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The American University in Cairo  
School of Humanities and Social Sciences

# **Seating Arrangement and Cooperative Learning Activities: Students' On-task/Off-task Participation in EFL Classrooms**

A Thesis Submitted to  
The Department of Teaching English as a Foreign Language (TEFL)

In Partial Fulfillment of the Requirements

For the Degree of Master of Arts

By  
**Nohayer Lotfy**

**May/ 2012**

The American University in Cairo

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A Thesis Submitted by

**Nohayer Lotfy**

To the Department of Teaching English as a Foreign Language (TEFL)

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In partial fulfillment of the requirements for  
The degree of Master of Arts

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## **DEDICATION**

*To my wonderful family, friends and professors  
who have been there for me*

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## ABSTRACT

Research has shown that student participation is affected by a number of factors that include students' gender, personality differences as well as class environment. This class environment includes classroom seating arrangements which are believed to play an important role in fostering students' on-task behavior. However, how a seating arrangement can encourage on-task or off-task behavior is found to depend on how far this seating arrangement agrees with the activity being done and the interaction pattern aimed at in class. On the other hand, some research linked teachers' choice of different classroom seating arrangement and their beliefs in their role inside the class and the institution's views and concepts concerning learning and teaching. Limited research has been done on classroom seating arrangements and its effect on students' participation while working no cooperative learning activities. In addition, limited studies have also been done on students' preferences in relation to different furniture arrangements while almost nothing is done in the Egyptian context. The idea of classroom seating arrangement is therefore of great importance since it can be one of the factors that either encourages or inhibits students' on-task participation in language classes.

The purpose of this study was to determine: (1) if classroom seating arrangements affect student on-task/off-task participation in CL activities, (2) in what ways seating arrangements affected student participation (3) students' preferences of different classroom seating arrangements, namely rows and columns and circles (4) if students' preferences to seating arrangements are affected by their personal views of their participation rate inside the class and the reasons for their choices were and (5) whether their preferences changed after experiencing both seating arrangements.

The study was mainly exploratory and qualitative using a convenience sample of two EFL classes, of a total of 43 students. Data were collected through students' responses to a questionnaire and a reflective paper. In addition, video recordings of class sessions were also used to collect data about student on-task/off-task participation in both seating arrangements.

Analysis of data shows seating arrangement is a priority to foster student on-task participation in class since the videos show that students in one class were keen to create their semi-circle shaped when seated in the rows and columns in order to work on group activities while students in the other were subversive to the rows and columns seating arrangement where two of the group members left their places and sat facing the group. Further, analysis of data also shows that students' preferences of different seating arrangements are determined by their views of how shy/talkative they are inside the class. However, their preferences changed after experiencing both seating arrangements classroom using the teacher's chairs.

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## CHAPTER 1: INTRODUCTION

Lev Vygotsky was the one who introduced the idea of social interaction to child learning (Minnick, 1999). Later on, theories of Second Language Acquisition (SLA) in relation to social interaction emerged based on Vygotsky's theories (Minnick, 1999; Lloyd & Fernyhough, 1999; Swain, 2006). These theories stated that children learn best when they connect the content they learn to their social environment. Vygotsky posited that if children were supported with a social atmosphere, it would be easier for them to learn their first language. Vygotsky also argued that children learn meanings of words by linking them to social and cultural events (Minnick, 1999). Theories of SLA tried to draw an analogy between child learning and foreign language learning. Minick (1999), for example, showed that Vygotsky viewed word meaning as "a unity of generalization and social interaction, a unity of thinking and communication" (p. 41). Minnick (1999) further explained that, for children, the word had no meaning outside the "concrete context in which it is used" (p.41). Similar to this concept of child learning, Long (1983) argued that learners of a foreign language need a space, an opportunity, to speak in the foreign language in order to be able to learn it.

Accordingly, the concept of cooperative and collaborative learning strategies emerged from Long (1983) and Long and Porter's (1985) idea of having an opportunity to speak in order to acquire a language. Cooperative learning came from the concept that students should be encouraged to practice the use of the foreign language while working on group activities that encourage learners' output. Brown (2007) proposes a simple definition of classes based on cooperative learning saying that they are "learner-centered" classes that encourage students to work together, and to talk to each other in order to achieve specific goals (p. 53). Slavin (1980), on the other hand, offers a more specific definition of cooperative learning. She describes it as a

set of “classroom techniques” where students work in small groups on certain activities. Within this framework of cooperative learning activities, a shift in the way of thinking regarding the physical settings of the educational institutions started to take place.

Literature about cooperative learning is huge. However, when exploring the best classroom furniture arrangements that match this framework of cooperative learning in foreign language classrooms, one finds a limited number of studies. It should be mentioned though that textbooks or articles dealing with teacher training or classroom management usually affirm that how furniture is arranged inside the classroom should match the activity being done (Brown, 2007; “Designing spaces”, 2007; Emmer, Evertson & Worsham, 2006; Hill & Cohen, 2005; Jones, 2000; Thornbury & Watkins, 2007a; 2007b). Harmer (2007) also reviewed different seating arrangements in terms of pros and cons in relation to certain activities and interaction patterns. For example, he explained that the rows and columns seating arrangement could suit formal classrooms where the teacher could take a front position for a lecture format while the circles seating arrangement would enable students to face each other while giving the teacher an opportunity to move around students. In other words, it is believed that if students are asked to work on individual activities, it would be better for them to sit in rows and columns in order to avoid student-student interaction while if group work activities are being used in a class, it would then be better to seat students in clusters or circles. Scardamalia and Bereiter (1991, 1996) said that class design should be flexible, creative, and able to develop problem-solving and information-finding skills. Scardamalia and Bereiter (1991, 1996) agreed that students should be active participants in the learning process; that students should have the chance to interact with the teacher and with each other in order to learn the language.

As defined by Cornell (2002), “furniture is both tool and environment” (p. 33). He explains that thinking of furniture and seating arrangements is important in creating a suitable learning environment for students (Cornell, 2002).

### **Rationale for the Study**

This paper is limited to the Egyptian context. October University for Modern Sciences and Arts (MSA), the educational institution where this study took place, follows the traditional rows and columns seating arrangement in all of its classes. At the same time, the university administration urges teachers to use more cooperative learning activities. At this point, it appears that what the university already has when it comes to physical classroom environment contradicts the methodology they are trying to foster. This paper aims to explore whether this contradiction really exists or not as it examines whether classroom seating arrangements contributed to student on-task/off-task participation while working on cooperative learning activities.

### **Statement of the Problem**

Most of the research done in the area of classroom seating arrangement either focused on how it affects students’ on-task/off-task behavior or examined how different arrangements contribute to students’ views of their role inside the classroom. According to the researcher’s knowledge, no studies have been done on classroom seating arrangements and its effect on students’ participation while working in cooperative learning activities. In addition, limited research has also been done on students’ preferences in relation to different furniture arrangements while almost nothing has been done in the Egyptian context. Accordingly, this paper aims to explore two elements in relation to classroom seating arrangements. The first

element is students' preferences for different seating arrangements and the reasons for their choices while the second one has to do with students' on-task/off-task participation in two different seating arrangements, the rows and columns and the circles.

### **Research Questions**

This study attempted answers to the questions:

1. Does classroom seating arrangement affect students' on-task/off-task participation in cooperative learning activities in Egyptian undergraduate EFL classrooms?
2. If so, in what ways do classroom seating arrangements affect students' on-task/off-task participation in cooperative learning activities in Egyptian undergraduate EFL classrooms?
3. What preferences do students have for different classroom seating arrangements? And why?
4. Are students' preferences for different seating arrangements related to their self-report of how shy/talkative they are in class?
5. Did students' preferences for seating arrangements change after experiencing both seating arrangements?

### **Theoretical Definitions of Constructs**

**Cooperative Learning (CL)** refers to a teaching technique where students work in groups on a certain activity in order to achieve certain goals. Language classes that depend on CL are known to be learner-centered where the teacher acts as a facilitator (Brown, 2007; Slavin, 1980).

**Cooperative learning activities** are classroom activities which students undertake in groups. These kinds of activities require students to share knowledge in order to achieve a certain goal while talking together and exchanging information (Tuan, 2010). Examples of cooperative

learning activities include jigsaw activities, think-pair-share and circle the sage activities (Tuan, 2010). The key idea for cooperative learning is not to have a competitive atmosphere in order to encourage learning and knowledge exchange among group members (“Cooperative learning activities”, 1988)

**Classroom arrangement** refers to how students’ seats are arranged inside the class. It could be arranged in regular rows and columns, circles, or U-shapes (Brown, 2007).

