high student-student interaction, and reduction of the noise level in a classroom. Eventually, a teacher can focus more on covering the syllabus than ruling the students.

2.2.2 Student Participation

As students are attentive to the class, it brings a positive impact on their learning experience. That is to say, a change in student learning space allows students to not only receive the input from their teacher but also exchange views on the knowledge they have with their classmates. In this context, the fact that altering student tables increases student classroom participation is seen through the way how students communicate with the teacher and their peers.

In regard with students' participation, five categories such as "student attendance, preparation, and contribution to class discussion, and group and communication skills" (p. 13) are identified by Dancer and Kamvounias (as cited in Nadeem, Iqbal, & Rahman, 2012). These five categories clearly depict a fact that promoting different seating arrangements in a classroom tends to increase the likelihood of student-teacher and student-student interactions. Ultimately, it results in students to actively participate in classroom activities.

The situation proves to be true when Steinzor (1950) notices that when the tables in a classroom are configured into certain arrangements, students are prone to talk and ask more questions. Undoubtedly, it encourages the ideas to be exchanged between two parties: student- teacher, student-student. From here, students have the opportunities to sharpen their communicative competence as per stated in the Malaysia Education Blueprint 2013-2025. In other words, certain seating arrangements in a classroom provide communicative space (Nadeem et. al., 2012) for students to work or collaborate with their peers to complete projects assigned by their teacher.

2.2.3 Student Academic Achievement

According to Hood-Smith and Leffingwell (1983), teachers, generally, put more focus on students who sit in front of the classroom than those who sit at the back in most of 70% of lesson time. In fact, this has been one of the critiques why a change in the traditional seating arrangement must be highlighted in today's education. When teachers concentrate more on front students, front students tend to show their active participation and improve better in their grade (Kaya & Burgess, 2007; Wannarka & Ruhl, 2008; Perkins & Wieman, 2005). In contrast, the opposite situation is true for students who sit at the back of the class (Zomorodian et al., 2012; Perkins & Wieman, 2005; Wannarka & Ruhl, 2008).

To further elaborate, student academic success can be fostered by placing them into different seating arrangements. With this in mind, the seating arrangement is a primitive factor that can either hinder or facilitate learning objectives and teaching outcomes. The researcher sees there is a close connection between memory and learning. Learning will not take place if students do not internalize what they learn and it is through the internalization of the knowledge, teachers can put what they teach into assessments.

Through having different seating arrangements in a classroom, it makes the language learning more ideal. That is to say, the teaching and learning process will be more learner-centred as compared with the traditional row seating arrangement. As a result, teachers will be seen as facilitators who facilitate and guide students to progress their learning. Moreover, when different abilities and levels of students are placed in cluster and horseshoe seating arrangements, it urges students to work and assist each other in acquiring knowledge. Hence, they have the chance to revise their knowledge and subsequently, remember what they have learned in the class.

2.3 Theoretical Background

2.3.1 Bandura's Reciprocal Determinism Theory (1986)

The presence of Bandura's Reciprocal Determinism Theory (1986) thus opens the possibility of the aforementioned statement. In his theory, he stresses the importance of interacting with the social context for the learners to receive and digest the input from their teachers and peers (Sternberg, 1995). To further explain above idea, he later develops his model of Triadic Reciprocal Causation in which the emphasis of three elements is put forward and these elements are the person, the person's behaviour, and the environment (Bandura, 1986). All of these three elements bidirectionally interact with one another and they thus act as interacting determinism; it also produces the person's subsequent behaviour as a by-product of this three-way interaction. Due to the practical constraints, however, only two elements: the environment and the person's behaviour, are used to conceptualize the studied phenomenon. By looking at the reading test scores, Bandura's Reciprocal Determinism Theory (1986), specifically his model of Triadic Reciprocal Causation aims to provide a comprehensive understanding of how the participants react to the different seating arrangements in a classroom.

According to Bandura's model (1986), environmental structures can be divided into 3 types: the selected, imposed, and constructed environments. Each of these structures is classified by the level of authority given to a person to have control over a setting (Kinahan, 2017). Ranging from the imposed to the constructed environment, one is given more freedom to modify and construct a setting based on his/her preference. In other words, one's self and surrounding, which can be referred to the level of personal agency is important in making the environment.

To further elaborate different types of environmental structures, an imposed environment is defined as the social and physical environment that has been thrust upon a person regardless of his/her preference. He/ she, therefore, is only able to react to the environment without having the right to change the environment. On the other hand, a selected environment allows a certain degree of freedom in involving a person to be in-charged of shaping his/her own experience whereas an environment is said to be constructed when a person thoughtfully decides the activities that will impact his/her learning within the environment made (Bussey & Bandura, 1999).

Through the use of Bandura's model (1986), behaviour deals with a person's skill or action. This involves the construction of the person's immediate environment and personal characteristics that he/she possesses, such as goals, expectations, intentions, self-perceptions, and beliefs in which all of these factors shape his/her behaviour. With the use of Bandura's model, he (1986) introduces a notion of how people regulate their behaviour and describes that the behaviour is acquired through patterns, such as reflection, self-evaluation, and self-observation.

Therefore, actions and decisions made are the results shown by people when they acquire, understand, and accept their behaviour (Bandura, 1986). Based on the theory of Reciprocal Determinism, just as the person and the person's behaviour are the determiners of the environment, the environment itself also determines a person's behaviour. This, in turn, deduces that a person is both producer and product of his/her environment (Bandura, 1986).

By drawing Bandura's model, the environment is then undeniably crucial to shaping a person's learning behaviour. To conceptualize this factor in the present study, it can be seen that assigning the students with different types of seating arrangements will be the atmosphere that is imposed on them. In the present study, three environmental structures that are imposed on them are viewed from the aspect of seating arrangements and these are row, cluster, and horseshoe arrangements. With this in mind, the participants of this study will tend to vary their learning experiences, whether as a group or an individual. For example, the students will learn in groups by making their seats in a cluster or horseshoe arrangement whereas a row arrangement allows them to engage in individual learnings depending on the given academic tasks. The teacher in the present study thus has her full control in making the environment for the students while the students have to be seated in the assigned seats regardless of his/her preference.

In the present study, for example, a teacher changes the arrangement of the seats in a classroom to examine the effectiveness of the imposed seating arrangements. If the students accept react positively to the imposed seating arrangements, they will show good behaviour towards learning and the students' behaviours are recorded through the scores they obtain in the English tests. In relevance to this, it is important to note that the scores are given in the form of percentages rather than grades. The marks they obtain are then seen as their response to the English test questions to reflect their learning progression. This, in turn, determines how effective a particular seating arrangement is to boost their academic performance. In short, both the seating arrangements and the reading scores the students obtain influence one another.

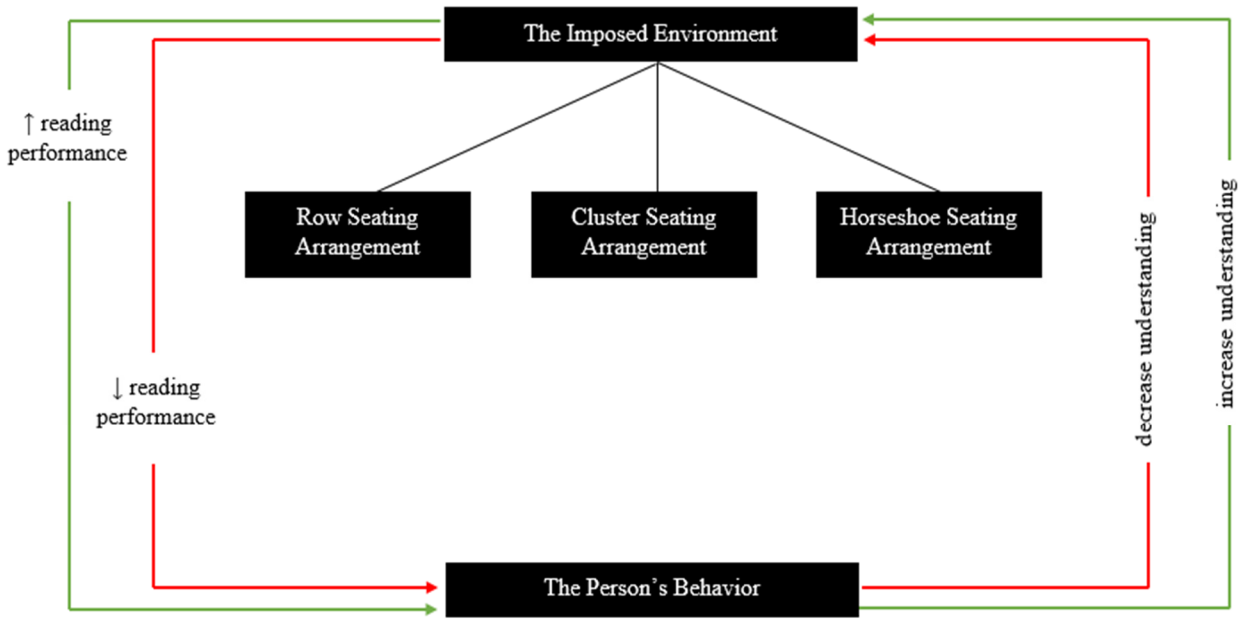


Figure 4: *Theoretical framework highlighting the two-way interaction between the imposed environment and the person's behaviour*

2.3.2 Scott and Wheeless's Instructional Communication Theory (1977)

In order to have a successful lesson, both parties, students and the teacher, need to communicate effectively (Punyanunt-Carter & Arias, 2017). Hence, one of the functions of a seating arrangement is that the number of interactions that it can bring to students when they are assigned to sit in a particular seating arrangement (Scott & Wheeless, 1977; McCorskey & McVetta, 1978). When different seating arrangements are employed in a classroom, different interaction levels are created at different points of seating arrangements.

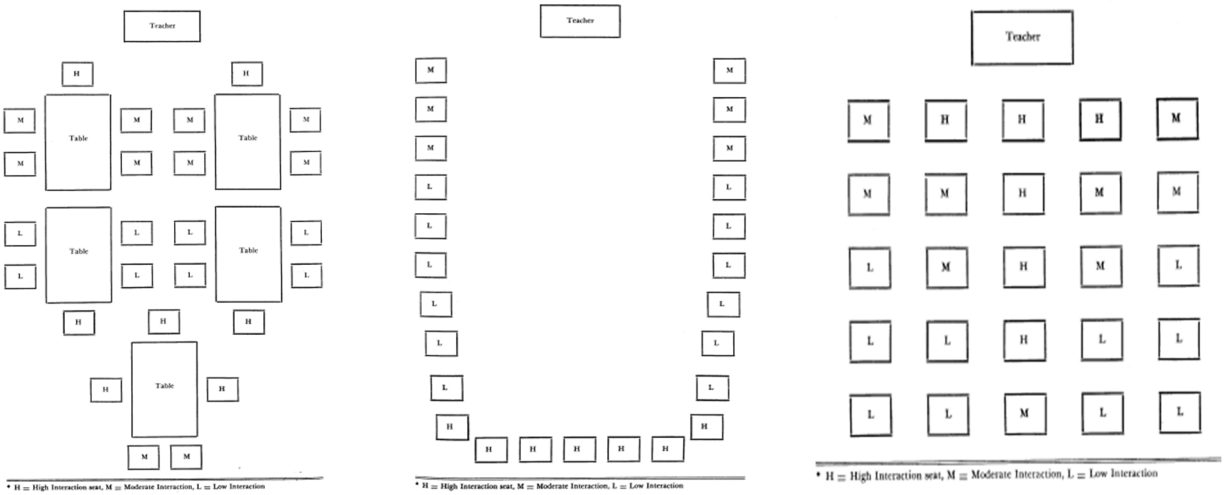


Figure 5: *Different interactional levels in cluster, horseshoe, and row seating arrangements*

While the above fact holds for the understanding of different interactional levels found in different seating arrangements, it is notable that students' desire to communicate also differs individually. This is best explained using communication apprehension (CA). This term is coined by McCorskey and McVetta (1978) to describe the anxiety level that one faces when he/she communicates with another person. To draw a connection with the interactional level, a person will sit in a seat with a low interactional level if he/she has a high CA level. Ultimately, it will influence his/her academic performance.

As such, instructional communication suggests a novel idea of how "human communication process [takes place] across all learning situations independent of the subject matter, the grade level, or the learning environment" (Myers, Tindage, & Atkinson, 2016, p. 13). This idea is supported by Lashbrook and Wheeless (1979) and Sollitto, Johnson, and Myers (2013) when they claim that there is a relationship between communication and learning process which are under the influence of an environment. A classroom learning environment is thus structured in such a way that students and the teacher working together to achieve learning outcomes of a lesson. Meanwhile, a context implies how students acquire their knowledge in that particular learning environment (Brophy, 1983).

As a context interplays with the knowledge acquisition, setting and situation of a context then influence how students communicate interpersonally. For Pettegrew (2016), he describes a setting as a place where interaction takes place whereas a situation is defined as reasons for students to communicate with each other. In this research, the setting refers to different seating arrangements in a classroom and the situation makes reference to the student interaction during classroom activities.

Therefore, a classroom serves as a communication context where student learning is highly impacted by communication skills (Chesebro & McCroskey, 2001). Roberts and Vinson (1998) further elaborate on the above statement by stating that the CA level determines student learning in terms of processing challenging and complex input that students receive. For example, when a student who has a high CA level sits at a seat with high interactional level, he/she will find difficult to process the input he/she receives and hence influences his/her learning.

In the light of a communication context, instructional communication theory is seen as a process-product approach which is also referred to as constructivist or intentionalist. Bussis, Chittendon and Amarel (1976) assume this approach as "internal mental processes (such as understandings, beliefs, and values) are major underlying determinants of behaviour and of the environments that people create" (p. 1). In other words, environments are created based on the beliefs people hold for and that beliefs are driven by goals that people wish to achieve. As a result, each instructional environment is distinctive. These differences arise from class size and the nature of a classroom. Consequently, what a teacher wants to achieve will affect how he/she arranges the tables in a classroom and that particular arrangement will influence student learning.

To conceptualize the theory, the study requires the researcher to test 3 types of seating arrangements in a classroom. Concerning these three types of seating arrangements, different learning outcomes were set by the instructor to assess student learning. For example, the learning outcomes set for a cluster seating arrangement may require the students to communicate more in order to achieve the target goals as compared with a row seating arrangement. This consequently affects the learning of the students in the sense that different learning outcomes demand the different amount of interactions in class.

As different learning outcomes are closely tied to different seating arrangements, this in turn also implies that different seating arrangements have different interactional levels. In fact, the interactional level of each seating arrangement is distinctive. For example, the students who are found to be seated in a group will find their group members possess different interactional level from them. CA level thus interplays in this communicative context whereby the interactional level of each seat urges the students to be either quiet or talkative. When the students are quiet and timid to communicate with their group members, they are not able to achieve the lesson goals and subsequently, it academically affects their reading tests.

To conclude, instructional communication theory can be explained in 3 aspects: the communicators, the purposes of communication, and the contexts. Analyzing this theory allows the researcher to study the issue from a different angle. To illustrate, how the communicators (students and the teacher) work toward the purposes of communication (classroom discussions) in a context where the seats are arranged in certain ways in a classroom.