**Student participation** has been divided by Dancer and Kamvounias (2005) into five categories: student attendance, preparation, and contribution to class discussion, and group and communication skills. Fritschner (2000) has also added that student participation takes place by simply attending class or by orally participating in class through comments or questions or even giving oral presentations. This also includes how far students develop an on-task behavior and take effective part in the task or activity assigned to them. It is not, however, equivalent to student’s talking time. It is rather measured by the quality of their comments and how far these comments contribute to the completion of the activity within their groups (Rosenfield, Lambert & Black, 1985; Wannarka & Ruhl, 2008).

### **Operational Definitions of Constructs**

**Cooperative learning activities:** For the purpose of this study, cooperative learning activities are writing activities where students were grouped together and were asked to write a detailed outline for a documented essay where students integrate readings to support their ideas.

**Classroom seating arrangement:** Only two seating arrangements are examined in this study. The first setting was the regular rows and columns where classroom seats are arranged in

a setting similar to that of a cinema hall. In the second seating arrangement, students sat in groups of 4 – 5 around a table (See appendix A).

**Student on-task participation:** In this study, student participation is measured through their verbal participation while working on group activities. This study is interested in looking at the number of turns taken and comments made by each student within the group in the two seating arrangements. This is in addition to marking whether their comments are of value and contributed to the activity or not.

**Student off-task participation:** are instances where students make a comment that does not contribute to the activity. Examples of this include playing with their cell phones or chatting with their friends on a topic not related to the activity.

**Turn:** each instance where a student speaks, writes or reads during the activity is counted as a turn. A turn could have more than one comment that is either on-task or off-task

### **Delimitations**

This study was limited to exploring the relationship between seating arrangements and students' participation in university EFL classes in Egypt. Other contexts like high school EFL classes or classes of other disciplines were not part of the scope of this study. In addition, due to the small sample participating in the study and the fact that they were a convenient sample, results cannot be generalized; only two groups were examined with a total number of 43 college students. The third delimitation of this study was the time constraints. Data was collected in two weeks where students met in each seating arrangement only once. A total of four videos were analyzed to look at students' participation patterns. Another limitation was that only two seating

arrangements were examined in this study. This was due to the availability of classrooms that enabled re-arranging its furniture in the university where the study took place. Seats in these classes were bolted to the floor. For this reason, students were taken to a meeting room where they could sit in circles around tables. In addition, some variables were difficult to control while conducting this research. Variables such as the nature of the activity and how students perceived it in terms of difficulty as well as other variables such as what might have happened before class that may have affected their performance during the class session were not controlled by the researcher.

## **CHAPTER 2: LITERATURE REVIEW**

### **Introduction**

A plethora of research was found in the area of CL and how teachers could make use of this technique in language classrooms. However, limited research was found on how to use suitable seating arrangements that could fit this CL teaching method (Cornell, 2002; Kennedy, 2002). Most of the studies found in the field of seating arrangement and classroom furniture either focused on students' on-task behavior in relation to different seating arrangements (Anderson, 2009; Bonus & Riordan, 1998; McCorskey & McVetta, 1978; Rosenfield, Lambert & Black, 1985) or discussed classroom ecology (Becker, Sommer, Bee, & Oxley, 1973; Savanur, Altekar & De, 2007).

### **Methodology**

Studies reviewed in this chapter focused on finding an intersection between the idea of cooperative learning activities, seating arrangement and students' participation. It should be mentioned that this focus resulted in a limited number of studies reviewed. Keywords used for this literature included cooperative learning, cooperative learning activities, classroom furniture, seating arrangement, student participation, student behavior, gender difference, personality differences, class discussions, EFL classes, language learning, student performance, and measurement of participation. Databases explored included EbscoHost database, the American University in Cairo library and online catalogue, and Google Scholar search engine.

This review is divided into six main parts; the first one is concerned with cooperative learning in general, its definition, and benefits. The second and third parts cover studies done on



classroom seating arrangement and its effect on communication patterns and students' on-task behavior while the fourth part deals with the idea of teacher's and students' roles inside the class. The fifth and sixth parts cover major studies done on student participation in relation to gender difference and personality differences in language classrooms respectively.

### **Cooperative Learning (CL): Definition and Benefits**

As defined by the US Department of State, CL is a teaching strategy where students of different levels of ability are grouped together to work on a number of activities that aim to enhance their learning of a subject (Balkcom, 1992). According to the US Department of State, "each member of a team is responsible not only for learning what is taught but also for helping teammates learn, thus creating an atmosphere of achievement" (Balkcom, 1992, "What is it?"). Brown (2007) describes a CL class as a learner-based class that is not competitive. It is a class where students have the chance to share ideas and knowledge while working in groups (Brown, 2007). CL is, thus, based on enhancing student learning through a number of techniques that include sharing information among students and motivating them to learn from each other. These techniques also include providing formative feedback as well as increasing social skills among students.

CL is defined by Slavin (1980) and Tuan (2010) as teaching and "instructional" techniques where students are put into groups to work on a certain activity in order to encourage student-student interaction, thus, maximizing student learning. In their definition of CL, Allen (2006) and Yamarik (2007) agree that CL should be characterized by individual responsibility and positive interdependence among students while working on group activities together. Totten (1991) stressed differentiating between the idea of group work and cooperative learning as a

teaching/learning technique. He explained that CL was more than just students put into groups for an activity. On the contrary, he agreed with Allen (2006) that CL involved direct interaction among students, having heterogeneous groups and a practice of social skills (Totten, 1991). Benefits of CL include enhancing cognitive growth of students, increasing students' motivation and self-confidence in addition to maximizing students' interaction (Allen, 2006; Bandiera & Bruno, 2006; Tuan, 2010).

Differences between CL and other group work patterns were introduced by Johnson and Johnson (1999). They said there were four types of group work: *pseudo learning group*, *traditional classroom learning group*, *cooperative learning group*, and *high-performance cooperative learning group*. In the first category, Johnson and Johnson (1999) explain, students are not interested in working in groups because, in most cases, they are aware that they will be individually evaluated. The second category, however, is when students are assigned to work in groups and they accept that they have to work on the activity together. The third and fourth categories are when students are aware of the benefits of CL and all members of the group work towards accomplishing common goals. A major difference is that the fourth category "outperforms" due to students' exceptional devotion to their group while working on the activity (Johnson & Johnson, 1999).

### **Classroom Furniture and Communication Patterns**

Research done on seating arrangements in classrooms emerged from the communicative approach as reflected in the Vygotskian and social learning theories (Jackson, 2009; McCroskey & McVetta, 1978; O'Hare, 1998; Tuan, 2010). McCroskey and McVetta (1978) and O'Hare (1998) assert that the "kind" and "amount" of communication desired in a certain class are the

determinants of the suitable seating arrangement. However, this shift to cooperative and communicative learning was met by classrooms where seats were either bolted to the floor or did not allow a variety of arrangements (Cornell, 2002).

McCroskey and McVetta's (1978) study reported that 90% of classrooms in universities adopted the rows and columns layout and that most of the teachers, at that time, never thought of changing the furniture arrangements because they were not used to different settings. Some of the teachers in their study even reported that the janitor would be angry if they changed the furniture arrangements (McCroskey & McVetta, 1978). In addition, O'Hare (1998) stated that if instructors wanted students to talk to each other, they usually faced the obstacle of having furniture arrangements designed for lecture-based classes where it would be almost impossible for students to talk together. Johnson (1982) considered classroom furniture one of the ways that reflect the "socialization function" of the educational institution (p. 32). In her study on how classroom physical environment could reflect the school's social and cultural norms represented in the interaction patterns they promote through their choice of furniture and its arrangement, Johnson (1982) proposed the idea that round tables, for example, helped in encouraging interaction among students while rectangular tables increased distance among students, thus, minimizing the chance to have equal conversations. Rectangular tables, Johnson (1982) added, might result in one-to-one interaction instead. Thus, it becomes important for teachers to think of seating arrangements that match the kind of activity and the interaction patterns they want their students to follow.

Chambers (2004) expanded on O'Hare's (1998) idea saying that there is not one arrangement that is better than another. He explained that furniture arrangements should match the policy of the educational institution and its curricula and should be "comfortable to use" (p. 7) at the same

time. Chambers (2004) added that, in the past, the function of the furniture was underestimated since school administrations were more geared towards having the maximum number of seats in order to have the maximum number of students. Kennedy (2002) agreed with Chambers (2004) that more attention must be paid to the furniture and equipment used in classrooms especially with the recent calls for group work in classrooms.

As described by Cornell (2002), in order to accommodate the shift to cooperative learning, the classroom physical environment should be more flexible in a way that encourages interaction, mutual learning and a “sense of community” among students (p. 41). Thus, usability and functionality become two key concepts when thinking of seating arrangements (Cornell, 2002). By usability, Cornell means that both the teacher and the students should be able to use classroom furniture and know how it works. Cornell (2002) argued that both teachers and students “need to understand its operation and feel empowered to use it” (p. 36). Functionality, on the other hand, means that classroom furniture should assist students and instructors with the achievement of their goals, thus, facilitating teaching and learning. In Cornell and Martin’s (1999) study on students’ reflection on the functionality of classroom furniture, students said that having moveable tables and seats was more comfortable and flexible (As cited in Cornell, 2002).

### **Classroom Seating Arrangement and Students’ On-task Behavior**

Research shows that classroom seating arrangement could affect students’ behavior (Anderson, 2009; Bonus & Riordan, 1998; “classroom configuration,” 2006; Kaya & Burgess, 2007; Lei, 2010; Philpott, 1993; Rosenfield et al., 1985; Wannarka & Ruhl, 2008). It is believed that spatial arrangements in classrooms where students have enough space to move and work on their activities positively affect students’ on-task behavior and social interaction (Kaya &

Burgess, 2007). Baron (1992) believed that seating arrangements should be treated as a priority when thinking of a classroom with maximum on-task behavior. Wannarka and Ruhl (2008) explained that deciding whether students' behavior is on-task or not depends, to a great extent, on the nature of the activity and the desired communication pattern inside the class. They gave the example that if teachers want to guarantee on-task behavior during individual work, they should arrange their classroom furniture in rows and columns so as to minimize student-student interaction. However, if the purpose of the class is to have interaction among the students and the teacher, it would be better to let students sit either in a U-shape or in circles (Bennet & Blundell, 1983; Hastings & Schweiso, 1995; Rosenfield et al., 1985). Bonus and Riordan (1998) further highlighted this idea that the effectiveness of any seating arrangement depends on the activity done in class.

On-task behavior, according to Rosenfield et al. (1985) and Wannarka and Ruhl (2008), includes actions done towards working on the activity at hand as well as any verbal or physical action that builds towards the contribution to the class activity. These verbal and physical actions include students raising their hands to ask a question regarding the activity or commenting and/or discussing a certain element that leads to the completion of the activity. On the other hand, off-task behavior includes instances where students talk out of turn or move around the class without permission or with no purpose (Wannarka & Ruhl, 2008). Downer, Rimm-Kaufman, & Pianta (2007) believe that effective learning takes place when the classroom design "fosters student engagement." By studying three different seating arrangements, rows and columns, clusters and circles, and their effect on students' classroom behavior, Rosnefield et al. (1985) found that sitting in circles encouraged more student on-task behavior and oral response among students and between the students and the teacher than did the rows and columns.

In their study on the effect of classroom seating arrangement on students' behavior, Rosenfield et al. (1985) observed three experimental classrooms of fifth and sixth grades during class discussions in rows, clusters and circles. They observed certain behaviors like hand-raising, listening, discussion comments, on-task out-of-order comments, oral responses, as well as withdrawal and off-task behaviors. Major results of their research showed that there were no significant differences in listening, discussion comments and disruptive behaviors as related to the different seating arrangements. However, Rosenfield et al. (1985) have shown that the circles desk arrangement resulted in a greater number of on-task, out-of-order response and on task behaviors than did the rows and columns. At the same time, clusters resulted in a great number of on-task behaviors and more hand-raising than did the rows. The number of withdrawal and off-task behaviors was much greater in the rows and columns setting than those resulted in the circles.

By examining the U-shape seating arrangement and its effect on students' interaction, Wengel (1992) found that this arrangement enabled teachers to have a more active and collaborative class where students were able to interact with the teacher as well as with each other. Wengel (1992) added that this could be considered evidence that the U-shape arrangement contributed to students' on-task behavior which, in turn, enhanced their learning since, in this arrangement, students get the opportunity to share information and exchange ideas, thus, maximizing their learning space. Similarly, the cluster arrangement was reported to be suitable for self-instructional material and grouping of students according to their needs and interests (Papalia, 1994 as cited in Bonus & Riordan, 1998). Papalia (1994) added that the rows and columns setting best suits individual activities, testing and introducing new material to the students (As cited in Bonus & Riordan, 1998). This, in fact, conforms to the idea that the teacher

is encouraged to use a seating arrangement where students can actually see each other if he/she aims at student-student interaction.

In his study, Wengel (1992) investigated the factors influencing teachers' choices of seating arrangements and what the best seating arrangement to use was. The study depended on observing four teachers in the 1<sup>st</sup> – 4<sup>th</sup> grades and interviewing them. Teachers participating in the study used the horseshoe, rows and columns and clusters settings for the first, second and third grades respectively. The fourth grade teacher used a random arrangement (researcher did not describe how this arrangement looked like exactly). Teachers' interviews covered topics like teachers' backgrounds, classroom activities, type of instruction used, and teachers' opinions of seating arrangements. Class observations focused on monitoring students' behavior in different furniture arrangements. Analysis of these observations included whether students were on-task or off-task, at the desk or not and whether they were working alone or not.

Wengel (1992) stated that there was no one seating arrangement that was better than the other. He has explained that choosing a seating arrangement should be based on the class needs, the interaction patterns aimed at and the teaching styles. In fact, results of both Rosenfield et al. (1985) and Wengel (1992) conform to what classroom management books claim that when seated facing each other, students get a better chance to interact and adopt more on-task behaviors.

In his study on the effect of classroom seating arrangement on a discussion-based classroom and how seating arrangement could affect the quality of students' learning, Adams (2009) examined two different furniture arrangements: a regular rows-and-columns classroom and an auditorium amphitheater setting. Adams (2009) had two different classes in which to conduct his

research. Adams (2009) collected data over two weeks from two classes. Data for his research was collected through pre- and post-tests as well as his own reflection journal as the class teacher.

Adams' (2009) reflection journals revealed that in the first week, where students were seated in the rows and columns, interruptions in Class 1 originated from the back of the class while there were fewer interruptions in Class 2. Results also showed that some students could not hear each other or the teacher in the rows and columns setting during class discussions. As for the amphitheatre seating arrangement, students in Class 1 asked for repetition less frequently. At the same time, students were more engaged in class discussions where students were able to remain on topic for a longer time. Students in Class 2, on the other hand, expressed, both verbally and non-verbally, that the amphitheatre arrangement was not comfortable. Students' grades on the pre- and post- tests showed that the first class learned best in the rows and columns setting. Students in Class 1 got higher scores in the pre-test when having their class in the rows and columns settings while they got lower scores after having the class in the amphitheatre setting. Class 2 scored higher in the amphitheatre setting although students said they did not favor it while having their discussions. There was also a contradiction between the results of the pre- and post- tests and students' surveys which showed that they would learn better when seated in the amphitheater setting. Class 1 reported that they preferred the amphitheatre seating arrangement saying that it was more effective to their learning. Class 2, however, favored the rows and columns setting (Adams, 2009). According to Adams' (2009), it seemed that the two seating arrangements he examined had minimal or no effect on the quality of students' learning. This could be attributed to the idea that both settings are actually very similar to each other. They were both rows and columns, where students were facing the teacher rather than their fellow students, except that the auditorium was, in a sense, more oval than the regular class.



## **Students' and Teacher's Role and Classroom Arrangement**

Teachers and students alike have different views and ideas about their roles inside the class. Lam and Lawrence (2002) explained that the teacher, in most cases, is viewed as being responsible for everything in class. Teachers seemed to be the “all-powerful and all-knowing” who decided what to teach and how to teach it (Lam & Lawrence, 2002, p. 296). Accordingly, deciding on a specific seating arrangement depends on the teacher's beliefs and what he/she thinks his/her role inside the class is. Accordingly, a teacher who believes in having a teacher-centered class is likely to adopt the rows and columns setting where students' attention is directed to him/her and where minimum student-student interaction is allowed (Kaya & Burgess, 2007; Rosenfield et al., 1985).

Based on this concept, Sommer (1967) said that, in a rows and columns classroom, students sitting in the front rows are more likely to participate than those sitting at the back due to their proximity to the teacher. Becker et al. (1973) had a study on students' participation in different classroom sizes and arrangements. Major results revealed that students in the small rows and columns classes participated more than those in larger classes. On the other hand, students in laboratory classes experienced more interaction among all members of the class including the teacher who followed the pattern of “walk and comment” while moving among students to discuss their performance and follow up with their projects (Becker et al., 1973). Despite their interesting results, Becker et al. (1973) did not explain exactly how the seats in the laboratory class were arranged. Becker et al.'s (1973) study was interested in examining the amount of student participation in classrooms of different sizes and different seating arrangements. The first part of this study dealt with measuring student participation in a regular rows and columns, lecture-based classroom. Student participation was measured in terms of time. It was found that

students had more opportunity to participate in classes of small size (6 – 20 students). Becker et al. (1973) reported that when they tried to change the traditional rows and columns arrangement to a circular one, students changed it immediately before the teacher came to class and restored the arrangement back to the rows and columns. Only one class accepted the circular setting which resulted in more student participation.