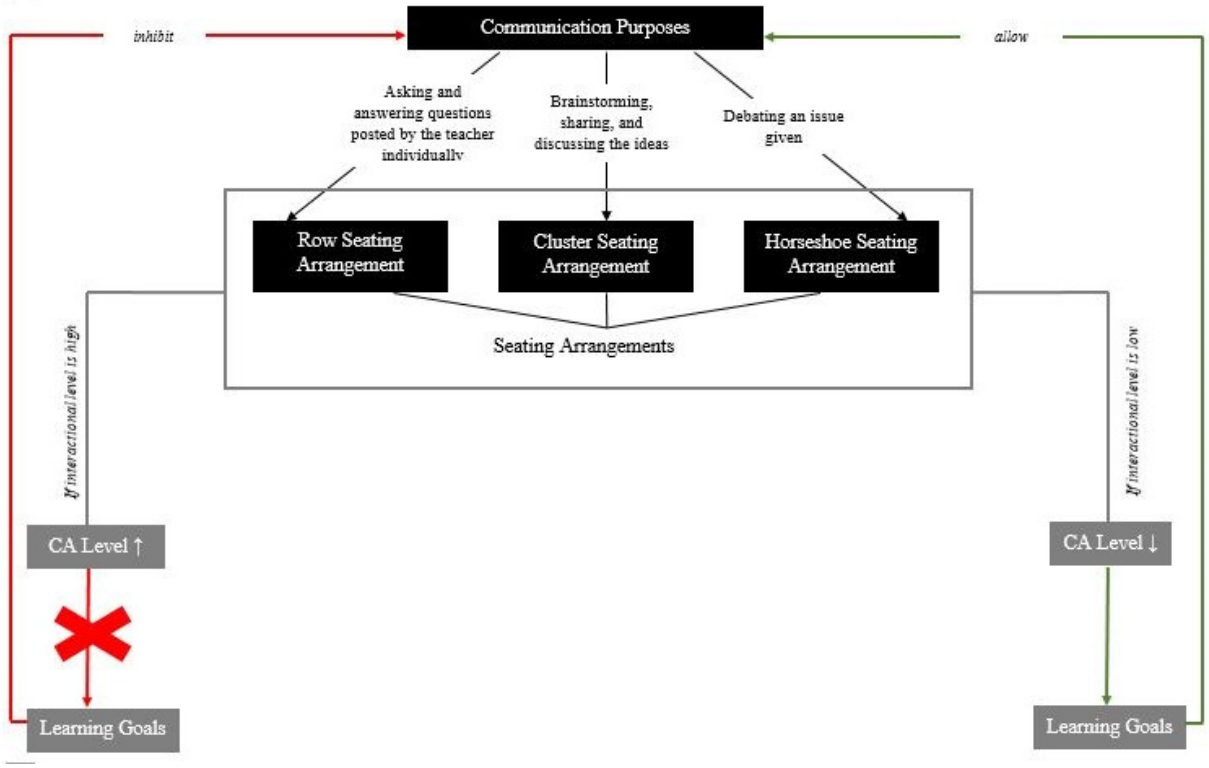


Figure 6: *Theoretical framework illustrating the relationship between communication purposes, seating arrangements, interactional levels, CA levels, and learning goals*

2.4 Conceptual Framework of the Study

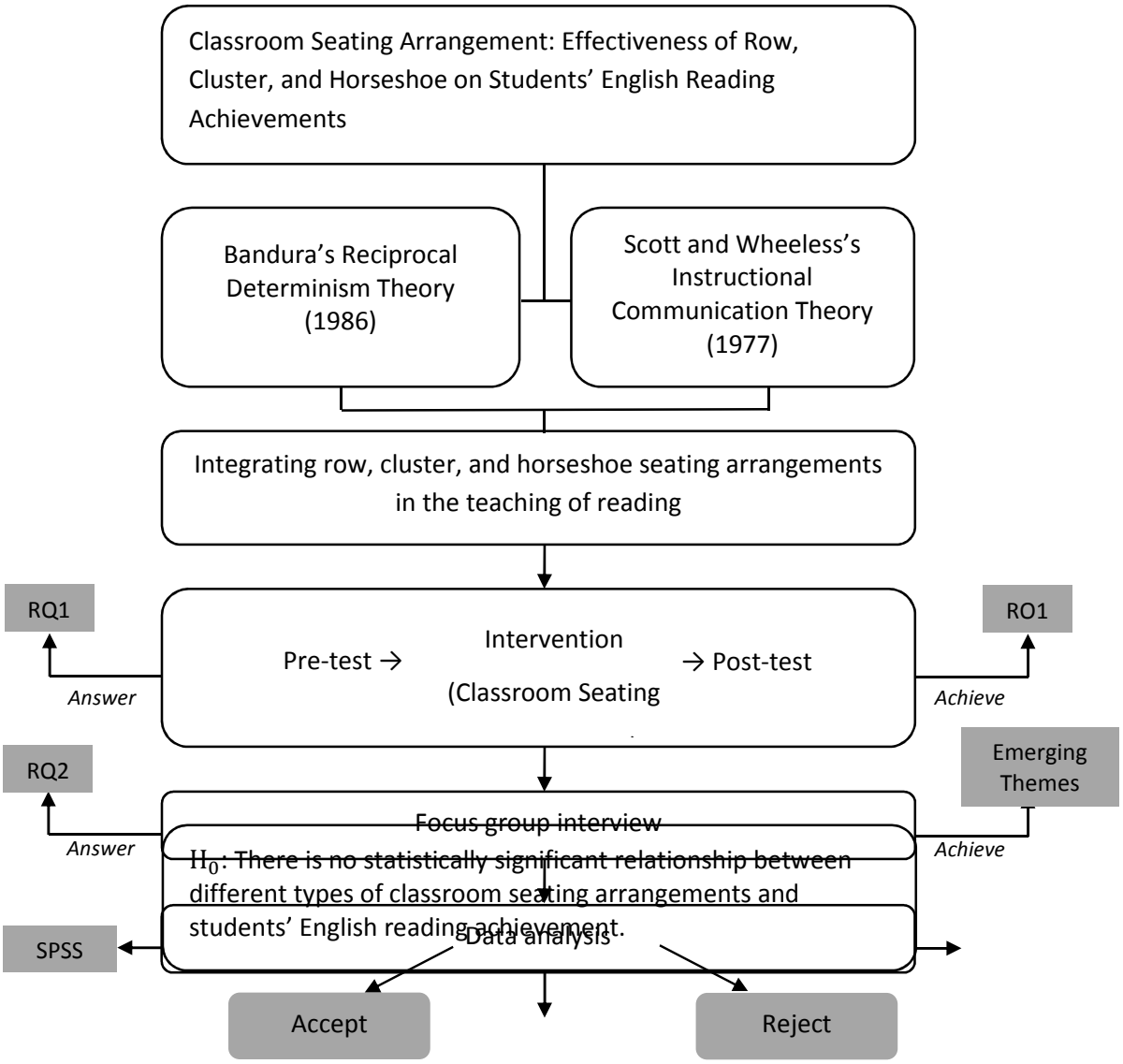


Figure 7: *The conceptual framework of effectiveness of classroom seating arrangement on students' reading achievement*

2.5 Conclusion

This chapter has critically reviewed research articles about classroom management, classroom management strategies, and classroom seating arrangement in relation to student academic achievement. Meanwhile, the articles are reviewed in relation to the study. Apart from that, the importance of classroom seating arrangement in terms of student behaviour, participation, and achievement is discussed. A connection is then drawn between two theories: Bandura's Reciprocal Determinism Theory (1986) and Scott and Wheeless's Instructional Communication Theory (1977), and the context of the study. Before proceeding to the next chapter, the conceptual framework of the study is designed and seen as the organization of ideas to answer the research questions.

Chapter Three

3.0 Introduction

This chapter presents how the methodology is designed and established to conduct the experiment. The research location and procedures involved in the data collection were first discussed. The empirical results would then make use by the researcher to assess how effective each classroom seating arrangement is, qualitatively and quantitatively. Due to the time constraints, a total number of 24 students who participated in this study were directly chosen from a public secondary school in Kampar, Perak where the researcher did her teaching practice. As this research is meant to be both descriptive and statistical, the collected data from the research site is then analyzed using emerging themes and the Statistical Package for the Social Sciences (SPSS). Through qualitative and quantitative data analysis, it aids to triangulate the findings and better understand the studied phenomenon.

3.1 Research Design

In order to answer the research questions, experimental research is used. According to Srinagesh (2006), experimental research is defined as the intent of research to observe a dependent variable under the control and manipulation of independent variables in order to investigate a phenomenon scientifically. Under experimental research, a pre-experimental design is chosen and employed. By using this design, it makes possible to establish a causal-effect relationship between independent and dependent variables (Gay, 1992). In the present study, the independent variable is the types of classroom seating arrangements whereas the dependent variable is the English reading performance of the students. Due to the uniqueness of the pre-experimental design, there is no control over extraneous variables and this leads to the use of a quantitative approach with One-Group Pretest-Posttest design.

In a One-Group Pretest-Posttest design, the subjects of this study are grouped together. With this in mind, only one group is used in this study and the subjects are not randomly assigned. In other words, the same group of participants will undergo pre-test, intervention, and post-test.

Table 1: *The Design of One-Group Pretest-Posttest* (Ary, Jacobs, & Sorensen, 2010)

Pre-test	**Independent Variable**	**Post-test**
Y1	X	Y2

Based on Table 1, a pre-test (Y1) is administered before the subjects are treated using an intervention. In this study, a pre-test is conducted to obtain the first set of reading scores before their reading classes are intervened with different types of classroom seating arrangements. The scores obtained serve as a benchmark for the participants to identify whether there is an improvement after an intervention is applied. Next, the subjects have to take a post-test (Y2) after the intervention (X). To put it in the context of the current study, the intervention used in this research is different types of seating arrangements: Row, Cluster, and Horseshoe during English Language classes, particularly for reading comprehension. The effectiveness of the intervention is then proved by measuring the difference between two sets of reading scores.

There is a need to know the perceptions of the students of sitting in different types of classroom seating arrangements. In light of this statement, an explanatory sequential mixed-methods approach is

used. To explain, this approach suggests the collection of quantitative data follows with quantitative data in a sequential manner (Creswell, 2014). In the same manner, the analysis of quantitative data is done before the researcher analyzes the qualitative data. This is intentionally done in the hope of using the obtained qualitative data to support the explanation made based on the quantitative data (Creswell, 2014).

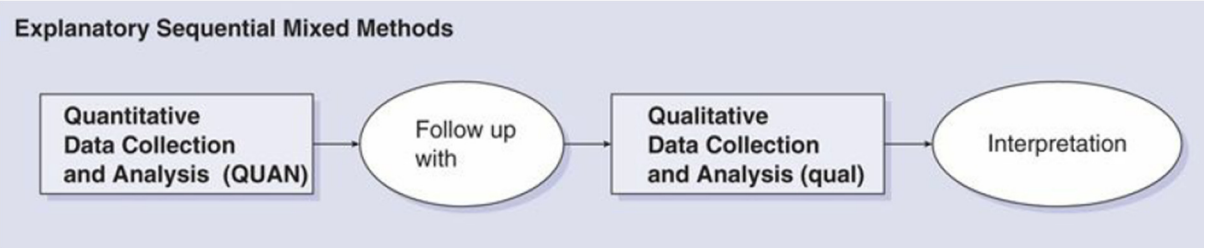


Figure 8: *Explanatory sequential mixed-methods approach* (Creswell, 2014)

In the present study, the context itself is numerative and descriptive in nature. Upon presenting the data in numbers, the study attempts to look for the most effective type of table arrangement that can best improve their reading scores in an English class during a period of 8 weeks starting from January 2019. At the same time, it is also aimed to tap into students' feelings and perceptions after experiencing different kinds of classroom table arrangements.

3.2 Research Location

In order to carry out the research, one of the public secondary schools in Kinta Selatan district in Perak, Malaysia was chosen. Opening in 1903, this secondary school was used to be one of the top schools in the district. Stretching from Form One to Form Five, each form has 4 classes. Unlike other schools in the district, a multi-racial community can be found in this school. There is an equal racial distribution of students and teachers including Indian, Chinese, and Malay in this school. To add on, a minority of the students are Indigenous people.

3.3 Sampling Procedure

Myneni (2007) defines sampling as 'a scientific way of selecting representatives from a larger population'. Hence, a group of chosen representatives is called a sample. This is to ensure that the data collected from the sample is able to generalize to the entire population of interest.

Simple random sampling was used to recruit the participants in this experiment and technically, it is a method used by the researcher to choose the sample from the target population (Moore, McCabe, & Craig, 2009). Prior to that, a sampling frame was generated and it consisted of all the classes in the school. The classes were then randomly numbered to ensure that each class was equally likely to be chosen. The numbers were put in a box and the researcher picked a number from the box. The class that corresponded to the number thus was the sample of this study.

Aside from that, purposive sampling was then used to select participants to be involved in focus group interviews. Bernard (2002) defines purposive sampling as the intended choice made by the researcher after recognizing certain qualities a person possesses. In other words, each sample from the target population does not have an equal chance of being selected and purposive sampling is hence also considered as one of the non- probability sampling methods. Simply put, the researcher picked a group

of 5 interviewees whom she knew they were able to give the answers she desires. Following this, the interviewees were well-informed with the study of interest (Creswell & Plano Clark, 2011). This is because unlike simple random sampling, purposive sampling is always used in qualitative research and the ultimate goal of the sampling is to gain a deep understanding of the studied phenomenon.

3.4 Participants

A total of 24 Form Two secondary school students participated in this study claimed to be seated in a traditional row arrangement throughout the whole year of their study. Each of their seats was separated from others, forming 6 rows and 5 columns in the class. Comprising of 42% Indians, 31% Chinese, and 27% Malays, this class was made up of 18 girls and 6 boys. Looking more closely at their language proficiency, half of them failed in their English exams while two students of the class managed to get a grade of B. Hence, it can be concluded that there were mixed-ability students in the class. In terms of language use, the students were not exposed to an environment where they were required to communicate in English, despite the fact that English is nationally recognized as the second language. Out of 35-hour lesson per week, they only used the language for a 3-hour English lesson.

As this total number of students was best accommodated into a classroom size of 24 feet x 30 feet which has been standardized by Jabatan Kerja Raya Malaysia (Nur Hidayahtuljamilah Ramli et al., 2012), it allowed classroom seats to be modified freely to meet the needs of the pupils and the objectives of this research. Each of the students received a parental consent form (see Appendix A) so that they were acknowledged as being included in this study meanwhile ensured that their personal data would remain confidential. The consent form described the objectives and benefits of this experiment and authorized the rights to the participants to clarify any doubts with the researcher or withdraw from this study if they felt to be at risk during the study. Also, a pseudonym was assigned to the students if there was a necessity to discuss them in findings.

3.5 Instruments and Data Collection Procedure

In general, two instruments were used to drive this study and these were summative assessments and focus group interviews. These, in turn, ensured the triangulation of data as the data was collected quantitatively and qualitatively.

Prior to commencing this study, ethical clearance was sought from the Ministry of Education (see Appendix B), the Perak State Education Department (see Appendix C), the school (see Appendix D), the teacher and the students by distributing consent forms to them. However, it was important to note that the student interviewees received another consent form (see Appendix E) to be included in focus group interviews after each intervention was applied.

After seeking agreement from the parties involved, the students were seated in rows in the first two weeks of the experiment. Within these two weeks, they attended the classes as usual. To be specific, the researcher did not need to modify the learning syllabus to fit the purpose of this study. In the aspect of reading, a new topic was introduced bi-weekly and the same strategy to teach reading was applied throughout the study. In fact, the reading passages were directly retrieved from the school textbook without any modifications. Their reading comprehension was then tested twice through English tests. Hence, English reading comprehension scores were collected twice in the course of these two weeks.

When they were first placed in newly arranged tables, a pre-test was conducted in the class in which they were required to answer 5 multiple choice questions and 5 subjective questions after reading a given passage. The rationale of using multiple choice questions to assess their reading progression was that it made the data more reliable as it did not subject to human feelings when marking their answers. Meanwhile, subjective questions were meant to test their analyzing and reasoning skills towards certain facts in that particular reading passage. With these in mind, the questions were designed based on Bloom's Taxonomy, ranging from lower- to higher-order thinking skills. To add on, the subjective questions were made by making reference to the format of the English exam paper the participants took this year. Approximately two weeks later, the pupils, again, answered the same set of questions based on the same reading passage and a second English reading comprehension score was obtained. Both pre- and post-tests ran for about 15 minutes.

Following this, a focus group interview was conducted immediately before switching to another seating arrangement at the end of the second week. This was to ensure that the 5 interviewees could recall better about their feelings and opinions upon experiencing a row seating arrangement. During the interview, the researcher facilitated the whole process by asking them 3 general questions (see Appendix F) and prompting them to further discuss the questions asked. Besides, the respondents had their rights to answer those questions in their mother tongue. A total of 30 minutes was used to administer the whole session. The interview was audio-recorded for the purpose of data transcription. After transcribing the data, the researcher requested the respondents to check whether the transcribed data was the same as what they expressed during the interview.

In the third week, the seats were organized in clusters. Each seating arrangement was intervened for two weeks and the same scenario was applied to the horseshoe seating arrangement. In essence, this experiment was carried out over 6 weeks by conducting 6 pre-and post-tests, and 3 focus group interviews within that given time frame.