The second part of Becker et al.'s (1973) study examined student participation in laboratory classes, both science and art laboratories. Observations showed that these settings were characterized by their “fluidity” where both the teacher and students could easily move during the class while working on their projects. It is this idea of “fluidity” that matches, to a great extent, the concept of cooperative learning activities where the teacher’s role is diminished to that of a facilitator. It is this idea that students do not depend on their teacher as the only source of information but rather learn to depend on and communicate with each other in order achieve a certain goal or complete a certain task.

As introduced by Lam and Lawrence (2002), the teacher’s role diminishes if the class is more student-centered. In their study on variations in teacher’s and students’ roles in a computer-based project in a Spanish class, Lam and Lawrence (2002) collected data through class observations, student focus groups, students and teacher’s questionnaire and teacher’s interviews. A class of 33 university students of Spanish as a Foreign Language participated in the study. Students were asked to work on a class project in pairs where they had to create a webpage using Netscape Composer software. Students were given a handout about how to get started with the software and were then encouraged to learn how to use the software through trial and error. The teacher was present during all class time while students were working on the project and there was also a co-researcher acting as a technical advisor because the teacher was not familiar with the

software. Both the students and the teacher responded to a questionnaire before the beginning of the study about their ideas regarding their roles in the classroom. Two observers were present during the project. After the project ended, students were given another questionnaire to collect their feedback on the project and its effectiveness.

Results of Lam and Lawrence's (2002) study showed that although neither the teacher's nor the students' roles hugely changed, both of them were aware, towards the end of the study, of the "fluidity of their classroom" (p. 295). Although, in the beginning of the experiment, it was noted that students depended on the teacher as a main source of information, they started to consult each other and depend more on one another by the end of the experiment which highlighted the teacher's role as a facilitator rather than a source of knowledge.

Johnson and Johnson (1999) also stressed the fact that cooperative learning techniques best work when students are well trained to work in groups. They added that teachers need to have set objectives and directions concerning students' learning outcomes, grouping methods, and assessment plans before integrating CL activities in their classes.

### **Personality Differences**

Factors that can affect student participation in classrooms include gender, different learning styles and personal preferences. Gender, being of the factors that affect student participation, has been increasingly studied (Auster & MacRone, 1994; Fairley, 2010; She, 2001; Weaver & Qi, 2005). Fairley (2010), for example, has reported that males, in general, take more turns while females tend to be silent recipients in class. In her study on conversation dominance in the Egyptian EFL context, Fairley (2010) found that male students in her sample took more turns than female students did. In addition, research findings show that personal differences are

considered an important element that affects student participation in class (Caspi, Chajut, Saporta, & Beyth-Marom, 2006). These differences include student learning styles, learning strategies and affective factors (Erhan, Leaver & Oxford, 2003)

Ehran et al. (2003) explain that learning styles have to do with students' personality and cognitive styles which researchers use to determine students' ability to learn, predict their performance and improve classroom teaching and develop curricula that would embrace different learning styles. Learning strategies, on the other hand, are the means which students use to do a task or learn a second language. Whether a strategy is useful or not depends on certain conditions like whether this learning strategy is suitable to the L2 task at hand, whether it fits the students' learning style and how the student uses this strategy effectively and links it to other strategies. Oxford (1990) identifies six major learning strategies. These are the cognitive strategies that depend on reasoning and analyzing, metacognitive strategies that have to do with students' own preferences and needs, memory-related strategies, compensatory strategies which help students guess the missing information from the context, affective strategies related to feelings, mood and anxiety level and social strategies which help students learn through interaction with others.

Literature shows that what matters when it comes to participation is personal differences and learning styles. Caspi et al. (2006) did a study to monitor personality traits among 214 university students in the Open University of Israel (OUI), 32.3% of which were males and the age range was 17 – 57. The study aimed to examine the effect of personality traits on students' social participation in two different learning environments, the classroom and web-based instructional environment (WBIE). Caspi et al. (2006) did their study in OUI where students could choose whether to be engaged in face-to-face discussions in a regular classroom or have their

discussions online on the university's website. A questionnaire of three sections was distributed to students electronically. The first section of the questionnaire asked students about their classroom behavior while the second section asked them about their WBIE behavior. The third section contained a Hebrew translation of the Big Five Inventory to measure personality traits. Results showed that almost 70% of the students reported that they always or often wanted to participate in class. However, the measurement of student's actual participation showed that 30.8% never participated and 25.4% very minimally participated. On the other hand, only 18% showed their willingness to participate in the web-based environment which matched the actual postings done online (82% of the population never participated while only 15.3% posted only once or twice online).

On the Big Five Inventory section which is related to monitoring students' personality traits, results showed that students who participated in class were more extrovert and open than those who participated online. Caspi et al. (2006) divided participants into four groups. The first one included students who wanted to participate and did so while the second group included those who wanted to participate and did not do so. The third and fourth groups included students who participated although they were not willing to and those who were not willing to and did not participate. The personality differences between these four groups in the classroom showed that students who were willing to and did participate were more open and extrovert. This shows that there might be a strong relation between students' personal traits and their actual participation in class since in this case, even if the student know the information, his/her personality would affect his/her willingness to share it with other classmates or even to take part in class discussions.

These studies focused on measuring students' participation in terms of their talking time or the instances of taking turns. However, they ignored what Tatar (2005) calls students' silence as

a means of communication. The purpose of Tatar's (2005) study was to investigate the reasons behind students' silence and lack of active participation in graduate classes. Tartar collected data from four Turkish graduate students (two men and two women) studying in US universities. The focus was to collect data related to students' perspectives about their silence inside the class as a means of inactive participation in class discussion. Data collection was based on observing classes as well as extensively interviewing the four students to discuss their performance in class discussions.

Results of Tartar's (2005) study showed that silence was used by students in five different cases. It was used as a face-saving strategy when students felt their knowledge and language were not sufficient to take part in the discussion or when other "talkative" students were part of the discussion. Silence was also used as a means of participation where students listened carefully to what their classmates said during their class discussions. This was what Tartar (2005) described as being mentally active in class. The third instance where participants were found to use silence was when they found their classmates' contribution to the discussions was of low quality. Interviews with the participants showed that students would rather keep silent as a means of showing their objection to what others said during discussions. In addition to this, silence was also used as a way to show respect to the instructor. This was related to students' culture where they were not used to speaking without being invited by the instructor to take part in the discussion. In other situations, students resorted to silence as a sign of inarticulacy especially when they found themselves talking to native-English speaking students.

## Conclusion

Literature about cooperative learning stresses the concept that students interacting together while working on group activities encourages more learning as well as developing social skills that will help students in an out-of-the-class context. Findings of this literature about seating arrangements show that when students sit facing each other, they have a better opportunity to talk to each other which helps them develop on-task behavior (Rosenfield et al., 1985; Sommer, 1967). However, other findings show that there is not much difference in the quality of student learning (Adams, 2009) or the students' and teacher's roles (Lam & Lawrence, 2002). This is in addition to the findings that both gender and personality differences highly affect student participation in class. In addition, none of the studies reviewed in this chapter offered a sample of the activity done in class while trying different seating arrangements which could be counted as one major variable that could affect students' participation.

Accordingly, the rationale for this study lies in a number of reasons highlighted in this literature review. The first reason is concerned with the idea that limited research has been done on this area of seating arrangement and students' participation patterns while working on CL activities in EFL classrooms and almost nothing has been done in Egypt. This is particularly important because despite what teacher training and classroom management material mention about the importance of changing classroom seating arrangements according to the activities being used, the furniture arrangements adopted by most educational institutions in Egypt are considered, to some extent, a major challenge to the cooperative learning strategies they are trying to foster. Teachers tend to take the idea of seating arrangements for granted. In other words, they believe that when working on group activities, students should automatically be seated in circles or clusters and that sitting in rows and columns will not help students interact

together. However, there is no proof that these arrangements actually assist students to be on-task while doing a group activity. This study aims to explore this area of seating arrangements and students' participation while working on CL activities in EFL classes within the Egyptian context. In addition, there is a gap in research where the area of student preferences in relation to seating arrangements has not been examined while monitoring students' actual participation rate in CL activities. For this reason, a focus on student participation in relation to seating arrangement as well as to their personal preferences is needed.



## **CHAPTER 3: RESEARCH METHODOLOGY**

This study was a qualitative study that focused on examining students' participation while working on in-class cooperative learning activities in two different seating arrangements; rows and columns and circles. It looked at the quality of students' comments to see whether different seating arrangements contributed to students' completion of the task or not. In this chapter, a full description of the data collection methods and data analysis tools is also presented.

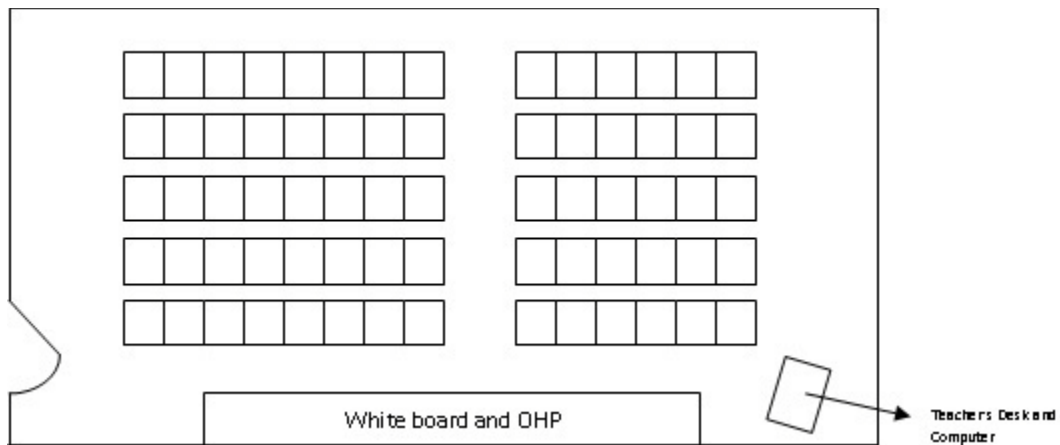
### **Participants**

The study took place in October University for Modern Sciences and Arts (MSA), a private university in 6<sup>th</sup> of October City, Giza, Egypt. Students in this university are required to take three levels of Academic English courses. The first level teaches them how to write a five paragraph essay. The second focuses on the learning of basic research skills as well as writing documented essays, and the third on learning research writing.

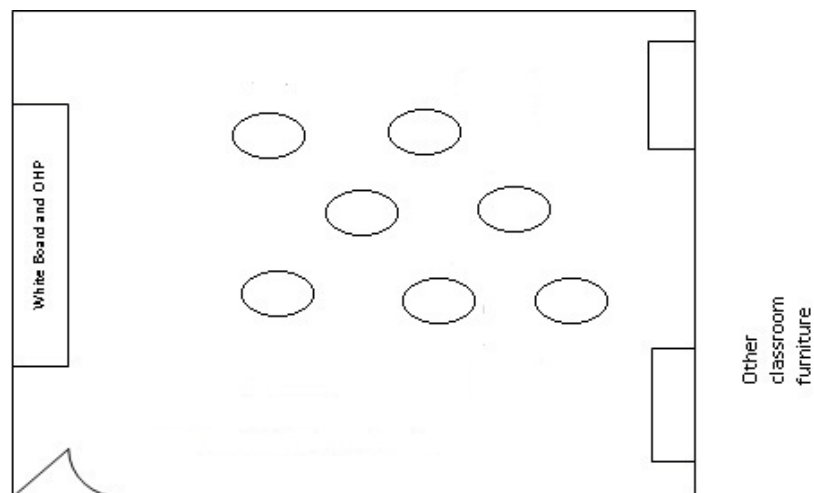
A total of 43 students participated in this research. Participants were enrolled in the second level of English where they learn how to write documented essays based on selected readings discussed in class. Two classes were selected randomly to participate in the study over a period of three weeks. Class 1 had 16 students (3 males and 13 females) and was taught by the researcher while Class 2, with 27 students (5 males and 22 females) was taught by another teacher. The researcher was present during the videotaped sessions as an observer in Class 2. Pseudonyms were used to present data obtained for this study.

## Procedures

Both classes met three times a week for one hour each. Classes usually met in a regular rows and columns classroom where the seats were bolted to the floor. For this study, participating students had their classes in two different settings; the regular rows-and-columns classroom and a meeting room where the students could sit in circles around tables (See figures 1 and 2).



**Figure 1: Rows and Columns**



**Figure 2: Meeting Room (circles)**

After signing the Institutional Research Board (IRB) consent form, students were asked to respond to a short free-form questionnaire about which seating arrangement they thought they would like the most and why (See Appendix A). The questionnaire had three questions. The first one asked students to rate themselves on a scale of 1 – 5 as to whether they consider themselves shy or talkative inside the class. This question aimed to collect data about students’ perceptions about their personal attributes that could affect participation rate inside the class. The second question provided diagrams of the two seating arrangements being examined; the rows and columns and the circles layout, and asked students to choose which one they would prefer to have in their classes. The last question asked students to state the reasons for their choices in the second question. The questionnaire activated students’ knowledge about different seating arrangements that they may not have experienced before. The questionnaire also aimed to collect data that would provide answers to the third and fourth research questions about student preferences for the two different seating arrangements and their self-report of how far they were shy/talkative inside the class.

The second data collection stage involved videotaping students while working on cooperative learning activities. The videos focused on the same group in each class. Each group was videotaped while working on the activity in both seating arrangements. Students were given a writing prompt based on readings they discussed in class and were asked to write a detailed outline for their essays in groups (for a sample activity, See Appendix B). The same activity design, but with a different topic, was repeated in both seating arrangements and within the same groups in order to easily monitor the effect of seating arrangements on students’ participation. Each group then presented their outline to the rest of the class for discussion so that each student could start writing his/her first draft of the essay.

In Class 1, the group videotaped had four students, Amin, Farida, Monda and Dalia. They were first videotaped in the rows and columns seating arrangement and then moved to be seated in circles during the next week. Class 2 had a group of five female students, Yosra, Donia, Manal, Sohayla and Rawan. They were first videotaped in the circles seating arrangement where Donia was absent. In the regular rows and columns seating arrangement, the five students were present. Students in both classes worked on the same activity during the first video and on another similar activity during the second session. The instructors made sure they unified the activity pattern but had to change the topic of the writing prompt to be able to follow the course's outline (For more information about videotaped students, See students' profiles in Appendix C).

During the last week of the data collection period, students were asked to respond to a ten-minute reflective paper commenting on which seating arrangement they liked the most while working on CL activities and why (See Appendix D). This paper had a set of questions that asked the students which seating arrangement they liked the most, how they felt towards each seating arrangement, and which of these arrangements helped them complete the activity more efficiently and why. It was expected that experiencing different seating arrangements would at least help alert students to the importance of classroom seating arrangement to their learning. This paper aimed to collect data to answer the last two research questions where it attempted to relate their answers to the first question in the questionnaire, their performance as recorded on the videos and their reply as to which seating arrangement they preferred the most and how it helped them learn. This paper also helped to answer the last research question by comparing students' responses to the questionnaire to those of the reflective paper at the end of the data collection process.

## **Data analysis**

To answer the research questions, descriptive statistics and qualitative analysis of students' responses to the questionnaire and the ten-minute reflective paper were used. In the free-form questionnaire, a count of how many male and female students preferred which seating arrangement was done. In addition to this, a simple tally of students' reasons for their choices took place. The element of personality differences, as expressed by students' self-report about how shy/talkative they are in class, was also taken into consideration while analyzing the data especially in comparison to the actual performance of students videotaped while working on CL activities.

Data from the videos, transcribed and coded to see how the two different seating arrangements affected students' participation, were analyzed in two ways. First, the number of turns taken by each student in the group was counted. This included instances where any of the students were silently reading or writing something that contributed to the task; this was also counted as a turn (See appendix E for an excerpt from the videos). In addition to this, the number of comments made by each student and number of words for these comments were also counted for each student in order to look at the quality of comments made by students while working on the activity. It should be noted that the element of gender was excluded from the data analysis of the videos due to the fact that only one male student was videotaped.

Second, students' comments while working with their group members were coded according to whether these comments were on-task or not. Both the researcher and the co-teacher worked on coding the data from the videos. The co-teacher had prior knowledge in this field since he was also a graduate student in Applied Linguistics, Cairo University. Both the researcher and the co-

teacher met once before they started the coding process to make sure they agreed on what a turn and what a comment were. Before they started the coding process, they had a meeting where they discussed what on-task and off-task comments were as defined in chapter One. They then discussed their outcomes and agreed on a list of codes (See appendix F). Codes included two main categories. These are on-task comments/behavior and off-task comments/behavior; each category broken into subparts. The category of on-task comments/behavior was divided into five main subparts which were: (1.1) asking others for help/advice (e.g. “Do you know what ‘divergent assumptions’ mean?”, “What do you think?”, “should I write ‘on the other hand’?” or asking the teacher for feedback ), (1.2) offering opinion/expert advice (e.g. “Ok, Yosra, you have to add the (word is not clear) and ‘measures’ because the [sentence this way has no meaning],” and “You know why? Because you won’t find any other sub-ideas. We’ll move them to another one.”). (1.3) taking a stand (e.g. “ok, then this is the second idea and this is the third one,” “no” and “I don’t think so”), (1.4) group management (e.g. “Ali, remember you’re working with us as one group.”), and (1.5) silent on-task behavior (e.g. reading/writing or checking their cell phone dictionaries for meanings of words). Off-task comments/behavior was subcategorized into: (2.1) students using their cell phones and (2.2) students chatting with friends. Data collected from both video recordings for each class were then compared to each other to answer the first and second research questions.