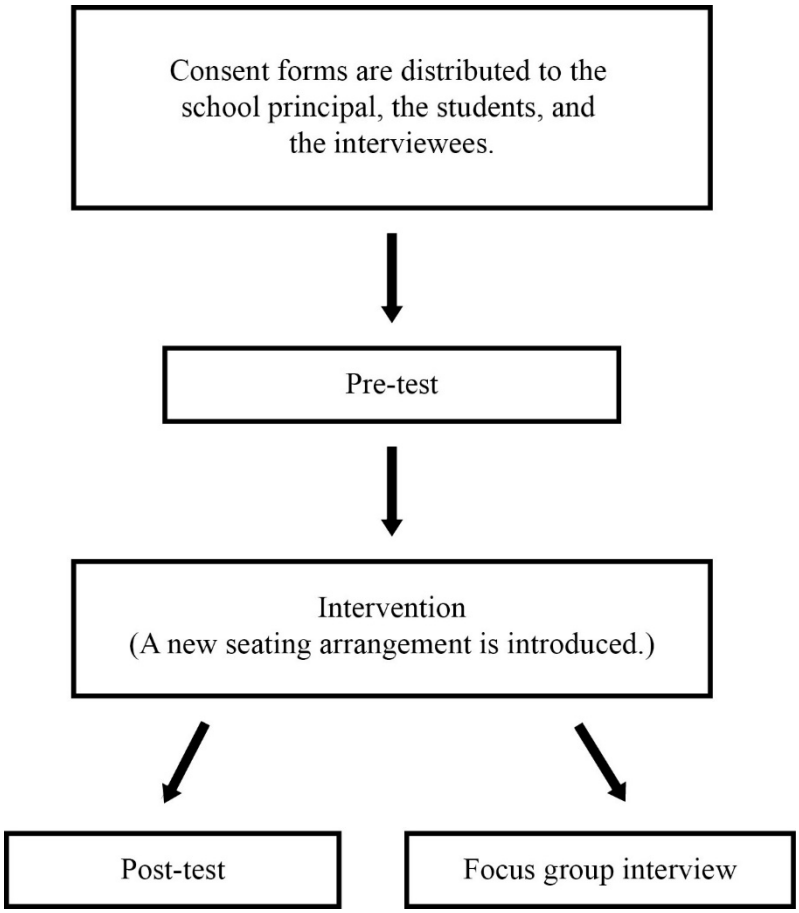


Figure 9: *Flowchart of the data collection*

3.6 Data Analysis

Since data sources of this study were twofold, the findings were discussed in two ways. For this reason, a paired sample *t*-test which is also known as the parametric test was used to analyze the scores obtained from the students in checking whether the intervention of seating arrangements affected their test scores. Also, the reading scores were analyzed by using the Statistical Package for the Social Sciences (SPSS) to measure p-value or calculated probability. Consequently, it was able to prove whether a particular seating arrangement that was being introduced in the class had a significant impact on student academic performance. To determine the success of the intervention, the p-value must be less than 0.05.

Apart from that, the interview data was transcribed and coded. Prior to the data transcription, the researcher, if necessary, had to translate the interview data that was recorded down in the respondents' mother tongue. The interview data was first classified as positive, negative, neutral, and no responses. After the classification of the responses, the researcher thus developed a few emerging themes to categorize the ideas shared by the interviewees.

3.7 Validity and Reliability

In an explanatory sequential mixed-methods research design, validity and reliability of the findings are seen through two different paradigms: positivism and interpretivism. The criteria discussed in each of these two paradigms are similar. Each criterion in each paradigm, however, has a slightly different meaning from the other paradigm.

In a positivist's view, internal validity, external validity, reliability, and objectivity are used in quantitative validation. According to Hendricks (2009), internal validity is defined as the extent of the truthfulness of the findings and how well the study is done. In other words, it scrutinizes the degree to which interventions affect the dependent variable. As for the collection and analysis of numerical data in this research, internal validity is minimized as it only controls for experimental mortality and subject selection. This is because the same sample group is pre-tested, intervened, and post-tested. Hence, there is no serious concern over the demands made on the participants in the study when a comparison between two sample groups never exist (Campbell and Stanley, 1963). However, in the present study, the researcher strived to maximizing the internal validity by having a focus group interview after each seating arrangement was introduced in a classroom. Through this, it ensures that the studied problem is explainable when the findings were presented in numbers and words.

As this research is first designed to be One-Group Pretest-Posttest, it has no external validity. Mills (2014) elucidates external validity as the generalizability of the findings in other contexts. That is to say, the results shown should be applicable to other individuals in a similar setting. Yet, it remains unknown whether interventions will yield the same effect on subjects in a control group. Due to the absence of a control group, one of the characteristics of this research design, researchers always find it hard to generalize the numerical data obtained. In other words, the present study, unfortunately, lacks external validity.

In order to measure the validity of the data, reliability should precede it. Joppe (2000) relates the notion of reliability to the stability of an instrument over time. If an instrument is stable, the results are replicable at two different times. This supports Charles's (1995) proposition that there is a clear correlation between the stability of an instrument and the reliability, which in turn, affects the repeatability of the results. Nevertheless, the characteristics a participant of the study possesses may cause measurement errors. As a result, Crocker and Algina (1986) suggest a demonstration of the reliability of the test scores should be carried out by test developers in advance. In the context of the present study, multiple-choice and comprehensive questions were designed based on Bloom's Taxonomy and the school English exam paper. In terms of reading topics, the passages were directly taken from the school textbook. This, in turn, ensures the data collected from the students' test papers were reliable to be analyzed.

Seeking objectivity and searching for logical and rational research approaches are vitally essential in positivist research (Carson, Gilmore, Perry, & Gronhaug, 2001). Central to this research is mathematical and statistical techniques, which put an emphasis on structured techniques to uncover objective reality. Objectivity can nonetheless be engineered by data triangulation to discover facts and explore the breadth understanding of a studied phenomenon (Carson et al., 2001). To achieve data triangulation and objectivity, quantitative instruments are therefore used to alleviate potential researcher bias and human error when research findings are presented in numbers. In the present study, summative assessments that were used in this research are highly objective when the questions were not meant to tap into human feelings but their reading performance. In fact, the student reading achievements were presented

statistically without the interference of human perceptions that might emotionally affect the interpretation of data.

Table 2: *Quantitative Validation in the Context of the Present Study*

Criterion	**Description(s)**
Internal Validity	• Sequential explanation triangulation through focus group interviews
Reliability	• Set the questions based on school English exam paper and Bloom's Taxonomy. • Took the reading passages directly from the school textbook.
Objectivity	• The use of summative assessments

In contrast, Guba (1981) takes a different stand to argue the trustworthiness of qualitative data. This can be established by introducing four criteria which are credibility, transferability, dependability, and confirmability. In Guba's criteria for validity of qualitative research (1981), credibility is referred to the ability of a researcher has to explain the complexity of a pattern found in a study, be it about the subjects themselves or the collected data. One way to increase credibility is to collect raw data such as audio recordings, video recordings, and documents (Guba, 1981). By having these items, it is important to do member checks with the study's participants to avoid any misleading or inconsistency in data presentation. To put it into the context of the present study, the researcher had the students to check their test paper once she finished marking the paper. On the other hand, the interviewees checked the audio transcripts to verify and re-read what they had said during the interviews.

In qualitative research, Guba (1981) also emphasizes the importance of the data to be able to transfer to other contexts. The term transferability itself then implies the study is context-bound. Therefore, the goal is not about generalizability but to provide detailed descriptive data, whereby it develops rich and thick descriptions of a specific context. With the use of data and context descriptions, interpretivists are keen to look at how a social context permits the comparison with another setting in which the transfer is applied (Guba, 1981). In qualitative view of the study about effectiveness of different classroom seating arrangements on students' reading performance, thick description was used to provide a detailed and robust account of her experience of collecting the data. Explicit connections between the social and cultural contexts during the data collection were made. For instance, the time and venue to conduct the focus group interviews provided a fuller and richer understanding of the research location.

In terms of dependability in qualitative validation, the notion works similarly to reliability in collecting numerical data (Lincoln & Guba, 1985). To define, dependability deals with the stability of the descriptive data. This is because, for qualitative research, the data is open to infinite presentations as people may interpret the findings differently. Seeing the above scenario as an obstacle, it is crucial to use more than one research methods in the sense that the strength of one method compensates the weakness of another (Guba, 1981). This statement aligns with the practice of the present study when the researcher used focus group interviews as a way to further explain the data that was collected from the summative assessments. In addition, dependability is made possible when the researcher discussed how

data was collected, analyzed, and interpreted with other experienced ones. Throughout the discussion, other researchers were allowed to access original files such as listening to the audios.

In the same vein, Guba (1981) endorses the concept of objectivity with confirmability in qualitative research. To "confirm" the findings, it takes into account the neutrality of the data. Hence, triangulation is practised to cross-check the data using different sources and research methods (Guba, 1981). Moreover, a researcher needs to be reflexive to uncover the underlying potential biases and assumptions which one may make. In the context of the present study, the researcher re-looked the questions asked in focus group discussions so that the questions sounded unbiased to avoid the interviewees having one-sided thought.

All in all, the validity and reliability of the mixed-mode research design employed in this research seeks to develop a deeper understanding of what was happening in a classroom and concerns about whether the findings really provided solutions to the problem.

Table 3: *Qualitative Validation in the Context of the Present Study*

Criterion	**Description(s)**
Credibility	• The students checked their test paper once the researcher finished marking the paper. • The interviewees checked the audio transcripts to verify and re-read what they had said during the interviews.
Transferability	• Thick description was used to provide a detailed and robust account of the researcher's experience of collecting the data.
Dependability	• Method triangulation (The use of summative assessments and focus group interviews) • A discussion was made with other researchers to analyze and interpret the audio recordings.
Confirmability	• Re-looked the focus group interview questions to avoid researcher bias

3.8 Conclusion

This chapter clearly defines the research design used in the present study. A research location was then immediately selected prior to choosing a correct sample and sampling method. Following this, a detailed language background of the participants of the study was mentioned throughout this chapter. The chapter continues to develop by presenting the stages involved in data collection and analysis to achieve the research objectives. In addition, ethics-related issues were clarified throughout the discussion of the procedures of data collection. To conclude, the chapter ends with a discussion of the validity and reliability of the research.

Chapter Four

4.0 Introduction

Over the course of six weeks, numerical and non-numerical data were collected based on the methods outlined in the previous chapter. To recapitulate, the hypotheses of this study are as followed:

H_0 : There is no statistically significant relationship between different types of classroom seating arrangements and students' English reading achievement.

H_1 : There is a statistically significant relationship between different types of classroom seating arrangements and students' English reading achievement.

For each seating arrangement, the data is examined and divided into two main sections: students' reading tests' scores, and responses obtained in focus group interviews. Besides, research ethics is taken into consideration in a way that the test takers and interviewees in this study were randomly numbered and alphabetized respectively when the researcher discusses them in the following sub-sections. Through this, it ensures that their personal information remains confidential.

The second part of this chapter then answers two research questions as stated in Chapter One using the obtained findings. The findings are then summarized and interpreted in relation to the theoretical framework and reviewed literature.

4.1 Students' Reading Tests' Scores

To highlight, reading tests were administered before and after the intervention of a new seating arrangement. Two sets of scores were obtained for each seating arrangement. Consequently, in order to answer the studied phenomenon, the difference made between both sets of reading scores, for each intervention, is first calculated and discussed separately in terms of multiple choice questions and subjective questions, followed by a statistical analysis of the overall test scores. Lastly, the results of the *t*-test analysis is presented to look into the effectiveness of a particular seating arrangement in depth.

4.1.1 Statistical Analysis of the Reading Scores for Row Seating Arrangement

4.1.1.1 Multiple Choice Questions

Five multiple choice questions were distributed to a group of 24 students. Among these five test items, 40% of the test items had lower- and middle-order thinking skills while the remaining 20% assessed the students' higher-order thinking skills to ensure there was a proper distribution of cognitive skills needed in order to comprehend a passage.

As can be seen from Table G1 (see Appendix G), a comparison was made between the test results of a total of 24 students to determine whether they had improvement in their reading comprehension with reference to multiple choice questions when they were seated in rows. Based on the mean scores, student performance in answering multiple choice items in the pre-test was better than in the post-test with a slight drop of 0.25%, from 4.33% to 4.08%.

It was apparent from the table that 8 out of 24 students showed no improvement when they answered the questions. Among these 8 students, 5 students answered all multiple choice questions

correctly while student 09 and 11 answered one item wrongly. Although student 16 did not improve in the test results, he/she was able to answer 3 questions correctly.

On the other hand, only 25% of the participants made progress in their test results by answering all the 5 items correctly. To compare the reading progress made, 5 of them managed to score extra one mark in the second test whilst student 12 scored an extra two marks in the post-test.

In addition, 10 students showed the opposite and undesired effect in spite of the fact that 9 of them responded to an average of 3 to 4 items correctly. Student 19 in particular showed a drastic drop in the second reading test by circling only one answer correctly.

In general, there seemed to be no significant improvement or regression in reading achievement with respect to multiple choice questions when the students were put in rows. This was due to the fact that two mean scores recorded a difference of within 1%.

4.1.1.2 Subjective Questions

A total of 24 students completed 5 subjective questions in both pre- and post-test. Among these five questions, the first two questions tested their lower-order thinking skills while the following two questions assessed their middle-order thinking skills whereby they were required to analyze the information in a given reading passage. The last subjective question in the test paper evaluated their higher-order thinking skills.

As shown in Table G2 (see Appendix G), the findings provided a comparison of students' reading performance in answering subjective questions with the post-test's results when a row seating arrangement was used during English lessons. Based on the difference between mean scores, it had a slight increase of 1.21% in students' reading performance in relation to subjective questions; that was, on average, each student managed to answer at least 3 questions correctly in the second test.

The most striking result from the table was that 20 students showed an improvement in the second reading comprehension test. Among these 20 students, half of them were able to write correct answers for 3 to 4 subjective questions in the post-test whilst the reading scores of other 5 students showed an improvement of 2%. Besides, the most drastic improvement was shown by student 09, 11 and 19 whereby their score increased from 2% to 5%.

In contrast, 2 participants showed the opposite and undesired effect and this accounts for 8%, of the sample group. To further elaborate, student 07 and 08 underperformed when they attempted the subjective questions for the second time. From being able to answer 3 questions correctly, they ended up only getting 2 questions correct in the next test.

Also, another 2 students showed no difference in terms of reading scores when they sat with their tablemate; however, the reading scores they obtained is different. This was certainly true when student 01 and 13 scored 2% and 4% respectively in both tests.

In essence, most of the students performed better in answering subjective questions when they were put in rows.

4.1.1.3 Overall Reading Scores for Multiple Choice and Subjective Questions

The overall results of the reading scores obtained by the sample group were calculated and tabulated in Table G3 (see Appendix G). Generally, all the participants passed both pre- and post-test. That was to say, on average, they were able to make a correct response to at least 6 out of 10 test questions with a slight increase in the mean score of 0.96%.

As depicted in the table, the difference in students' reading scores between pre- and post-test were quite dissimilar. 9 of the sample group neither improved nor dropped in their test results, while half of them performed better in the second reading test. Among these 12 students, student 02 and 05 scored full marks at the post-test; at the same time, 9 of them obtained an addition of one to three questions correct in the second test. According to the table, it was also interesting to note that the scores obtained by student 12 served as an outlier as the score difference of 4 was far detached from the mean score difference of 0.96%.

Meanwhile, 3 students dropped in their second reading test. When they were placed in a row seating arrangement, both student 08 and 22 only managed to get 7 questions correct and their reading scores were recorded to be decreased by 1%. This is also to be the case for student 07 when his/her reading score marked a reduction of 2%.

To conclude, there was no significant difference in terms of students' reading achievement when a row seating arrangement was used during English lessons.

4.1.1.4 Results of *t*-Test Analysis

Table 4: The *t-Test: Paired Two Sample for Means for Row Seating Arrangement*

t-Test: Paired Two Sample for Means (Row Seating Arrangement)		
	Pre-test	*Post-test*
Mean	6.916666667	7.875
Pearson Correlation	0.200735635	
t Stat	-3.037171782	
P(T<=t) two-tail	0.005855395	
t Critical two-tail	2.06865761	

As indicated by Table 4, the data collected from both pre- and post- test was analyzed using paired sample *t*-test to investigate the effectiveness of row seating arrangement. Significant differences in students' reading achievement existed between students before and after seated in rows when P (T<=t) two-tail showed a value of less than 0.05; thus, the null hypothesis is rejected. To further clarify, the Pearson correlation examined the relationship between row seating arrangement and students' reading achievement. There was a weak positive correlation between these two variables despite the intervention results in a positive outcome during the intervention (r = 0.2). Nonetheless, it is apparent

(|t| = 3.23) that students showed slight improvements in their reading achievement when they were seated in rows. In this data set, row seating arrangement only improved students' reading scores, on average, by approximately 1 mark.

4.1.2 Statistical Analysis of the Reading Scores for Cluster Seating Arrangement

4.1.2.1 Multiple Choice Questions

Similar to the reading comprehension test conducted to examine the effectiveness of row seating arrangement in students' reading performance, the same group of 24 students who were seated in groups were assessed using another set of five multiple choice questions based on another reading passage. To further explain, the distribution of the multiple-choice items that assessed students' lower-, middle-, and higher-cognitive skills was 40%, 40%, and 20% respectively.