Comments coded as offering opinion or expert advice (codes 1.2.1 and 1.2.2) and code 1.5 were considered of high quality since they offered suggestions or explanations that built towards the completion of the task while those coded as taking a stand (codes 1.3) were considered of medium quality since students expressed their opinions about a suggested answer but they added nothing to the completion of the task. Subcategories 1.1.1, 1.1.3 and 1.1.4 are also of medium

quality since their also related to the completion of the task indirectly while code 1.1.2 was counted of low quality because students, in this case, only checked their group members understand where they were doing without contributing to the task at hand as was code 1.4.

Data from the ten-minute paper was also analyzed by descriptive statistics through counting how many students preferred each of the classroom seating arrangements as well as looking at the main reasons for their preferences and how they felt towards both furniture arrangements. Their comments before and after experiencing the two settings were also compared to each other by looking closely at the responses of each student individually in both the questionnaire and the ten-minute paper in order to see if students thought of the seating arrangement as one of the factors that might affect their participation rate and learning process or not. This was done in order to answer the third, fourth and fifth research questions about what students think of their preferences for the two different seating arrangements in relation to their self-report about how shy/talkative they thought they were in class.

Data was analyzed and presented using bar graphs of students' responses to the shy/talkative question, their preferences for seating arrangements before and after experiencing both of them, and the number of turns, comments, and words for each of the students videotaped. Comparison between students' responses to both the questionnaire and the reflective paper as well as their actual performance on the videos was also done in order to be able to closely see whether classroom seating arrangements affects their participation and, if they did, what the effects really were.

## **CHAPTER 4: RESULTS**

In this chapter, a full description of the results obtained from data collected is presented. Three data sets were collected for this study; the questionnaire, videotaped sessions and the reflective paper at the end. This chapter presents the results in the same order the data was collected and pseudonyms are used when referring to students. The first section of this chapter covers results obtained from the questionnaire. Results for each class will be presented separately, providing the necessary graphs to highlight certain numbers that will be referred to later in the discussion chapter. The second section of this chapter presents data collected from the videos. A total of four sessions were videotaped, two sessions in each class. This section will also present the data for each class separately. The last part of this chapter covers the results of the 10-minute reflective paper given to the students at the end of the research.

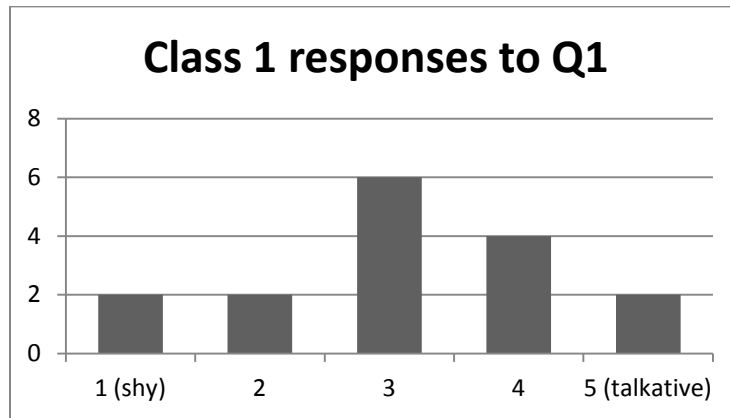
### **Questionnaire**

Before trying both seating arrangements, students in both classes were asked to respond to a questionnaire of three questions. This questionnaire aimed to collect data about students' views of how shy/talkative they were as well as their preferences for the two seating arrangements examined and the reasons for their choices. The first question asked the students to rate themselves on a scale of 1 – 5 whether they consider themselves shy or talkative. They were then asked to choose which seating arrangement, rows and columns or circles, they would prefer more for their classes. The last question asked them to think of reasons for their choices in the second question (See appendix A).

Students' responses to the first question show that, in Class 1, two students including Amin who was videotaped considered themselves shy students in class where they chose 1 on the scale.

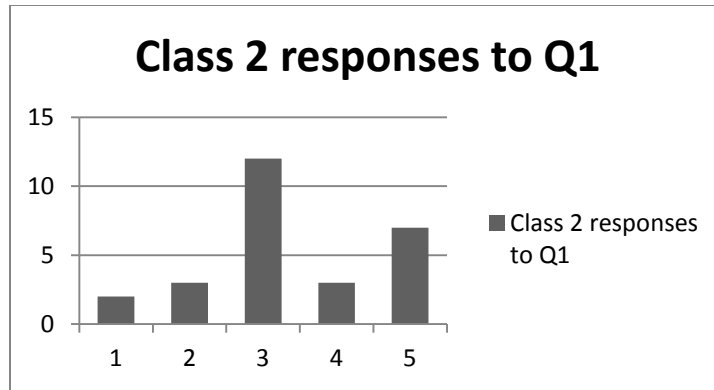


Two other students, including Farida, chose point two while six students, including Monda, chose point 3 on the scale. Four and two students from Class 1 chose point 4 and 5 respectively on the shy/talkative scale. Dalia who was the fourth member in the group videotaped considered herself talkative by marking point 5 in reply to question one (See figure 3).



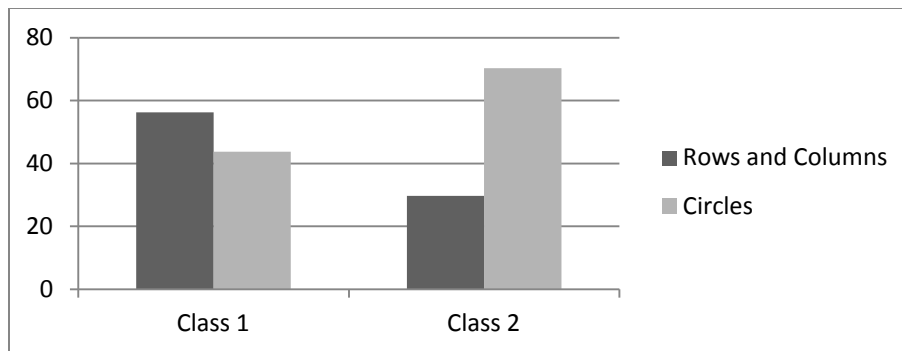
**Figure 3: Students' responses to Question 1 about talkativeness (number of students)**

Responses from Class 2 showed that two students considered themselves shy in class while three other students chose point 2 on the scale including Rawan who was videotaped in Class 2. Twelve students chose point three on the scale, Sohayla being one of them. Three other students chose point four while the rest, seven students including Donia and Yosra, reported they were talkative students in class (See figure 4). Manal responded to neither the questionnaire nor the reflective paper.



**Figure 4: Students' responses to Question 1 about talkativeness (number of students)**

In response to the second question, 9 out of 16 students in Class 1 said they would prefer the regular rows and columns seating arrangement for their classes while the rest said they would like to have their class seating to be arranged in circles. Amin, Farida and Dalia from the videotaped group in Class 1 said they would prefer the rows and columns seating arrangement while only Monda said she would rather have her class in the circles seating arrangement. In Class 2; however, 19 out of 27 students said they would like to be seated in circles during classes (See Figure 5). All group members videotaped in Class 2 who responded to the questionnaire, Donia, Rawan, Sohayla, and Yomna, said they would prefer the circles seating arrangement in their classes.



**Figure 5: Students' responses to Question 2 about seating arrangement preferences in questionnaire and 10-minute paper (in %)**

Table 1: Reasons for choosing both seating arrangement (both classes)

Seating arrangement	Reason	# of students	
		Class 1	Class 2
Circles	Better communication among group members	4	11
	Concentrate more	—	6
	easier to share ideas	1	8
	Less number of students in class	2	1
	Helps understand more	2	—
	Attractive	1	—
	Helps maintain eye contact	3	7
	Helps to motivate	1	—
	Sitting in rows and columns is boring	1	—
	More active	—	1
	More comfortable	—	1
	More friendly	—	2
Rows and columns	More organized	3	5
	Concentrate more	—	7
	Enables class discussions	2	—
	No one can feel rejected	1	—
	Many students in class	1	—
	Sit among friends	1	—
	Comfortable	2	3
	See the board	1	—
	Communicate easily	1	—
	Share ideas	1	—
	I am used to it	1	—
	Teacher can see all students	—	4
	Eye relieving	—	1
	Learn better	—	1
More academic	—	2	

Table 1 shows the main reasons for choosing the rows and columns or the circles seating arrangement as reported by students in both classes. Responses of students included reasons like sitting in circles would make it easier for them to communicate and talk together (See Appendix G for more details about students' responses to questions 2 and 3). In Class 1, four students said

they preferred the circles seating arrangement for better communication among group members and three of them said it helped them maintain eye contact with the rest of the group. One student chose the circles seating arrangement because “sitting in rows and columns is boring” and because the circles would motivate him more. Two students reported that sitting in circles meant having less number of students in class while two students said that the circles seating arrangement would help them understand more in class. Three students who chose the rows and columns seating arrangement said that it was more organized and two of them said that it was more comfortable to them. Another student chose the rows and columns because she was used to it. Two students reported that the rows and columns enabled class discussions while one student said that it encouraged sharing ideas.

Amin, Farida and Dalia, students videotaped in Class 1, said they preferred the rows and columns to the circles seating arrangement. Both Amin and Dalia said that the rows and columns seating arrangement was more organized. Amin also wrote that this seating arrangement “[could not] make groups so no one [could] feel s/he rejected” while Dalia added that rows and columns enabled her to see the board clearly and to focus with everyone in class. Farida’s reasons for choosing the rows and columns were that it made it easier to communicate and share ideas with group members. On the other hand, Monda chose the circles seating arrangement as her preference. She said that having this arrangement meant having fewer students in the class which would help her concentrate more. She also added that she liked to be in a quiet place and the circles seating arrangement was more suitable to her in this sense.

Reasons for choosing the circles seating arrangement in Class 2 included this arrangement being better for communication and eye-contact among group members. Eleven students said that the circles seating arrangement would enable communication among all group members and

maintain eye contact with group members as reported by eight students from Class 2. Six students said the circles seating arrangement would help them concentrate more in class while eight students said it would be easier to share ideas in this arrangement. Two students reported that the circles seating arrangement would be more comfortable and friendly while one student said that having the class furniture arranged in circles meant having less number of students in class. On the other hand, seven of the students who preferred the rows and columns seating arrangement said that it would help them concentrate more while five students said it was more organized. Three students said it was more comfortable for them to sit in rows and columns, four said this seating arrangement enabled the teacher to see all students in class while two other students said that the rows and columns seating arrangement was more academic.

Students videotaped in Class 2 said they would prefer the circles seating arrangement. Donia said she would prefer the circles seating arrangement because it made her closer to her group which made it easier for her to communicate with them. Rawan, on the other hand, said that this seating arrangement would enable her to maintain eye-contact with group members. Both Sohayla and Yosra agreed with Rawan about the importance of eye contact and being able to see everyone in the group as one of the reasons for their choice. Sohayala and Yosra also agreed that the circles seating arrangement would be easier to share ideas and Yosra added that it would be more comfortable to her.

### **Videos**

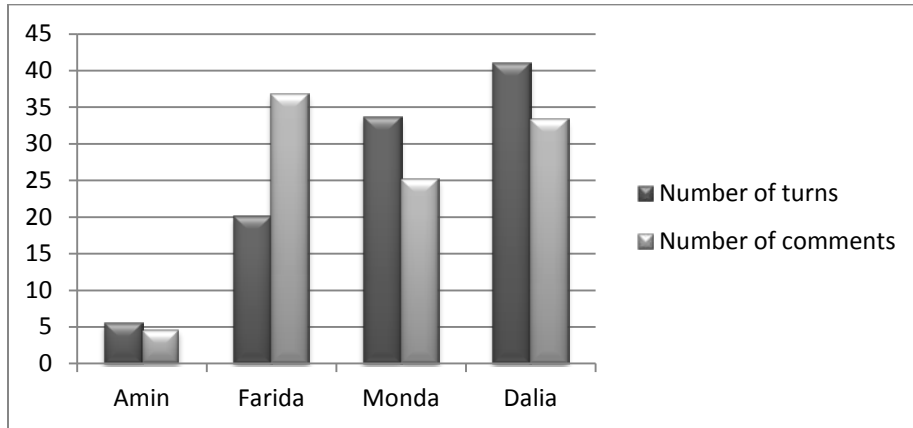
In this section, each video is briefly described. In addition, results obtained from the videos are presented in terms of the number of turns and number of comments for each student as well as

the total number of on-task comments and off-task instances. A breakdown of individual comments made by the students is also presented.

*Video 1: Class 1 seated in rows and columns*

This video was taped in the regular classroom where seats were arranged in rows and columns. Students were instructed to write an outline for a writing question about gender differences and the use of language. They were directed to refer to an article discussed before in class to support their ideas. Amin, Farida, Monda and Dalia were the students videotaped during this class session. Farida, Dalia and Monda were seated beside each other while Amin was seated one chair away from the rest of the group. For the first three minutes, Dalia was confused about what the task was about while Monda and Farida explained to her what they were supposed to do. When Dalia understood the task, Amin told the group that he was also confused. At that moment, Dalia explained the task to him. During the next two minutes, they all brainstormed for ideas. However, Amin then started to write in his own notebook while Farida, Monda and Dalia started developing their own version of the outline. Amin kept writing his own version until the end of the class. Whenever the instructor reminded him that he was part of the group, he told her that he knew and that he worked with his group members. This took place three times over a period of 30 minutes. Whenever this took place, Amin would get involved in a 1-2 minute dialog with the group members to check that his ideas matched those of the rest of the group. Throughout the activity, Dalia leaned back a little in her chair while Farida and Monda turned their bodies so that they would be able to see each other while working on the activity. Whenever Amin was involved with working with the group, Monda would also lean back so that Amin would see all group members.

The total number of turns taken by group members in this seating arrangement was 110; Amin took six turns and Farida took 22 turns. Monda and Dalia took 37 and 45 turns respectively. The total number of comments made by Amin was eight while Farida made 63 comments. Monda and Dalia made 43 and 57 comments respectively. (See figure 6).



**Figure 6: Number of turns comments for each student (Class 1: rows and columns) (in%)**

Table 2 shows the total number of comments made in each video. A total of 171 comments were made by students in Class 1 when seated in the rows and columns. Ten of these comments were off-task instances; Dalia and Fairda had three instances each where they checked their cell phones during classes and two instances each where they chatted with each other and with another student in another group (for details of the definition of the code numbers, see Appendix F).

**Table 2: Number of comments in each video**

	Number of Comments													
	1.1.1	1.1.2	1.1.3	1.1.4	1.2.1	1.2.2	1.2.3	1.3.1	1.3.2	1.3.3	1.4.1	1.5	2.1	2.2
Video 1: Class 1 (rows and columns)	14	0	12	5	22	27	2	32	8	10	2	27	6	4
Video 2: Class 1 (circles)	18	0	7	6	26	17	2	21	3	6	1	24	1	4
Video 3: Class 2 (circles)	42	5	8	1	114	56	2	47	21	5	4	4	4	1
Video 4: Class 2 (rows and columns)	20	3	17	1	73	35	4	41	10	1	14	21	0	5

\* highlighted comments are considered high quality comments since these were the comments where students explained a point to group members or made suggestions the contributed to the completion of the task at hand.



Figure 7 shows the total number of comments made by the group in each category in both videos. Amin made a total of eight comments; one comment where he asked for clarification (code 1.1.1), another comment where he explained a point to group members (code 1.2.1), two comments offering suggestions for answers (code 1.2.2), one comment where he showed understanding of a certain point (code 1.2.3) and three comments of agreement to a suggested answer (code 1.3.1). Farida had a total of 63 comments, 18 of which were silent on-task instances since she was the group's writer (code 1.5). She made 10 comments of explaining something to group members (Code 1.2.1), and eight suggestions to complete the task (code 1.2.2). Seven comments of agreement (code 1.3.1), three of disagreement (code 1.3.2) and four of expressing opinion about a suggestion (code 1.3.3) were also made by Farida during the activity. She also asked for clarifications five times (code 1.1.1) and asked her group members for suggestions three times (code 1.1.2). Five off-task instances were noted in Farida's total number of comments (code 2.1 and 2.2).