Table H1 (see Appendix H) illustrated the scores of multiple choice questions obtained by a group of 24 students when they were placed in clusters. Each score difference between pre- and post-tests was calculated to monitor students' learning progression under the factor of seating arrangement. Based on the mean scores, the students improved in their reading when there was an increase of 1.08% in the post-test, with the weighted average jumped from 2.96% to 4.04%.

According to the responses, 4 out of 24 students did not improve in their reading when cluster seating arrangement was used during English lessons. Among these 4 students, 3 students obtained 4 scores while student 13 was only managed to get 2 answers correct in the second test.

As indicated in the table, the number of students who improved in their second test was four times the number of students who marked zero score difference between two same reading tests. During the post-test, 6 of them scored an extra one mark whilst 7 of them scored an extra two marks. Besides, students 21 and 23 managed to get an extra three points in the post-test. Student 24 in particular scored an extra four marks in the second test, which his/her obtained reading score served as an outlier as the score difference of 4 was far detached from the mean score difference of 1.08%.

Meanwhile, 4 students had a drop in their reading performance despite the fact that each of them responded to an average of 3 to 4 items correctly in the post-test. Student 03 and 07 managed to get all the multiple choice items correctly before the intervention was introduced.

Overall, the cluster seating arrangement seemed to have positive influence on students' reading achievement. This was proven to be true when each of them managed to get at least 3 questions correctly except student 13 and it was even more evident when 6 of them managed to obtain full marks in the second test.

4.1.2.2 Subjective Questions

After attempting five multiple choice questions, the students, then, were asked to answer five subjective questions in the reading tests. These five questions were meant to evaluate to what extent they understand the passage, how they applied and evaluated the information in a given reading passage. For that reason, the questions were divided with a percentage of 40%, 40%, and 20% respectively to test students' lower-, middle-, higher-order thinking skills.

With reference to Table H2 (see Appendix H), the figures represented reading scores for subjective questions, that the students obtained when they sat in clusters. Based on the difference between mean scores, the final weighted class average is 4.25 and this indicated that their reading performance rose slightly in the post-test when the score difference marked a positive sign of 0.87%.

The most striking result from the table was 54% of students managed to improve their reading performance in the post-test. To elaborate, the number of students who scored an extra one point is the same as of those who scored an extra two points. Besides, a drastic improvement was shown by student 04, 11 and 24 where their test results jumped from 2% to 5%.

Yet, only 2 respondents showed the opposite effect and this made up 8% of the total number of students. Student 16 and 22 initially scored full marks and later, their reading scores fell by 2% and 1% respectively due to a change in their seating arrangement.

In contrast, the reading scores obtained by 9 students remained constant before and after the intervention. By looking at their second reading scores, it could be inferred that student 06, 14, and 17 were just on a par with other students who scored 4 to 5 marks.

In summary, the majority of the students were able to get a score of 4% to 5% in answering subjective questions when they were seated in clusters.

4.1.2.3 Overall Reading Scores for Multiple Choice and Subjective Questions

The figures, as shown in table H3 (see Appendix H), depicted the overall view of two sets of reading scores obtained by the group of students before and after the intervention. In general, all of them passed the post-test after being placed in a cluster seating arrangement. This was certainly true when they were able to respond to at least 6 out of 10 test questions correctly, with a slight increase in the mean score of 1.96%.

Looking closely at the difference between two sets of reading scores, it was logical to deduce that the intervention caused the students' reading performance to shoot up by at least 10%. From the table, 79% of them managed to achieve a better result in the post-test. On overage, these students were able to obtain an extra one to three points. In the meantime, student 04 and 11 scored an extra four points; student 21 and 23 obtained an extra five points, whilst student 24 improved remarkably in his/her reading performance when his/her test result jumped from 3% to scoring full marks. In accordance with that, 5 outliers were identified after the intervention was implemented in the class as their score difference was far detached from the mean score difference of 1.96%.

On top of that, 4 students marked zero score difference after comparing their pre-and post-tests' results. Yet, they achieved 7 points and above and were able to maintain their score regardless of different seating arrangements. Meanwhile, student 03 was the only respondent who had a drop in his/her reading performance due to the intervention.

To sum up, cluster seating arrangement did affect the students' reading achievement with the fact that two sets of reading scores were statistically and significantly different.

4.1.2.4 Results of *t*-Test Analysis

Table 5: The *t-Test: Paired Two Sample for Means for Cluster Seating Arrangement*

t-Test: Paired Two Sample for Means (Cluster Seating Arrangement)		
	Pre-test	*Post-test*
Mean	6.333333333	8.291666667
Pearson Correlation	0.234680825	
t Stat	-4.772126976	
P(T<=t) two-tail	8.21557E-05	
t Critical two-tail	2.06865761	

The paired *t*-test result in Table 5 further concluded that there was a statistically significant difference between mean marks of the pre- and post-tests (P(T<t) two-tail < 0.05). Therefore, the null hypothesis is rejected at a 5% significance level when the *t*-test result served as proof that cluster seating arrangement was effective in boosting the students' reading achievement. It was then undeniable that cluster seating arrangement was positively correlated with students' reading scores when Pearson Correlation successfully showed a value of 0.2. Furthermore, when average performances were compared in the initial and final tests, statistically significant results had been obtained, that was on average, each student improved their scores by approximately 2 marks. The difference obtained (t = -4.77) also stated that students' reading scores were strongly influenced by cluster seating arrangement.

4.1.3 Statistical Analysis of the Reading Scores for Horseshoe Seating Arrangement

4.1.3.1 Multiple Choice Questions

The same group of 24 students sat in a horseshoe seating arrangement was first assessed using five multiple choice questions based on a reading passage. To further elaborate, the distribution of the multiple-choice items that assessed students' lower-, middle-, and higher-cognitive skills remained the same as of the multiple-choice items to test the effectiveness of row and cluster seating arrangements; that was, 40%, 40%, and 20% respectively.

As shown in Table I1 (see Appendix I), the findings displayed the score difference resulted from both pre- and post- tests taken by the same group of students when they sat in a horseshoe seating arrangement during English reading lessons. Based on the mean score, it was clear that there was no statistical significant difference in terms of students' reading achievement after the intervention, with only an increase of 0.25%.

Based on the responses, 8 out of 24 students marked zero improvements in their reading performance. Amongst these 8 students, 4 students obtained 3 scores while the other 3 students were able to score 4 marks throughout the tests. It was also apparent from the table that student 15 passed both tests with flying colours and maintained his/her results regardless of seating arrangement.

On the bright side, 9 students improved in their reading performance in the post-test. To point out, 4 students scored one extra mark and this scenario was the same as those who obtained two extra marks in the post-test. Unlike them, student 11 was able to show an improvement of 3% by the end of the post-test.

In Table I1, 7 students had a drop in their reading performance and this contributed 29% to the total number of students. By the end of the post-test, 5 students witnessed a reduction of 1% whilst the other 2 students lost two more marks when their results were compared with the pre-test. To add on, some of these students either merely passed or underperformed in the post-test.

In general, the horseshoe seating arrangement was likely to only benefit a small number of students when the findings were looked from the dimension of only multiple choice questions that were answered by them. This was proven to be true when there was a huge disparity between students' reading scores in the second test, ranging from 1% to 5%.

4.1.3.2 Subjective Questions

Five subjective questions were then administered to the students in both reading tests with a purpose of assessing their understanding about the passage, how they used and interpreted the information of what they read in their own view. For that reason, a percentage of 40%, 40%, and 20% was used to adapt the questions in order to test the students' lower-, middle-, and higher-cognitive skills respectively.

With reference to Table I2 (see Appendix I), the numbers represented the reading scores, in terms of subjective questions, that the students obtained when they sat in a horseshoe seating arrangement. Based on the difference between mean scores, it showed a positive sign of 0.67% and this indicated that their reading performance rose slightly in the post-test.

Unlike Table I1, the most striking result from the table was that 58% of students witnessed to have better reading scores at the post-test. To further elaborate, 9 students scored one extra mark whilst 4 students obtained two extra marks when they answered the same questions for the second time. In addition, student 01 had the most significant improvement in his/her reading performance with the post-tests scores increased sharply from 1% to 4%.

However, 4 respondents showed the undesired effect and this made up 17% of the total number of students. Amongst these 4 students, 2 students had a reduction of 1% despite the fact that they were still able to obtain 4 marks in answering subjective questions in the post-test. At the same time, the reading scores obtained by student 04 and 07 fell to 3% and 2% respectively due to a change in their seating arrangement.

As noted in Table I2, the reading scores obtained by 6 students did not change before and after the intervention. By looking at the post-reading scores, student 16 was almost on a par with other students who scored 4 marks. Hence, it could be inferred that the students were able to, at least, maintain their reading performance on an average level without being influenced by the horseshoe seating arrangement.

In conclusion, a majority of the students scored 4 marks in answering subjective questions when they sat in a horseshoe seating arrangement whereas the rest were either underperformed or just on an average level of the reading scores.

4.1.3.3 Overall Reading Scores for Multiple Choice and Subjective Questions

Table I3 (see Appendix I) showed two sets of reading scores obtained by the sample group, before and after the intervention. Generally, all of them passed the post-test by making correct answers to at

least 5 questions. Based on the mean scores, it was self-explanatory that the intervention only successfully enhanced the reading performance among some students, with the mean score difference of positive 0.91%.

Looking closely at the difference between two sets of reading scores, there was a huge difference between those improved in their reading performance and those who did not, ranging from a score difference of positive 4% to negative 2%. As presented in the table, 13 out of 24 students managed to obtain a better test result at the post-test. To elucidate, 2 students witnessed an improvement of 20% in terms of their reading scores and the amount of students appeared to be the same as those who improved three marks in the post-test. In the meantime, student 01, 08 and 11 shot up their reading performance by 40%. In accordance with that, they were labelled as the outliers.

On top of that, 5 students remained constant in their reading achievement over the period studied. Student 02 and 15 scored 9 marks for both pre- and post-tests while the rest managed to obtain 6 marks and above. As for the remaining 6 students, their second reading scores decreased to 5% to 6%. It therefore could be inferred that they were merely on the average level of the reading performance when a horseshoe seating arrangement was used during English lessons.

To summarize, the second set of reading scores obtained by the students varied differently although horseshoe seating arrangement did influence students' reading achievement, negatively and positively.

4.1.3.4 Results of *t*-Test Analysis

Table 6: The *t-Test: Paired Two Sample for Means for Horseshoe Seating Arrangement*

t-Test: Paired Two Sample for Means (Horseshoe Seating Arrangement)		
	Pre-test	*Post-test*
Mean	6.416666667	7.333333333
Pearson Correlation	0.292975471	
t Stat	-2.541077836	
P(T<=t) two-tail	0.018257012	
t Critical two-tail	2.06865761	

When Table 6 was examined, it was seen that there was a statistical significant difference between average scores of the pre- and post-tests obtained by the sample group (P(T<t) two-tail < 0.05). With accordance to that, the null hypothesis is rejected at a 5% significance level to imply that students' reading performance was affected by the horseshoe seating arrangement. To better understand the relationship between these two variables, the Pearson Correlation confirmed that horseshoe seating arrangement had a weak positive correlation with the dependent variable at 0.29.

According to the table, the mean values increased from 7.33 to 6.41 and this situation was similar to that of row seating arrangement. That was, on average, each sample was only managed improved one more

point in their final evaluation of that particular intervention. Additionally, the difference obtained (t = -2.54) also stipulated that students' reading scores were weakly influenced by horseshoe seating arrangement as compared with that of row and cluster seating arrangements.

4.2 Focus Group Interview

The following sub-sections are arranged in a way that the focus group interview data resulted from row seating arrangement is first discussed, followed by cluster and horseshoe seating arrangements. Based on the data from the focus group interview of each seating arrangement, three themes emerged in relation to that particular seating arrangement and were discussed in-depth by five interviewees: students' attitudes toward the seating arrangement implemented in the classroom, their preference for classroom seating arrangement and reasons for these preferences, and their perceptions of this seating arrangement on their reading performance in the classroom, through the interviewees' narrative accounts.

To come out with the emergent themes, the researcher first highlighted and classified the responses in different colors. By looking at the patterns of the responses, six sub-themes were developed and each of the two sub-themes were grouped in a rather general theme. To simplify, the researcher used an inductive approach to develop three themes as mentioned in previous sub-section.

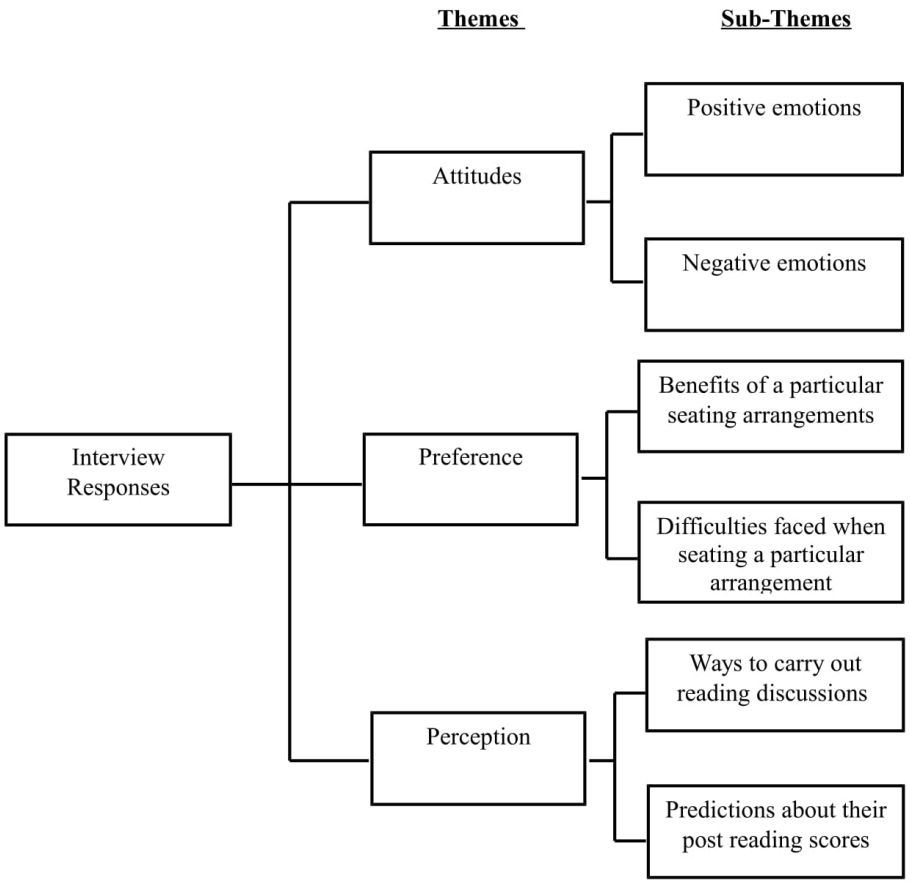


Figure 10: *Emergent themes and sub-themes based on analysis of interview responses*

4.2.1 Descriptive Analysis of Row Seating Arrangement

4.2.1.1 Students' Attitudes towards Row Seating Arrangement

When asked about their feelings for placing them in a newly assigned seating arrangement for about two weeks, the majority of them reacted negatively towards that. In brief, they shared their opinions that they did not really enjoy sitting with their tablemate. Rather, it caused inconvenience to them. This statement is further exemplified by using their accounts.

For interviewee A, he was angry when he sat with his partner. He further expressed his anger that he had to ignore the existence of his partner when his partner disturbed him during the lessons. Not only did his partner not help him in terms of learning, but also influenced interviewee A to make noise in the class by "disturbing each other" when either one of them "was boring" in the class.

Unlike interviewee A, student B shared his sadness as he had to sit alone when his partner was transferred to another school during the intervention. He reminisced about how they spent time together in the class by "talking Japanese culture" in the class. On the other hand, student D showed her dislike of her tablemate. She expressed her annoyance by stating that her tablemate was a "talkative" girl and this "irritated" her when she tried to stay focus in the class. To add on, her tablemate loved to "make things

worse" in the sense that she was not helpful in student D's learning. Consequently, both of them always "quarreled" in the class.

As presented in the data transcriptions, student C, however, recorded a positive attitude when he was placed in a row seating arrangement. This was mainly due to the fact that he, by chance, was happened to pair up with his best friend. In his account, he shared: *It was fun sitting with my friend.* Yet, this positive attitude towards the seating arrangement did not result in positive classroom behaviours. This was likely to be the case when student B complained that "both of them always [got] scolded by the teacher because they whispered to each other when the teacher was talking in front." Student C even admitted that he always "talked loudly" with his tablemate in the class.

4.2.1.2 Students' Preference for Classroom Seating Arrangement

When reflecting on how they learned to read a language in a row seating arrangement, three of them mentioned that they favoured the learning environment of sitting in groups whereas the other two showed neutral responses to the row seating arrangement. In this context, the stated group seating arrangement was similar to the cluster seating arrangement that was yet to be implemented. Detailed elaborations and explanations were further explored throughout their discussions.

For student D, who sat with an annoying partner, she bore a strong likeness to group arrangement as she could carry out an effective discussion with her groupmates. Despite the noise that a group tended to make, she expressed her opinions that the noise was actually resulted from "the sharing of their own information" among the group when each group member actively participated in the discussion. Student B then compared the current seating arrangement with the previous one. He perceived that the current arrangement did not promote effective communication and learning because "brilliant ideas were only stemmed within the pairs and it is less possible that the brilliant ideas to be shared to other pairs of students."

Similarly, student C also made a relation to the seating arrangement with the way he learned to read a language. He desired the learning environment where he sat in a group and hold a discussion among the group members. Through this, he believed that he could "[generate] more ideas to improve in exams." As opposed to the current seating arrangement, he was unable to make a progress in his learning as he needed to teach his friend and unquestionably, there was no discussion between them.

On the other hand, student A and E indirectly confirmed what has stated by student B, C, and D. In student A's anecdotes, he preferred talking to the friend who sat at the back because both of them shared the same interest. Because of that, it was easier to initiate the conversation as compared with his current tablemate. As for student E, she had to code-switch and teach her partner and this appeared to be the same as what was faced by student C.

4.2.1.3 Perceptions of Row Seating Arrangement on Students' Reading Performance

When reviewing the transcripts, the interviewees shared the same perception of row seating arrangement on their reading performance. As mentioned in the previous sub-sections, they perceived that it brought disadvantages to them and this might result in them to drop in their reading performance. Moreover, they even hold a strong belief that if they were able to show improvements in their post-test, it was mainly due to their own capability.

To highlight the responses made by student A, he mentioned that he was able to score better results in the post-test with the help of his friend who sat at the back. Yet, he stated that he would try his best to improve himself if his friend did not sit near to him. On the contrary, student C asserted a thought-provoking fact throughout the discussion and that was, whether a student improves in their reading, "it depends on whom you are sitting with". Hence, it could be inferred that a sitting partner serves as a crucial aspect in determining and enhancing students' reading achievement in a row seating arrangement.

4.2.2 Descriptive Analysis of Cluster Seating Arrangement

4.2.2.1 Students' Attitudes towards Cluster Seating arrangement

When asked about their feelings for placing them in a cluster seating arrangement for about two weeks, the majority of them, unlike previous focus group interview, reacted positively towards it. In general, they truly enjoyed themselves sitting with their groupmates and it brought joy to them during the lessons. This statement is further exemplified in their accounts.

For interviewee B, he felt happy and comfortable when sitting with his groupmates. He further explained the reason why he was happy with such a seating arrangement by claiming that he had "fun" sitting with his friends, who were also his current groupmates. These feelings and reasons for having such feelings were also shared by student D and E. This seemed to be the case when student B, D, and E were coincidentally placed in the same cluster.

As opposed to what they had mentioned, student A extended his anger towards his previous sitting partner in these two weeks. This was mainly due to the reason that he, unfortunately, was assigned to sit beside his ex-partner in a cluster. Again, his ex-partner "disturbed" him in the class by "shaking and beating" him. Apart from that, student C was "sad" when he got to know that he was placed in a cluster seating arrangement. He, as noted in previous data transcription, who had to teach his sitting partner tended to do the same routine no matter how his seating arrangement changed over the studied period.

4.2.2.2 Students' Preference for Classroom Seating Arrangement

When reflecting on how they learned to read a language in a cluster seating arrangement, all of them found enjoyable learning in such a physical environment where students were assigned to sit in groups. Detailed elaborations and explanations were further explored throughout their discussions.

For student A, he valued the importance of this seating arrangement as a way to foster the language gap between weak and advanced learners. In his responses, he asserted that "[they] could discuss in a group if they did not know certain words or facts." It was then "facilitated [their] language comprehension." Student B agreed on the claims made by interviewee A by making a comparison between sitting alone and sitting in a group. He commented no one could provide instant help in terms of learning the language when one was sitting alone in the class. Undoubtedly, the opposite was true when one sat with his/her group members.

It was also enlightening to find out that student D and E had desired the current learning situation in the sense that "the flow of ideas" was highly possible to be happening as compared with the row seating arrangement. As quoted from their responses, "sharing is caring" and "do not be stingy to share" were the solid evidence provided by them to show their high preference for the current seating arrangement. As for student C, it did not bring benefits to him although he preferred cluster seating arrangement. He

claimed that the benefits were mainly meant for his partners as he “helped [them] a lot” in learning to comprehend and read a language.

4.2.2.3 Perceptions of Cluster Seating Arrangement on Students’ Reading Performance

When reviewing the transcripts, the interviewees shared two opposing views about the fact of cluster seating arrangement affects students’ reading achievement. Despite their preference towards cluster seating arrangement, some of them disagreed that it benefited them academically. To add on, some of them shared a strong view that it was easier to be distracted by their group members when the group members started to talk something that “[was] out of learning content.”

Interviewee A, D, and E shared the same pool of responses by opining that they tended to improve their test results when they worked with bright students in the class. On the contrary, interviewee B claimed the opposite to be true as “some of [the group members] might be talkative and annoying.” Although he could [learn something] in this intervention, he still preferred a quiet learning environment. Consequently, it could be deduced that attitudes and reading performance were not interrelated when they associated with the seating arrangement. In this interview, the researcher, again, was hooked by student C’s response. In his personal anecdote, he did not perceive that he was able to improve his reading scores through this intervention. Rather, he mentioned, “one’s speaking skills might tend to be improved if he/she is seated in a group.”

4.2.3 Descriptive Analysis of Horseshoe Seating Arrangement

4.2.3.1 Students' Attitudes towards Horseshoe Seating Arrangement

For horseshoe seating arrangement, when asked about their feelings for placing them in such arrangement for approximately two weeks, different attitudes were shared by the interviewees. Although most of them reacted positively towards horseshoe seating arrangement, some of them still critiqued to have such seating arrangement in the class.

As usual, interviewee C felt happy when he "[could] sit with his friends". From here, it could be seen that interviewee C showed his satisfaction throughout the implementation of these three seating arrangements. Hence, it was logical to deduce that the main source of his satisfaction and happiness was his friends. Similarly, student D shared the same feeling and reason for having such feeling as interviewee C. Yet, her happiness was diminished when she "[was] annoyed by the teacher". This was because she was sitting near to the teacher's table and she perceived herself was under the supervision of the teacher.

Student B, however, felt nothing was changed by asserting "no difference" when the question was posed to him. Right after that, interviewee C opposed student B's statement and claimed difference did exist as it was all about "the people [whom they were] interacting with". The criticism towards horseshoe seating arrangement increased with the expression shared by student A. In his narrative, he expressed his boredom when the teacher modified the tables in the class into a U-shape. With such physical change in the classroom environment, he had no chance to face his classmates but had to sit in a linear form whereby he only allowed to turn left and right if he wanted to communicate with other students.

An interesting response was evidenced and narrated by student D. She felt "easy because [she could] look at the whiteboard clearly". Unlike other students who sat in the column position, the tables in row permitted her to have direct eye contact with the teacher. Therefore, she could frequently interact with the teacher and directly ask the teacher if she faced any difficulties in learning. In addition, she sat beside her friends. These three statements thus contributed to the main factor of her happiness.

4.2.3.2 Students' Preference for Classroom Seating Arrangement

When considering how they learned to read a language in relation to a horseshoe seating arrangement, most of them found there was "nothing different" as compared with a cluster seating arrangement. Significant and pertinent responses were provided using their personal accounts.

In student D and E's responses to the above question, they perceived the way they learned to read a language was still the same as when they were placed in clusters. What this meant, as both of them made clear was that "[they] were doing the teaching instead of learning" when they sat with their friends. This might be true when interviewee A explicitly stated that "the way [he] approached his classmates was the same" as in cluster seating arrangement. In other words, it implied that there were no barriers in communicating with his friends as compared with the row seating arrangement.

Aside from that, student B and C preferred this seating arrangement in the sense that "all the boys [could] sit together". As the majority of the class were girls, the boys were always grouped or paired up with girls. Through the implementation of the horseshoe seating arrangement, all the boys sat together and learned to read the language through discussions. Yet, student C provided a thought-provoking

statement; that was, in his opinion, the previous seating arrangements "[were] meant for studying while this arrangement [was] for fun".

4.2.3.3 Perceptions of Horseshoe Seating Arrangement on Students' Reading Performance

When posing them a question of whether their current seating arrangement affected their reading performance, half of them agreed with it while the rest confidently argued it was not true. During their discussion, they justified their perceptions by providing different dimensions to the aforementioned question.

Throughout the discussion, student B showed no participation and remained silent while others debated the question posed. For student A and C, they viewed this seating arrangement did not improve their reading performance. Their assertion thus indirectly revealed that by having a positive attitude towards the implemented seating arrangement, it did not guarantee any academic benefits in return. Student A justified his answer through his explanation: "If it was in a group, we could discuss and share our thoughts when we were asked to read a passage." However, this seating arrangement was hard for him to exchange ideas with his classmates. Student C supported student A's justification and added on to the list by claiming that this arrangement only "benefited weak students as it only [empowered them] to guide the weak ones."

In contrast, student D and E offered opposing perspectives that this seating arrangement led to better results in their reading performance. For student D, she was benefited from her seating position; for that reason, she would directly ask the teacher if she had questions instead of seeking help from her friends in the first place. The same reason was also applicable to student E's situation due to her strategic seating position of directly facing the whiteboard. Hence, she could easily focus on the teacher's talk.

4.2.4 Students' Rank of Seating Arrangements in terms of Its Effectiveness to their Reading Achievement

Upon using three different seating arrangements during English reading lessons, the interviewees were asked to rank the seating arrangements based on its effectiveness in relation to their reading achievement. This was done when they had the third focus group interview with the researcher. The results were reflected in Table 7.

Table 7: Students' *Rank of Seating Arrangements in terms of its Effectiveness to their Reading Achievement*

Interviewee	**Classroom Seating Arrangement (Row, Cluster, Horseshoe)**		
	Most effective	**Effective**	**Least effective**
A	Row	Cluster	Horseshoe
B	Cluster	Row	Horseshoe
C	Cluster	Row	Horseshoe
D	Row	Horseshoe	Cluster

E	Horseshoe	Cluster	Row

As noted in Table 16, the way interviewee B ranked the classroom seating arrangements was the same as interviewee C. That was, both of them perceived cluster seating arrangement was the most effective one whereas the least effective seating arrangement was the horseshoe. Based on the table, it was also noticed that interviewee A had a different opinion as compared with interviewee B and C in terms of the most effective seating arrangement. In his opinion, students' reading performance would have the most significant improvements if they sat in rows. This thought was also shared by interviewee D. But, interviewee D ranked cluster as the least effective seating arrangement. Besides, there was a great discrepancy between the ranking provided by interviewee E and by the rest. In her response to the effectiveness of three different seating arrangements imposed in the course of six weeks, she ranked horseshoe as the most effective seating arrangement and row as the least effective one.

4.3 Discussion

As discussed in previous sub-sections, there is a statistically significant relationship between different types of classroom seating arrangements and students' English reading achievement. With reference to the statistics presented, the null hypothesis is rejected when *t*-tests' results for each seating arrangement successfully presented a p-value of less than 0.05. Upon examining the results of three *t*-tests, the Pearson's correlation value of between 0.200 to 0.293 also suggested that a weak and positive correlation existed between each classroom seating arrangement and students' English reading achievement.

To restate, the previous sub-sections included all the data collected over a six-week investigation period based on the research questions:

1. What is the most effective seating arrangement that can be used to increase students' academic achievement in an English reading class?

2. How do different seating arrangements affect students' academic achievement in an English reading class?

In this sub-section, Bandura's Reciprocal Determinism Theory (1986) and Wheeless's Instructional Communication Theory (1977) are incorporated to explain the findings. The data is thus analyzed thoroughly in relation to these two theories and the reviewed past studies.

4.3.1 What is the most effective seating arrangement that can be used to increase students' academic achievement in an English reading class?

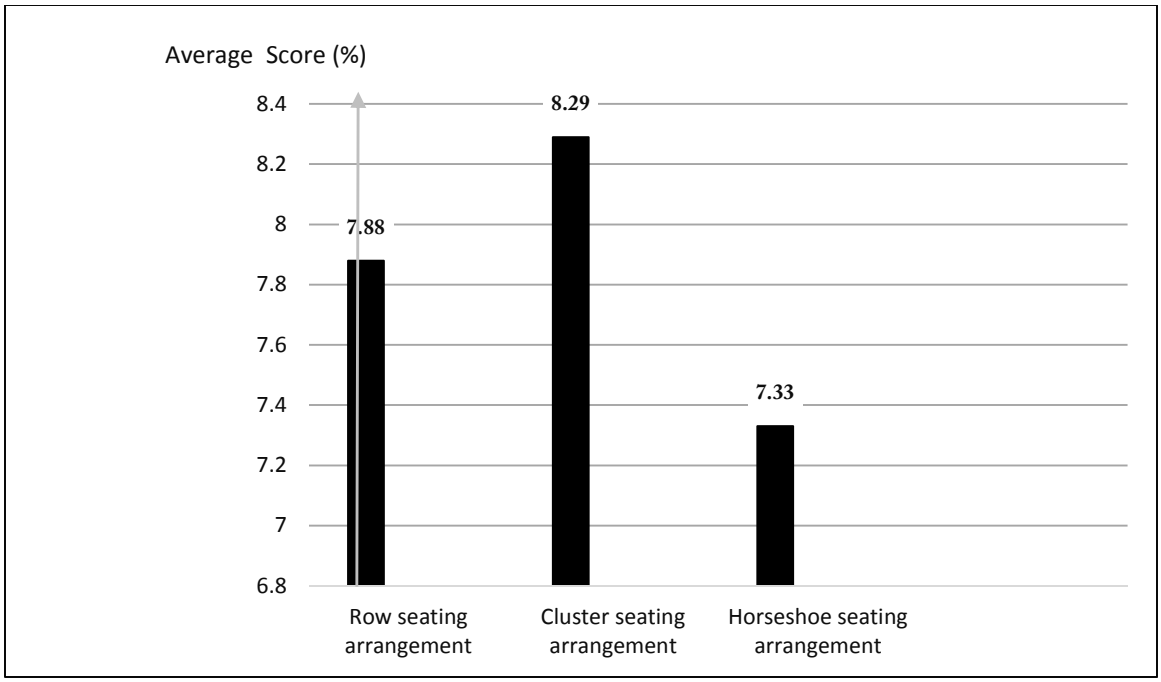


Figure 11: *Average score for each row, cluster and horseshoe seating arrangement after the intervention*

As illustrated above, the cluster seating arrangement proved to be the most effective seating arrangement used in increasing students' academic success in an English reading class. 79% of the sample group obtained better results when their seating arrangement was assigned to be cluster as compared with row and horseshoe seating arrangements which only managed to achieve a success rate of 50% and 42% respectively. Interviewee A from the focus group interview asserted, "We could discuss in a group if we did not know certain words or facts and it facilitated our language comprehension." Looking closely at the data presented, it is logical to deduce that it aids students' language comprehension when a teacher groups the students in an English reading class because it allows their peers to help them in the process of decoding a passage.

This finding is in agreement with Wasnock's (2010) research which showed that students benefited more from their learning when they sat in groups. When students participate actively in the class, their academic performance will be better (Jones, 2007; Wulf, 1973). This is proven to be true when Interviewee A, D, and E claimed that they could improve their results when they worked with advanced learners in the class. Also, Interviewee A mentioned that "[They] could discuss in a group if they did not know certain words or facts." This is then confirmed by Steinzor (1950) that learners tend to communicate more when they cluster their seat.

Using Bandura's model of Triadic Reciprocal Causation to answer the first research question, the imposed environment which is classroom seating arrangement is a crucial factor that can affect learners' attitudes in terms of academic success. Therefore, this suggests that students' attitudes towards row, cluster, and horseshoe seating arrangements can influence their academic success in English reading classes. The focus group interview data, however, did not present as such. Although most of the interviewees reacted positively towards cluster seating arrangement, interviewee C claimed that their attitudes towards the classroom seats modified and their test performance were not interconnected.

When he sat with his group members, he “helped [them] a lot” to comprehend a reading passage in which only his group members were the main benefactors of this seating arrangement.

As depicted in the bar chart, horseshoe seating arrangement marked the least effective seating arrangement when in fact, some interviewees showed satisfaction towards the intervention. Similarly, the row seating arrangement was still able to account for a successful intervention rate of 50% even when all the interviewees were unhappy to sit with their tablemate. For that reason, it opens a new dimension to the research as there might be other underlying external factors that are yet to be explored to further explain the aforementioned controversies.

Apart from that, Scott and Wheeless’s Instructional Communication Theory (1977) suggests each seating arrangement has seats with different interactional levels, ranging from low to high. Upon looking at the distribution of seats with low, medium, and high interactional level as shown in Figure 1, 2, and 3, it is found that, in this research, the cluster seating arrangement possesses seats with low interactional level the least, as compared with row and horseshoe seating arrangements. By drawing a connection between the interactional levels that a classroom seat has and students’ learning, it assumes that seats with high interactional level ease students’ learning (Chesebro & McCroskey, 2001) whereby they urge students to communicate with their classmates. For that reason, as narrated by interviewee D, group seating arrangement such as cluster will encourage students to “share their information” among the group when an effective discussion is carried out among the groupmates. This seating arrangement, in turn, serves as the most effective seating arrangement to increase students’ academic achievement in an English class.

4.3.2 How do different seating arrangements affect students’ academic achievement in an English reading class?

For all interviewees, row seating arrangement felt counterintuitive and isolating to the desire for a supportive and interactive learning environment. This finding corroborates Kinahan’s (2017) idea, which suggested that in classrooms where engagement and participation are expected, this type of classroom seating arrangement is not deemed suitable for teachers and students to meet their educational goals. This is certainly true when the students, on average, only improved at about 0.9% in the post-test when they were seated in rows.

To align the use of classroom seating arrangements with 21st-century learning, there is an emphasis on sharpening students’ soft skills in terms of collaboration, communication, creativity and innovation, critical thinking and problem solving (Bruniges, 2012; Yusup Hashim, 2014). In row seating arrangement, the above cannot be achieved when students learn in isolation. It, thus clarifies why half of the sample group failed to improve when row seating arrangement was implemented in an English reading class. Hence, it is not surprising to note that most of the interviewees more preferred to be seated in groups than in rows. This was reflected in the second data transcription whereby they recorded positive feelings such as fun, comfortable, and happy towards cluster seating arrangement.

In a research done by Marx, Fuhrer, and Hartig (2000), the horseshoe seating arrangement is more effective than row seating arrangement in a way that it promotes students to perform better in their academic. The findings were shown by horseshoe seating arrangement in the current study, however, do not support the previous research. This rather contradictory results may be due to several factors. Across three interventions, starting from row, cluster, to the horseshoe, it challenges students to acquire higher

communicative skills. As compared with row seating arrangement which promotes solitary learning among learners, a U-formation of seats urges them to argue and defend their thinking through classroom activities such as debates. The sample group is incapable of performing that which, in turn, results in the intervention of classroom seats with a U- formation to be the least effective classroom seating arrangement. With this in mind, it may conceivably that the third element, personal factor, in Bandura's model interplays in this study. Such personal factor includes their language aptitude and learning preference which are yet to be explored with the use of different seating arrangements in English reading classes.

Reading a passage is meant to teach learners to decode and encode the inputs. Through classroom discussions, learners are open to a vast possibility of how others comprehend a passage differently. Subsequently, learners understand a passage better when they hold discussions with their classmates. To achieve the goal of reading, the most advantageous classroom environment to learners is to cluster them. This is consistent with Scott and Wheeless's Instructional Communication Theory (1977) who offered a view that seating arrangements are distinctive, depending on the instructional goals set by teachers.

Analyzing the results from a different perspective, out of three classroom seating arrangements investigated, students seem to have the highest CA level when their seats are modified in a U-formation. Meanwhile, cluster seating arrangement decreases their CA level to the minimum. It is then self-explanatory through the bar chart as shown in Figure 11. Learners will choose seats with low interactional level if they fear of communicating with others (McCorskey, & McVetta, 1978). As mentioned in the previous sub-section, horseshoe seating arrangement comprises of the most seats with low interactional level. It is probable, therefore that this seating arrangement hinders students' learning when teachers, who are an authority figure standing in the centre of the class and supervising students. This works in parallel with the responses provided by interviewee C who claimed this kind of seat formation is meant for "fun" and brings no learning benefits. It then matches the results of the ranking of the seating arrangements based on its effectiveness in relation to their reading achievement that was done by the interviewees, who ranked horseshoe as the least effective classroom seating arrangement.

4.4 Conclusion

The research findings revolve around the effectiveness of row, cluster, and horseshoe classroom seating arrangements to improve students' English reading achievement, through pre- and post-tests as well as on behalf of students' perceptions. From the findings, it proves that amongst three classroom seating arrangements, the cluster seating arrangement is the most effective one and, in that regard, the notion of the role that classroom seating arrangement plays could not be negligible. With this in mind, students' experiences upon seating these three types of seating arrangements are further explored to have a deeper understanding of the studied phenomenon.

Although theories and reviewed literature demonstrate that classroom seating arrangement does impact students academically, socially, and behaviorally, some findings of existing studies contradict with what is found in this research. Due to that reason, it opens a new dimension for future researchers to further expand the studied issue.

Chapter Five

5.0 Introduction

The final chapter of this research is divided into two sub-sections: conclusions, and recommendations. In this research, the effectiveness of three types of classroom seating arrangements in relation to students' English reading achievement was researched by determining to what extent the research objectives framed have been attained. Conclusions are then derived from the research findings discussed in Chapter Four, the purpose, and research objectives of the study. As for the second sub-section, based on the empirical research findings and limitations presented in Chapter One, five recommendations are made to further investigate the studied issue.

5.1 Conclusions

After a thorough analysis of the results, it can be concluded that the intervention of row, cluster, and horseshoe seating arrangements successfully proves its role in enabling students to improve their reading scores, with the most effective intervention being the cluster seating arrangement. Based on the collected data, the researcher also proves that there is a relevant need of a reorientation in the approach to the seating arrangement strategies. There then arises a need for teachers to have proper classroom managements through training in order to make successful attempts to create an academically profound classroom.

As explained in Chapter Four, seating arrangements can establish a classroom learning environment, where certain seating arrangements can hinder the learning experience as much as foster it. In other words, it unconsciously affects students' learning experiences as well as teaching experiences of a teacher. Hopefully, this study will benefit teachers and the school administration to have a more flexible approach towards the seating arrangement plans of a class.

5.2 Recommendations

Despite the success of the research, several questions remain unanswered. Hence, this research still reveals many questions in need of further investigation. Four recommendations are then made to further enhance the success of this research.

As mentioned in Chapter One and Three, this study targets a group of 24 Form 2 Intermediate students as the research participants. However, caution must be taken with a small sample size because the results might not be transferable to another research setting. Thus, future researchers are advised to expand the research by experimenting it out across all the Form 2 classes. By including more samples in future studies, it is hoped that future researchers will get more comprehensive results. Also, it is advisable that the study might be carried out on students with different grades and language proficiency levels to verify the empirical results obtained from this research. Consequently, they will also benefit from the study if the same research findings are obtained.

Throughout administering the study for six weeks, student's seating arrangements were altered three times according to the established methodology. It is possible that a more significant impact would be observed if the students develop a better rapport with their seating partner(s) and thus yield better reading scores. Seeing above as a potential threat to affect the validity of the yielded findings, it is

suggested that future researchers can extend the study period of the research to three months. This is because a two-week period for getting used to and experiencing each seating arrangement was certainly not enough in comparison as it takes a longer time for adjusting to this changed arrangement, before being able to evaluate and discuss on its perceived effects.

Since the research only took place in a public secondary school, there might have been factors specific to this school environment that influenced the responses of the participants. With respect to that, it might make the research findings less applicable to schools with differing demographics, such as private schools or those in urban environments. To illustrate, urban schools may not have the space to consider the wide range of options that the students can afford when there are about 40 students placed in a standard sized of the classroom. With this in mind, it would be worth investigating further in order to increase reliability and generalizability of the research findings, by including private schools as well as schools in multiple towns and cities; subsequently, the research findings can be made use to achieve student aspirations set in the Malaysia Education Blueprint 2013-2025.

Different classroom seating arrangements in relation to increase students' reading achievement was a main need identified by the researcher and therefore, it is crucial to find out if the practicality of implementing this in a classroom. For future research, it would be interesting to not only study students' perspectives of using different seating arrangements to enhance students' reading achievement in an English class but also teachers' perspectives of that studied issue. This is because what students perceive the best might not be the case for teachers. Thus, future researchers are encouraged to consolidate the perspectives of both sides before reaching out conclusions.

References

Abcede, E. L. M., & Esguerra, M. J. F. (2015). *Selected high school students' preferences on seating arrangements: Effects on academic performance* (Unpublished undergraduate's thesis). University of Perpetual Help System DALTA, Manila, Philippines.

American Educational Research Association. (1976). *Relationship of assigned classroom seating area to achievement variables.* San Francisco, CA: Kathleen M. Wulf

Armbruster, P., Patel, M., Johnson, E., & Weiss, M. (2009). Active learning and student-centered pedagogy improve student attitudes and performance in introductory biology. *CBE-Life Sciences Education, 8*(3), 203-213. doi:10.1187/cbe.09-03-0025

Arikunto, S. (2007). *Pengelolaan kelas.* Jakarta: Rhineka Cipta.

Ary, D., Jacobs, L. C., & Sorensen, C. K. (2010). *Introduction to research in education*. Belmont, CA: Wadsworth

Asila Jalil. (2017, October 26). Low literacy rank because Malaysians don't want to read, say educationists. *The Malaysian Insight.* Retrieved from https://www.themalaysianinsight.com/s/20195/

Atherton, J. S. (2005). *Teaching in learning: Physical layout.* Retrieved from http://www.learningandteaching.info/teaching/layout.htm

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* Englewood Cliffs, NJ: Prentice-Hall.

Barrett, P., & Zhang, Y. (2013). A holistic, multi-level analysis identifying the impact of classroom design on pupils' learning. *Building and Environment, 59*(12), 678-689. https://doi.org/10.1016/j.buildenv.2012.09.016

Bennett, S. N., & Bundell, D. (1983). Quantity and quality of work in rows and classroom groups. *Educational Pyschology, 3*, 93-105. https://doi.org/10.1080/0144341830030201

Bernard, H. R. (2002). *Research methods in anthropology: Qualitative and quantitative approaches*. Walnut Creek, CA: Altamira Press.

Bernama. (2017, May 5). M'sia's literacy rate is almost 95%, not 55%: National Library. *New Straits Time.* Retrieved from

https://www.nst.com.my/news/nation/2017/05/236676/msias-literacy-rate-almost-95-not-55-national-library

Bicard, D. F., Ervin, A., Bicard, S. C., & Baylot-Casey, L. (2012). Differential effects of seating arrangements on disruptive behavior of fifth grade students during independent seatwork. *Journal of applied behavior analysis, 45*(2), 407-11. doi:10.1901/jaba.2012.45-407

Brophy, J. (1983). Conceptualizing student motivation. *Educational Psychologist, 18*, 200–215. doi:10.1080/0046152809529274

Bruniges, M. (2012). *21st century skills for Australian students*. Retrieved from http://www.dec.nsw.gov.au/documents/15060385/15385042/21C_skills_for_Australian_students_141112.pdf.

Bussey, K., & Bandura, A. (1999). Social cognitive theory of gender development and differentiation. *Psychological Review, 106*(4), 676-713. doi:10.1037/0033-295X.106.4.676

Bussis, A., Chittendon, E. A., & Amarel, M. (1976). *Beyond surface curriculum: An interview study of teachers' understandings.* Boulder, Colo.: Westview Press.

Campbell, D.T., & Stanley, J.C. (1963). Experimental and quasi-experimental designs for research on teaching. In N. L. Gage (Ed.), *Handbook of research on teaching*. Chicago, IL: Rand McNally.

Carson, D., Gilmore, A., Perry, C., & Gronhaug, K. (2001). *Qualitative marketing research*. London: Sage.

Charles, C. M. (1995). *Introduction to educational research (2nd ed.)*. San Diego: Longman.

Chesebro, J. L., & McCroskey, J. C. (2001). The relationship of teacher clarity and immediacy with student state receiver apprehension, affect, and cognitive learning. *Communication Education, 50*, 59–68. https://doi.org/10.1080/03634520109379232

Chitravelu, Nesamalar, Sithamparan, S., & Teh, S. C. (1995). *ELT methodology: Principles and practice.* Shah Alam: Penerbit Fajar Bakti Sdn. Bhd.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative and mixed methods approaches (4th ed.)*. London: Sage Publications Ltd.

Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage.

Crocker, L., & Algina, J. (1986). *Introduction to classical and modern test theory*. Toronto: Holt, RineHart, and Winston, Inc.

Derting, T. L., & Ebert-May, D. (2010). Learner-centered inquiry in undergraduate biology: positive relationships with long-term student achievement. *CBE-Life Sciences Education, 9*(4), 462-472. doi:10.1187/cbe.10-02-0011

Dunbar, C. (2004). *Best practices in classroom management.* Michigan: Michigan State University.

Emmer, E. T., & Stough, L. M. (2001). Classroom management: A critical part of educational psychology, with implications for teacher education. *Educational Psychologist, 36*(2), 103-112. https://doi.org/10.1207/S15326985EP3602_5

Evertson C. M., & Weinstein, C. (2006). Classroom management as a field of inquiry. In C. M. Evertson & C. Weinstein (Eds.), *Handbook of classroom management: Research, practice, and contemporary issues* (pp. 3-15). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Fernandes, A. C., Huang, H., & Rinaldo, V. (2011). Does where a student sits really matter? The impact of seating locations on student classroom learning. *International Journal of Applied Educational Studies, 10*(1), 66-77. Retrieved from https://pdfs.semanticscholar.org/b653/f362b5201ca792c9c5256ed7aeb25de12c00.pdf

Florman, J. (2003). *Psychological & quantitative foundations: Researching classroom seating arrangements.* Retrieved from

http://www.education.uiowa.edu/edatiowa/fall03/department/pandq/index.html

Gay, L. R. (1992). *Education research competencies for analysis and application*. London: Charles E. Milton Keynes Philadelphia Company.

Ghanaguru, S., Ng, H. L., & Ng, L. K. (2010). An initial study of reading problems and strategies: A teacher's perspective. *IPBA Journal, 3*(1), 17-38. Retrieved from http://www.ipbl.edu.my/portal/penyelidikan/seminarpapers/2003/sharminiIPBAkk.pdf

Guba, E. G. (1981). Annual review paper: criteria for assessing the trustworthiness of naturalistic inquiries. *Educational Communication and Technology: A Journal of Theory, Research and Development, 29*(2), 75–91. doi:10.1007/BF02766777

Hendricks, C. (2009). *Improving schools through action research: A comprehensive guide for educators*. Boston, MA: Allyn and Bacon.

Hogan, T. P., Bridges, M. S., Justice, L., M., & Cain, K. (2011). Increasing higher level language skills to improve reading comprehension. *Focus on Exceptional Children, 44*(3), 1-19. doi:10.17161/fec.v44i3.6688

Hood-Smith, N. E., & Leffingwell, R. (1983). The impact of physical space alteration on disruptive behavior: A case study. *Education, 104*(2), 224. Retrieved from http://search.ebscohost.com.libezp2.utar.edu.my/login.aspx?direct=true&db=pbh&AN=4709774&site=eds-live&scope=site

Inderjit, S. (2014). Reading trends and improving reading skills among students in Malaysia. *International Journal of Research in Social Sciences, 3*(5), 71-81. Retrieved from http://www.ijsk.org/uploads/3/1/1/7/3117743/6_reading_skills.pdf

Jones, L. (2007). *The student-centered classroom.* New York, NY: Cambridge University Press.

Jones, V. F., & Jones, L. S. (2004). *Comprehensive classroom management: Creating communities of support and solving problems*. Boston, MA: Pearson.

Joppe, M. (2000). *The research process*. Retrieved from http://www.ryerson.ca/~mjoppe/rp.htm

Juhary, J. (2012). An assigned seating arrangement based on students' performance: A critical review. *Journal of Education and Practice, 3*(14), 10-16. Retrieved from https://www.iiste.org/Journals/index.php/JEP/article/download/3414/3441

Kaliska, P. (2002). *A comprehensive study identifying the most effective classroom management techniques and practices.* (Unpublished master's thesis). The Graduate School University of Wisconsin, USA.

Kaya, N., & Burgess, B. (2007). Territoriality seat preferences in different types of classroom arrangements. *Environment and Behaviour,39*, 859-879. https://doi.org/10.1177/0013916506298798

Kinahan, M. P. (2017). *Teachers and seating arrangements and assignments: a qualitative study* (Doctoral dissertation). Retrieved from Education Resources Information Center. (ED576228)

Lashbrook, V. J., & Wheeless, L. R. (1978). Instructional communication theory and research: An overview of the relationship between learning theory and instructional communication. In B. Ruben (Ed.), *Communication yearbook* (pp. 439-456). New Brunswick, NJ: Transaction Books.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. California: Sage.

Los Angeles County Office of Education. (2000). *Classroom management: A California resource guide.* California: California Department of Education.

Maryam Habibian. (2012). ESL performance in reading motivation and reading comprehension in democratic and authoritarian contexts. *Journal of Social Sciences and Humanities, 7*(2), 215-227. Retrieved from http://ejournal.ukm.my/ebangi/article/view/11271/3658

Marzano, R. J. (2003). *What works in schools: Translating research into action.* Alexandria, VA: Association for Supervision and Curriculum Development.

Malaysia Ministry of Education. (2013). *Malaysia education blueprint 2013-2025 (preschool to post-secondary education).*

Marx, A., Fuhrer, U., & Hartig, T. (2000). Effects of classroom seating arrangements on children's question-asking. *Learning Environments Research, 2*, 249-263. doi:10.1023/A:1009901922191

McCroskey, J. C., & McVetta, R. (1978). Classroom seating arrangements: Instructional communication theory versus student preferences. *Communication Education, 27*, 82-111. https://doi.org/10.1080/03634527809378281

McCroskey, J. C., Valencic, K. M., & Richmond, V. P. (2004). Toward a general model of instructional communication. *Communication Quarterly, 52*, 197-210. https://doi.org/10.1080/01463370409370192

Meilia Lestari, Gita Mutiara Hati, & Alamsyah Harahap. (2016). *Seating position in English language learning: Does it really matter?* Retrieved from http://repository.unib.ac.id/id/eprint/11598

Mills, G. E. (2014). *Action research: a guide for the teacher researcher*. Boston, MA: Pearson.

Moore, D. S., McCabe, G. P., & Craig, B. A. (2009). *Introduction to the practice of statistics*. New York: W.H. Freeman.

Myers, S. A., Tindage, M. F., & Atkinson, J. (2016). The evolution of instructional communication research. In P. L. Witt (Ed.), *Handbooks of communication science: Communication and learning* (pp. 13-42). Berlin, Germany: DeGruyter/Mouton.

Myneni, S. R. (2007). *Legal research methodology.* Haryana: Allahabad Law Agency.

Nadeem, M., Iqbal, Z., & Rahman, A. (2012). Seating arrangement in EFL class: An observation on public and private sectors' EFL teaching at grade 10/'O' level. *Int.J. of Res. In Linguistic & Lexicography, 1*(4), 11-19.

Nurazuraini Mustapa, Mahzan Awang, & Abdul Rahzak Ahmad. (2016, October). *21st century knowledge and skills in teaching and learning history.* Paper presented at International Conference on Education and Regional Development 2016 by University of Education Bandung, Indonesia. Retrieved from https://www.academia.edu/35744366/Prosiding_MDEC_2017

Nur Hidayahtuljamilah Ramli, Mawar Haji Masri, Mohd Zafrullah, Haji Mohd Taib, & Norhazarina Abd Hamid. (2012). A comparative study of green school guidelines. *Journal of Procedia -Social and Behavioral Sciences, 50*, 62-471. https://doi.org/10.1016/j.sbspro.2012.08.050

Nur Hidayahtuljamilah Ramli, Shamsidar Ahmad, & Mawar Haji Masri. (2013). Improving the classroom physical environment: Classroom users' perception. *Procedia-Social and Behavioral Sciences, 101*, 221-229. https://doi.org/10.1016/j.sbspro.2013.07.195

Papalia, A. (1994). Planning for effective teaching: Papalia's classroom settings. *A Journal for Language Teachers, 1*(3), 16. Retrieved from http://files.eric.ed.gov/fulltext/EJ724640.pdf

Pedota, P. (2007). Strategies for effective classroom management in the secondary setting. *The Clearing House, 4*, 163-166. https://doi.org/10.3200/TCHS.80.4.163-168

Perkins, K. K., & Wieman, C. E. (2005). The surprising impact of seat location on student performance. *Physics Teacher, 43*, 30-33. doi:10.1119/1.1845987

Pettegrew, L. S. (2016). The importance of context, situation, and setting in consulting. In J. H. Waldeck & D. R. Seibold (Eds.), *Consulting that matters: A handbook for scholars and practitioners* (pp. 49-62). New York, NY: Peter Lang.

Puckeridge, J. (1992). *Rows versus tables: The effects of row classroom seating arrangements on levels of on-task behavior on three teenagers with special needs* (Unpublished report). Macquarie University Special Education Centre, Sydney.

Punyanunt-Carter, N. M., & Arias, V. S. (2017). The interplay between interpersonal communication and instructional communication. *Communication Education, 66*(1), 118–120. https://doi.org/10.1080/03634523.2016.1221512

Ramsden, A. (1999). *Seating arrangements* [Web page]. Retrieved from Lecture Notes Online Web site: http://ematusov.soe.udel.edu/final.paper.pub/_pwfsfp/0000017d.htm

Roberts, C. V., & Vinson, L. (1998). Relationship among willingness to listen, receiver apprehension, communication apprehension, communication competence, and dogmatism. *International Journal of Listening, 12*, 40–56. https://doi.org/10.1080/10904018.1998.10499018

Rosenfeld, L. B., & Civikly, J. M. (1976). *With words unspoken: The nonverbal experience.* New York: Holt, Rinehart and Winston.

Rosenfield, P., Lambert, N. L., & Black, A. (1985). Desk arrangement effects on pupil classroom behavior. *Journal of Educational Psychology, 77*(1), 101-108. doi:10.1037/0022-0663.77.1.101

Rose-Duckworth, R. & Ramer, K. (2009). *Fostering learner independence: An essential guide for K-6 educators.* Thousand Oaks, CA: Corwin Press.

Scott, M. D., & Wheeless, L. R. (1977). Instructional communication theory and research: An overview. In B. D. Ruben (Ed.), *Communication yearbook I*. New Brunswick, N. J.: Transaction Books.

Sobel, D. M., Basile, C., Powell, R., Bryan, C., & Green, R. (2002). *Classroom management performance-based assessment.* Retrieved from http://thunder1.cudenver.edu/ipte/ogreen/docs/CMPBAjune02.doc

Sollitto, M., Johnson, Z. D., & Myers, S. A. (2013). Students' perceptions of college classroom connectedness, assimilation, and peer relationships. *Communication Education, 62*, 318–331. doi:10.1080/03634523.2013.788726

Silberman, M. (2005). *Teaching actively: Eight steps and 32 strategies to spark learning in any classroom.* New York City: Pearson.

Slavin, R. E. (2013). *Educational psychology: Theory and practice (seventh edition).* Boston, MA: Pearson Education, Inc.

Srinagesh, K. (2006). *The principles of experimental research*. Amsterdam: Elsevier/Butterworth-Heinemann

Steinzor, B. (1950). The spatial factor in face-to-face discussion groups. *Journal of Abnormal and Social Psychology,45*, 552–555. Retrieved from https://www-jstor-org.libezp2.utar.edu.my/stable/44127686

Sternberg, R. (1995). *In search of the human mind.* Fort Worth, TX: Harcourt Brace College Publishers.

Stringer, M., Irwing, P., Giles, M., McClenahan, C., Wilson, R., & Hunter, J. A. (2009). Intergroup contact, friendship quality and political attitudes in integrated and segregated schools in Northern Ireland. *British Journal of Educational Psychology, 79*(2), 239–257. doi:10.1348/978185408X368878.

Szparagowski, R. (2014). Effects of altering student seating position on student learning in an 8th grade Mathematics classroom. *Honors Projects*. 115. Retrieved from https://scholarworks.bgsu.edu/honorsprojects/115

Van den Berg, Y. H., & Cillessen, A. H. (2015). Peer status and classroom seating arrangements: A social relationship analysis. *Journal of Experimental Child Psychology, 130*(2), 19-34. https://doi.org/10.1016/j.jecp.2014.09.007

Wannarka, R., & Ruhl, K. (2008). Seating arrangements that promote positive academic and behavioural outcomes: A review of empirical research. *Support for Learning, 23*(2), 89-93. doi:10.1111/j.1467-9604.2008.00375.x

Wasnock, D. P. (2010). *Classroom environment: emphasis on seating arrangement*. Retrieved from http://fisherpub.sjfc. edu/mathcs_etd_masters

Wengel, M. (1992). *Seating arrangements: Changing with the times.* Washington, DC: U. S. Department of Education, Office of Educational Research and Improvement.

Wiyani, N. A. (2013). *Manajemen kelas: Teori dan aplikasi untuk menciptaken kelas yang kondusif.* Yogyakarta: Ar-Ruzz Media.

Woodson, H. (2013). *The effectiveness of classroom seating arrangements on student learning and teacher instruction* (Unpublished master's thesis). University of Texas at Arlington, Arlington, Texas.

Yusup Hashim. (2014, November). *21 century education: Are we heading towards the right direction of improving teaching and learning as needed by educational transformation programme*. Paper presented at 8th International Malaysian Educational Technology Convention at Concorde Inn, Malaysia. Retrieved from https://www.researchgate.net/publication/283323228

Zomorodian, K., Parva, M., Ahrari, I., Tavana, S., Hemyari, C., Pakshir, K., & Sahraian, A. (2012). The effect of seating preferences of the medical students on educational achievement. *Medical Education Online, 17*, 1-7. doi:10.3402/meo.v17i0.10448

Zurina Khairuddin. (2013). A study of students' reading interests in a second language. *International Education Studies, 6*(11), 160-170. doi:10.5539/ies.v6n11p160

Appendix A: Parental Consent Form

UNIVERSITI TUNKU ABDUL RAHMAN

FACULTY OF ARTS AND SOCIAL SCIENCE

BACHELOR OF ARTS (HONS) ENGLISH EDUCATION

RESEARCH PROJECT TITLE: EFFECTIVENESS OF CLASSROOM SEATING ARRANGEMENT ON STUDENTS' READING ACHIEVEMENT

RESEARCH INVESTIGATOR: TEE XUE TING

Introduction

- In regards to the title of study as stated above, this study aims to conduct a research on using different seating arrangements to enhance the academic achievement of Form 2 students in an English reading class. This research will be conducted throughout the course of teaching practice in the school and does not require any extra classes to achieve the purposes of the study.

Purpose of Study

- The purpose of this study is to determine the most effective desk arrangement that can be used to increase student academic achievement in an English reading class.
- Ultimately, this research will be published as a thesis which also serves as a requirement for every undergraduate to complete his course of study in the university.

Description of Study

- As your child performs poorly in a reading test administered by the researcher. The researcher, while aims to test the effectiveness of different seating arrangements to improve students' reading scores in a test, she also aims to hone your child's reading skill throughout the course of her teaching practice.
- Different seating arrangements will be employed to help your child during the teaching of reading in an English class. The reading topics are taken from the KSSM Form 2 as set by the Malaysian Ministry of Education (MMOE). So your child is strictly following the Form 2 syllabus as ordered by the MMOE.

Risks / Discomforts of Being in this Study

- There are no foreseeable risks for this research. However, this ethical consent form is provided to you to obtain your agreement and acknowledgement as your child will be involved in the researcher's study. Should you or your child feel any discomfort in this study, you have the rights to have your child to withdraw from the study and no actions will be taken.

Benefits of this Study

- Upon the completion of this study, it is hope that your child will be able to find his/her own learning strategy. It is also hoped that this study will aid your child in performing well in any other reading tests in the future.

Right to Ask Questions and Report Concerns

- You have the right to ask questions about this research study and to have those questions answered by the researcher before, during or after the research. For further inquiries or questions, feel free to contact the researcher, TEE XUE TING at 017-6203386.

Consent

- Your signature below indicates that you have decided to have your child volunteer as a research participant for this study, and that you have read and understood the information provided above.

Name of child : _____

Date of birth : _____

Parent / Guardian : _____

Address : _____
_____
_____

Postcode : _____

Telephone : _____ Mobile : _____

Signature : _____ Date : _____

Appendix B: Approval Letter from the Ministry of Education

KEMENTERIAN PENDIDIKAN MALAYSIA
BAHAGIAN PERANCANGAN DAN PENYELIDIKAN DASAR PENDIDIKAN
ARAS 1-4, BLOK E8
KOMPLEKS KERAJAAN PARCEL E
PUSAT PENTADBIRAN KERAJAAN PERSEKUTUAN
62604 PUTRAJAYA

TEL : 0388846591
FAKS : 0388846579

Ruj. Kami : KPM.600-3/2/3-eras(2942)
Tarikh : 25 Januari 2019

TEE XUE TING
NO. KP : 950727055344

229, JALAN BESAR, TANJUNG IPOH
71500 TANJONG IPOH
NEGERI SEMBILAN

Tuan,

KELULUSAN UNTUK MENJALANKAN KAJIAN DI SEKOLAH, INSTITUT PENDIDIKAN GURU, JABATAN PENDIDIKAN NEGERI DAN BAHAGIAN DI BAWAH KEMENTERIAN PENDIDIKAN MALAYSIA

Perkara di atas adalah dirujuk.

2. Sukacita dimaklumkan bahawa permohonan tuan untuk menjalankan kajian seperti di bawah telah diluluskan.

" EFFECTIVENESS OF CLASSROOM SEATING ARRANGEMENT ON STUDENT READING ACHIEVEMENT "

3. Kelulusan adalah berdasarkan kepada kertas cadangan penyelidikan dan instrumen kajian yang dikemukakan oleh tuan kepada bahagian ini. Walau bagaimanapun kelulusan ini bergantung kepada kebenaran Jabatan Pendidikan Negeri dan Pengetua / Guru Besar yang berkenaan.

4. Surat kelulusan ini sah digunakan bermula dari **28 Januari 2019** hingga **30 Jun 2019** .

5. Tuan dikehendaki menyerahkan senaskhah laporan akhir kajian dalam bentuk *hardcopy* bersama salinan *softcopy* berformat pdf dalam CD kepada Bahagian ini.Tuan juga diingatkan supaya mendapat kebenaran terlebih dahulu daripada Bahagian ini sekiranya sebahagian atau sepenuhnya dapatan kajian tersebut hendak diterbitkan di mana-mana forum, seminar atau diumumkan kepada media massa.

Sekian untuk makluman dan tindakan tuan selanjutnya. Terima kasih.

"BERKHIDMAT UNTUK NEGARA"

Saya yang menjalankan amanah,

Ketua Sektor
Sektor Penyelidikan dan Penilaian
b.p. Pengarah
Bahagian Perancangan dan Penyelidikan Dasar Pendidikan
Kementerian Pendidikan Malaysia

salinan kepada:-

JABATAN PENDIDIKAN PERAK

* SURAT INI DIJANA OLEH KOMPUTER DAN TIADA TANDATANGAN DIPERLUKAN *

Appendix C: Application Letter to the Perak State Education Department

UNIVERSITI TUNKU ABDUL RAHMAN
Wholly Owned by UTAR Education Foundation (Company No. 578227-M)

Sektor Pengurusan Sekolah
Perhubungan dan Pendaftaran
Jabatan Pendidikan Perak,
Jalan Tun Abdul Razak,
30640 Ipoh,
Perak Darul Ridzuan.

20 FEBRUARI 2019

Tuan,

PERMOHONAN UNTUK MENJALANKAN KAJIAN DI SEKOLAH MENENGAH KEBANGSAAN (SMK) METHODIST (ACS), KAMPAR.

Berhubung perkara di atas, saya ingin memohon kebenaran tuan untuk menjalankan kajian di Sekolah Menengah Kebangsaan (SMK) Methodist (ACS), Kampar bagi tujuan projek tahun akhir saya.

2. Tajuk kajian saya ialah "Effectiveness of Classroom Seating Arrangement on Students' Reading Achievement". Objektif kajian adalah untuk melihat keberkesanan pengaturan tempat duduk dalam meningkatkan kemahiran membaca dalam Bahasa Inggeris bagi pelajar Tingkatan 2.

3. Butiran pengumpulan data adalah seperti berikut:

Tarikh	: 1 Mac 2019 hingga 30 Jun 2019
Masa	: 7:30 pagi hingga 2:00 petang
Bilangan Murid	: 30 pelajar Tingkatan Dua
Bilangan Guru	: 1 guru Bahasa Inggeris
Instrumen Kajian	: Pra dan Pasca Ujian. Temubual secara berkumpulan

4. Kertas kerja,instrumen kajian serta kebenaran dari Bahagian Perancangan dan Penyelidikan Dasar Pendidikan (BPPDP), KPM turut diserta bersama surat ini. Sekiranya terdapat sebarang soalan, sila hubungi saya melalui alamat emel **tiffany@1utar.my** atau penyelia saya, **Dr Joanna Tan Tjin Ai** di **tanta@utar.edu.my**

Kampar Campus : Jalan Universiti, Bandar Barat, 31900 Kampar, Perak Darul Ridzuan, Malaysia
Tel: (605) 468 8888 Fax: (605) 466 1313
Sungai Long Campus : Jalan Sungai Long, Bandar Sungai Long, Cheras, 43000 Kajang, Selangor Darul Ehsan, Malaysia
Tel: (603) 9086 0288 Fax: (603) 9019 8868
Postal Address : PO Box 11348, 50744 Kuala Lumpur, Malaysia
Website: www.utar.edu.my

Sekian, terima kasih.

Yang benar,

TEE XUE TING (CIK)
16AAB01359
Ijazah Sarjana Muda Sastera (Kepujian) Bahasa Inggeris
Jabatan Bahasa dan Linguistik
Fakulti Sastera dan Sains Sosial
Universiti Tunku Abdul Rahman
Kampus Perak

Disahkan oleh,

JOANNA TAN TJIN AI (DR)
Penyelia
Jabatan Bahasa dan Linguistik
Fakulti Sastera dan Sains Sosial
Universiti Tunku Abdul Rahman
Kampus Perak

Appendix D: School Consent Form

UNIVERSITI TUNKU ABDUL RAHMAN
FACULTY OF ARTS AND SOCIAL SCIENCE
BACHELOR OF ARTS (HONS) ENGLISH EDUCATION

Title of Study: **The Effectiveness of Different Seating Arrangements on Student Academic Achievement in an English Reading Class**

Research Investigator: **Tee Xue Ting**

Introduction

- In regards to the title of study as stated above, this study aims to conduct a research on using different seating arrangements to enhance the academic achievement of Form 2 students in an English reading class. This research is hoped to be conducted throughout the researcher's teaching practice in the school. As such, this consent form is prepared for the school's management to obtain the acknowledgement and agreement to conduct the research so as to avoid any ethical issues.
- Your school is selected to conduct the research as the researcher is assigned by the Faculty of Arts and Social Science's (FAS) faculty general office (FGO) to carry out his teaching practice throughout this semester.
- As such, it is important that you should read this form and ask any questions that you may have before agreeing to be in the study.

Purpose of Study

- The purpose of the study is to determine the most effective desk arrangement that can be used to increase student academic achievement in an English reading class. Upon the data collection, both pre- and post- tests will be carried out on Form 2 students to explore the effectiveness of different desk arrangements on their academic achievement in an English reading class.
- Ultimately, this research will be published as a thesis which also serves as a requirement for every undergraduate to complete his course of study in the university.

Description of the Study Procedures

- The research is expected to be carried out for 6 weeks within the researcher's teaching practice. The reading passages that will be used are taken from the syllabus as stated in the Pulse 2. As such, the research will be carried out in a normal English lesson without the need to conduct extra classes. This research will not affect their syllabus as it is based on the KSSM Form 2.

Risks / Discomforts of Being in this Study

- There are no foreseeable risks for this research. However, ethical consent forms will still be distributed to the students and their English teacher who will be involved in this research. Should they feel any discomfort in this study, they have the rights to withdraw from the study and no actions will be taken.

Benefits of Being in this Study

- Upon the completion of this study, it is hoped that the different types of seating arrangements in the teaching of English reading can serve as a trigger to create awareness among ESL teachers. Altering students' seating arrangements can serve as a good method to match to the activities conducted in a classroom. Another benefit is that this study will allow the students to enrich both of their individual and group learning experiences when they are seated in different desk arrangements. At the end of the study, it is hoped that the students will improve their reading scores and consequently, they will enhance the school's reputation.
- As stated, the reading passages will be taken from the Pulse 2. It not only allows the students to develop their reading skill but also enables the students to identify their own learning strategy. Thus fulfilling the criteria for the English lessons and aims as set by the Malaysian Ministry of Education (MMOE).

Right to Ask Questions and Report Concerns

- The school management reserves the right to ask questions about this research study and to have those questions answered by the researcher before, during or after the research. If the school's management has any further questions about the study, at any time feel free to contact the researcher, **Tee Xue Ting** at **Tiffany0727@1utar.my** or by telephone number at **017-6203386**. If the school management wants to know the results of this study, a summary of the results of the study will be sent to the school management.

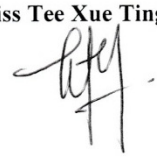
Consent

- Your signature below indicates that you have decided to have your school volunteer as a research participant for this study, and that you have read and understood the information provided above. You will be given a signed and dated copy of this form to keep, along with any other printed materials deemed necessary by the researcher.

Principal : **Mr. Cheah Chin Beng**

Signature :  Date : 18/7/18.

Researcher : **Miss Tee Xue Ting**

Signature :  Date : **04.07.2018**

Appendix E: Interview Consent Form

UNIVERSITI TUNKU ABDUL RAHMAN

FACULTY OF ARTS AND SOCIAL SCIENCE

BACHELOR OF ARTS (HONS) ENGLISH EDUCATION

RESEARCH PROJECT TITLE: EFFECTIVENESS OF CLASSROOM SEATING ARRANGEMENT ON STUDENTS' READING ACHIEVEMENT

RESEARCH INVESTIGATOR: TEE XUE TING

RESEARCH PARTICIPANT'S NAME:

FACULTY OF ARTS AND SOCIAL SCIENCE

BACHELOR OF ARTS (HONS) ENGLISH EDUCATION

The interview will take about 15 to 30 minutes. There are no risks anticipated that are associated with your participation, but you have the right to stop the interview or withdraw from the research at any time.

Thank you for agreeing to be interviewed as part of the above research project. Ethical procedures for academic research require interviewees to explicitly agree to being interviewed and how the information contained in their interview will be used. This consent form is necessary for the researcher to ensure that you understand the purpose of your involvement and that you agree to the conditions of your participation. Would you therefore read the accompanying information sheet and then sign this form to certify that you approve the following:

- A transcript will be produced upon the completion of the interview.
- A transcript will be sent to you and you will be given the opportunity to correct any factual errors.
- The transcript of the interview will be analyzed by Tee Xue Ting as researcher investigator.
- Access to the interview transcript will be limited to Tee Xue Ting and academic colleagues with whom he might collaborate as part of the research process.
- Any summary interview content, or direct quotations from the interview, that are made available through academic publication or other academic outlets will be anonymized so that you cannot be identified, and care will be taken to ensure that other information in the interview that could identify yourself is not revealed.

Quotation Agreement

I also understand that my words may be quoted directly. With regards to being quoted, please initial next to any of the statements that you agree with:

	I wish to review the notes, transcripts, or other data collected during the research pertaining to my perception.
	I agree to be quoted directly.
	I agree to be quoted directly if my name is not published and a made-up name (pseudonym) is used.
	I agree that the researcher may publish documents that contain quotations by me.

All or part of the content of your interview may be used;

- To achieve the research project as noted above.

By signing this form I agree that;

1. I am voluntarily taking part in this research project. I understand that I don't have to take part, and I can stop the interview at any time;
2. The transcribed interview or extracts from it may be used as described above;
3. I have read the information sheet;
4. I don't expect to receive any benefit or payment for my participation;
5. I can request a copy of the transcript of my interview and may make edits I feel necessary to ensure the effectiveness of any agreement made about confidentiality;

Participant's name: _____

Participant's signature: _____ Date: _____

Researcher's signature: _____ Date: _____

Contact information

This research has been reviewed and approved by the Faculty of Arts and Social Science, UTAR. If you have any further questions or concerns about this study, please contact:

Name of researcher: TEE XUE TING

Telephone number: 017-6203386

E-mail: Tiffany0727@1utar.my

Appendix F: Focus Group Interview Questions

First of all, thank you for participating in this interview. In this interview, all of you have to discuss 3 questions. Should you have any doubts, please do not hesitate to ask me.

1. How did you feel when you sat in a row/cluster/horseshoe seating arrangement throughout these 2 weeks?
2. In your opinion, how does this seating arrangement change the way you learn to read a language?
3. Do you think arranging the student seats in different ways is an effective method to improve the test results?
4. Which, in your opinion, is the most effective seating arrangement in regard to your reading achievement? Why? [OPTIONAL]
5. Which, in your opinion, is the least effective seating arrangement in regard to your reading achievement? Why? [OPTIONAL]

Appendix G: Statistical Analysis of the Reading Scores for Row Seating Arrangement

Table G1: *Reading Scores for Row Seating Arrangement for Multiple Choice Questions*

Student Number	Pre-test (%)	Post-test (%)	Difference (%)
01	5	5	**0**
02	4	5	**+1**
03	5	4	**-1**
04	5	4	**-1**
05	5	5	**0**
06	4	3	**-1**
07	5	4	**-1**
08	5	5	**0**
09	4	4	**0**
10	5	5	**0**
11	4	4	**0**
12	3	5	**+2**
13	5	5	**0**
14	4	5	**+1**
15	4	3	**-1**
16	3	3	**0**
17	5	4	**-1**
18	4	3	**-1**
19	4	1	**-3**
20	4	3	**-1**
21	4	5	**+1**
22	5	3	**-2**
23	4	5	**+1**
24	4	5	**+1**
Mean Score	**4.33**	**4.08**	**-0.25**

Table G2: *Reading Scores for Row Seating Arrangement for Subjective Questions*

Student Number	Pre-test (%)	Post-test (%)	Difference (%)
01	2	2	**0**
02	3	5	**+2**
03	3	5	**+2**
04	2	3	**+1**
05	3	5	**+2**
06	3	4	**+1**
07	3	2	**-1**
08	3	2	**-1**
09	2	5	**+3**
10	3	4	**+1**
11	2	5	**+3**
12	1	3	**+2**
13	4	4	**0**
14	3	4	**+1**
15	3	4	**+1**
16	2	3	**+1**
17	2	3	**+1**
18	2	3	**+1**
19	2	5	**+3**
20	3	4	**+1**
21	2	4	**+2**
22	3	4	**+1**
23	3	4	**+1**
24	3	4	**+1**
Mean Score	**2.58**	**3.79**	**+1.21**

Table G3: *Overall Reading Score for Row Seating Arrangement*

Student Number	Pre-test (%)	Post-test (%)	Difference (%)
01	7	7	**0**
02	7	10	**+3**
03	8	9	**+1**
04	7	7	**0**
05	8	10	**+2**
06	7	7	**0**
07	8	6	**-2**
08	8	7	**-1**
09	6	9	**+3**
10	8	9	**+1**
11	6	9	**+3**
12	4	8	**+4**
13	9	9	**0**
14	7	9	**+2**
15	7	7	**0**
16	5	6	**+1**
17	7	7	**0**
18	6	6	**0**
19	6	6	**0**
20	7	7	**0**
21	6	9	**+3**
22	8	7	**-1**
23	7	9	**+2**
24	7	9	**+2**
Mean Score	**6.92**	**7.88**	**+0.96**

Appendix H: Statistical Analysis of the Reading Scores for Cluster Seating Arrangement

Table H1: *Reading Scores for Cluster Seating Arrangement for Multiple Choice Questions*

Student Number	Pre-test (%)	Post-test (%)	Difference (%)
01	4	3	**-1**
02	4	5	**+1**
03	5	4	**-1**
04	3	4	**+1**
05	3	5	**+2**
06	4	4	**0**
07	5	4	**-1**
08	4	4	**0**
09	3	5	**+2**
10	4	4	**0**
11	4	5	**+1**
12	2	4	**+2**
13	2	2	**0**
14	3	4	**+1**
15	4	3	**-1**
16	3	4	**+1**
17	1	3	**+2**
18	2	4	**+2**
19	4	5	**+1**
20	2	4	**+2**
21	1	4	**+3**
22	2	4	**+2**
23	1	4	**+3**
24	1	5	**+4**
Mean Score	**2.96**	**4.04**	**+1.08**

Table H2: *Reading Scores for Cluster Seating Arrangement for Subjective Questions*

Student Number	Pre-test (%)	Post-test (%)	Difference (%)
01	3	4	**+1**

02	5	5	**0**
03	4	4	**0**
04	2	5	**+3**
05	4	4	**0**
06	3	3	**0**
07	4	5	**+1**
08	4	4	**0**
09	5	5	**0**
10	4	5	**+1**
11	2	5	**+3**
12	4	4	**0**
13	2	4	**+2**
14	3	3	**0**
15	3	5	**+2**
16	5	3	**-2**
17	3	3	**0**
18	3	4	**+1**
19	3	5	**+2**
20	4	5	**+1**
21	2	4	**+2**
22	5	4	**-1**
23	2	4	**+2**
24	2	5	**+3**
Mean Score	**3.38**	**4.25**	**+0.87**

Table H3: *Overall Reading Scores for Cluster Seating Arrangement*

Student Number	**Pre-test (%)**	**Post-test (%)**	**Difference (%)**
01	7	7	**0**
02	9	10	**+1**
03	9	8	**-1**

04	5	9	**+4**
05	7	9	**+2**
06	7	7	**0**
07	9	9	**0**
08	8	8	**0**
09	8	10	**+2**
10	8	9	**+1**
11	6	10	**+4**
12	6	8	**+2**
13	4	6	**+2**
14	6	7	**+1**
15	7	8	**+1**
16	8	7	**+1**
17	4	6	**+2**
18	5	8	**+3**
19	7	10	**+3**
20	6	9	**+3**
21	3	8	**+5**
22	7	8	**+1**
23	3	8	**+5**
24	3	10	**+7**
Mean Score	**6.33**	**8.29**	**+1.96**

Appendix I: Statistical Analysis of the Reading Scores for Horseshoe Seating Arrangement

Table I1: *Reading Scores for Horseshoe Seating Arrangement for Multiple Choice Questions*

Student Number	Pre-test (%)	Post-test (%)	Difference (%)
01	3	4	**+1**
02	4	5	**+1**

03	4	4	**0**
04	3	3	**0**
05	3	3	**0**
06	3	5	**+2**
07	4	4	**0**
08	2	4	**+2**
09	4	5	**+1**
10	4	4	**0**
11	2	5	**+3**
12	2	1	**-1**
13	4	3	**-1**
14	3	5	**+2**
15	5	5	**0**
16	3	2	**-1**
17	4	3	**-1**
18	3	5	**+2**
19	3	3	**0**
20	3	3	**0**
21	4	2	**-2**
22	3	4	**+1**
23	4	2	**-2**
24	4	3	**-1**
Mean Score	**3.38**	**3.63**	**+0.25**

Table I2: *Reading Scores for Horseshoe Seating Arrangement for Subjective Questions*

Student Number	**Pre-test (%)**	**Post-test (%)**	**Difference (%)**
01	1	4	**+3**
02	5	4	**-1**
03	3	4	**+1**
04	4	3	**-1**
05	3	4	**+1**

06	4	5	**+1**
07	3	2	**-1**
08	2	4	**+2**
09	4	4	**0**
10	4	5	**+1**
11	2	3	**+1**
12	2	4	**+2**
13	5	4	**-1**
14	2	3	**+1**
15	4	4	**0**
16	3	3	**0**
17	2	4	**+2**
18	3	3	**0**
19	2	3	**+1**
20	4	4	**0**
21	2	4	**+2**
22	3	4	**+1**
23	4	4	**0**
24	2	3	**+1**
Mean Score	**3.04**	**3.71**	**+0.67**

Table I3: *Overall Reading Scores for Horseshoe Seating Arrangement*

Student Number	**Pre-test (%)**	**Post-test (%)**	**Difference (%)**
01	4	8	**+4**
02	9	9	**0**
03	7	8	**+1**
04	7	6	**-1**
05	6	7	**+1**

06	7	10	**+3**
07	7	6	**-1**
08	4	8	**+4**
09	8	9	**+1**
10	8	9	**+1**
11	4	8	**+4**
12	4	5	**-1**
13	9	7	**-2**
14	5	8	**+3**
15	9	9	**0**
16	6	5	**-1**
17	6	7	**+1**
18	6	8	**+2**
19	5	6	**+1**
20	7	7	**0**
21	6	6	**0**
22	6	8	**+2**
23	8	6	**-2**
24	6	6	**0**
Mean Score	**6.42**	**7.33**	**+0.91**