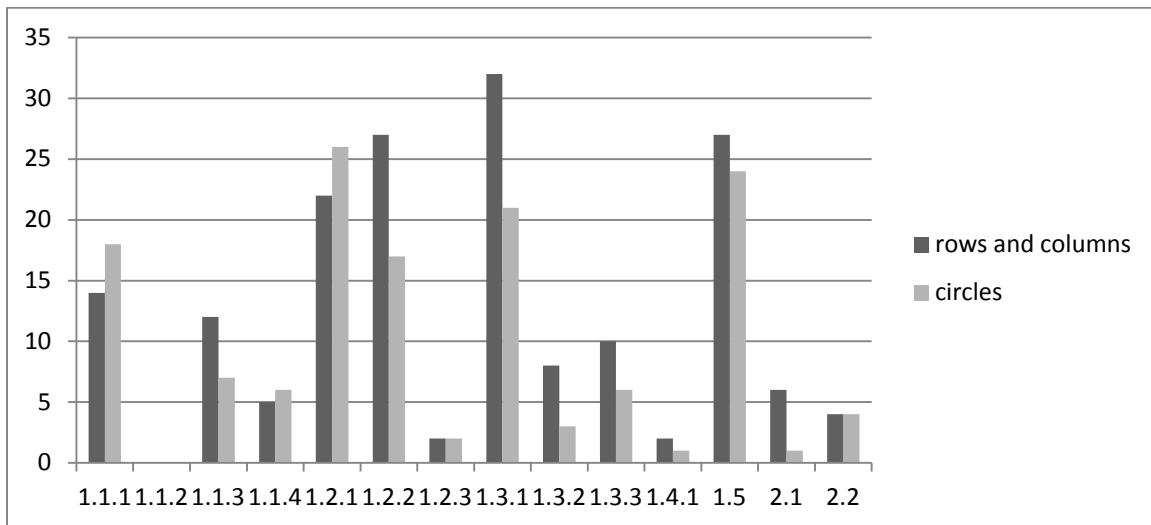


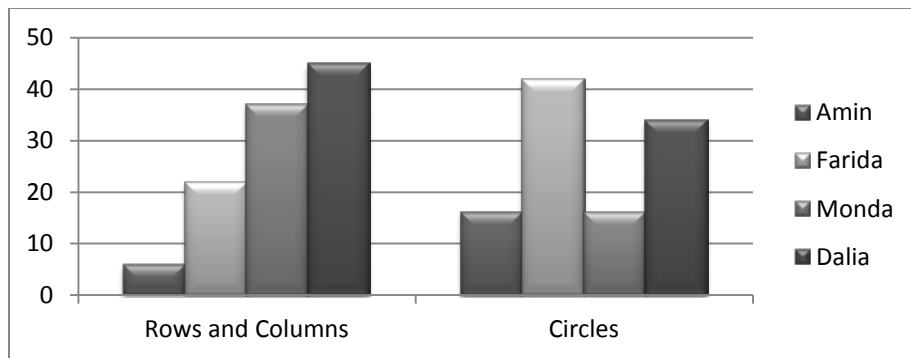
Figure 7: Number of comments made by students in Class 1 in each category (in number)

Monda made a total of 43 comments. She asked for clarifications three times, asked for suggestions four times and asked the teacher for feedback three times. Monda also made six comments where she explained something to group members and five comments offering suggestions to complete the task. Twelve comments of agreement, two of disagreement and two of expressing opinion about a suggestion were made by Monda during the activity. Monda reminded Ali that he was a member of the group (code 1.4.1) two times and was involved in silent on-task behavior four times. No off-task instances were noted in Monda's comments in this video. Dalia made a total of 57 comments; five of which were comments where she asked for clarifications, five comments where she asked her group members for suggestions and two comments asking the teacher for feedback. Sixteen comments were made by Dalia offering an opinion or an expert advice; she explained something to the group five times, offered suggestions twelve times and showed understanding of a point once. Ten comments of agreement, three of disagreement and three of expressing opinion about a suggestion were also made by Dalia. No group management instances were noted on Dalia's part while she was involved in silent on-task behavior five times and off-task behavior five times.

*Video 2: Class 1 seated in circles*

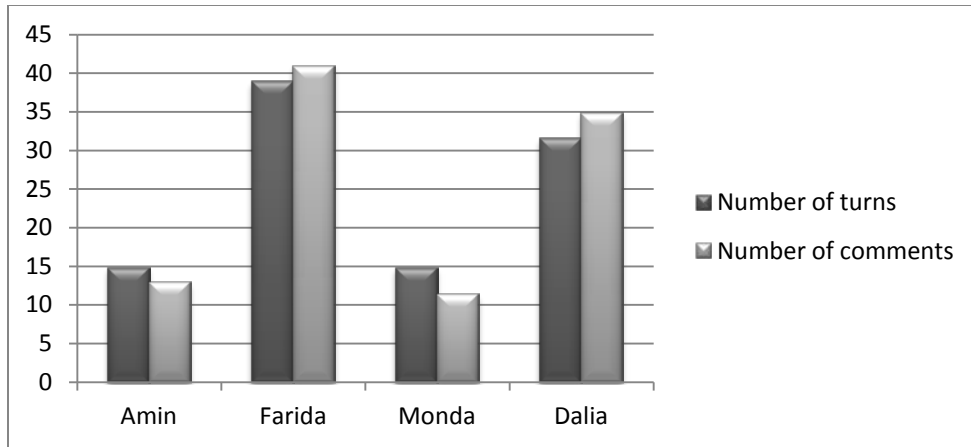
In this video, Amin, Farid, Monda and Dalia were seated in a circle working on a group activity. Similar to the other class session, they were asked to write an outline for a documented essay about cultural differences and communication. The activity lasted for almost 30 minutes. The group started by choosing Farida to be the group's writer. In the beginning, Farida and Dalia made sure the entire group read the two articles they were supposed to refer to in order to support their ideas in the outline. For five minutes, they discussed and brainstormed for ideas they thought they could include in the outline while reading parts of the articles to make sure they fit

into their outline for the essay. For the next 15 minutes, Dalia, Farida, Amin, and Monda exchanged ideas and wrote down their outline. The last 10 minutes of the video were spent in class discussion where each group presented its outline to the rest of the class. All group members were seated around tables facing each other except Amin who pulled his chair slightly out of the circle and sat facing the group at an angle.



**Figure 8: Number of Turns (Class 1)**

Figure 8 shows a comparison between the number of turns taken by students in both seating arrangements. The number of turns Amin took in this seating arrangement increased from 6 in the rows and columns seating arrangement to 16 turns while sitting in circles. However, Monda had only 16 turns taken in comparison to 37 turns in the rows and columns class. Farida took a total of 42 turns while Dalia took 34 turns (See figure 9).



**Figure 9: Number of turns and comments for each student (Class 1: circles) (in%)**

A total of 17 comments were made by Amin. He asked for clarifications five times, explained something to the group twice, and offered suggestions twice. Two instances of agreement were made by Amin while none of disagreement or showing understanding of a point was made. Amin had one group management instance when he asked Dalia to focus on the activity when she went off-task and was involved in on-task behavior five times when either writing or reading something from the articles they were asked to refer to while working on the activity. No off-task behavior was made by Amin while working on the activity in the circles seating arrangement. Farida made a total of 57 comments, seven of which were instances where she asked the group members for clarifications, five where she asked for suggestions and another five where she asked the teacher for feedback. Twelve comments were made by Farida where she explained something to group members. She offered suggestions three times, expressed agreement with group members six times, disagreement once and expressed her opinion about a suggestion four times. Being the group writer, Farida was involved in 11 silent on-task instances where she either wrote her colleagues' answers or referred to the readings. Three off-task instances were noted in Farida' total number of comments; one where she checked her cell phone

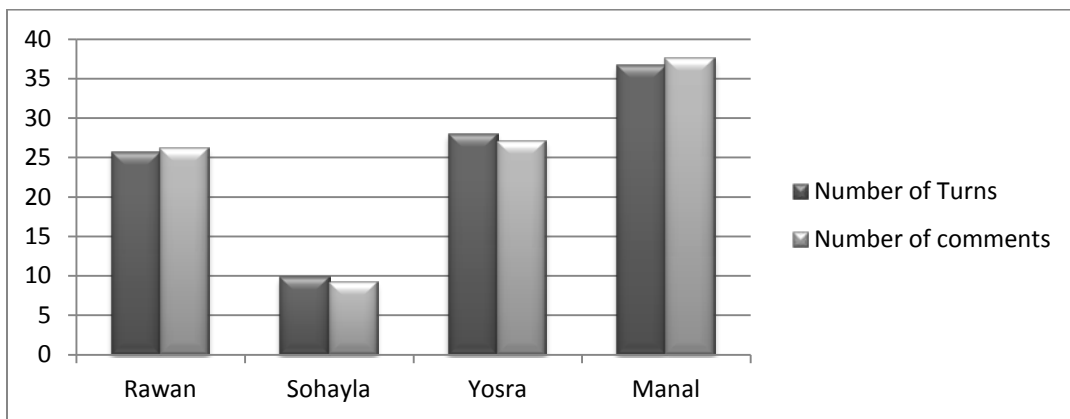
during the activity and two other instances where she chatted with Dalia about one of the assignments due in another course they were enrolled in.

Monda made a total of 15 comments in the circles seating arrangement. She asked for clarifications twice and asked for suggestions only once. She made four comments explaining something to group members and two comments offering suggestions. She agreed with group members once, disagreed twice and expressed her opinion about a suggestion once. She was involved in silent on-task behavior once while no off-task behavior was noted in Monda's total number of comments. Dalia, on the other hand, made a total of 47 comments; four of which were asking group members for clarifications, one comment asking for suggestions and another one asking the teacher for feedback. Dalia explained something to group members eight times, offered suggestions 10 times and showed understanding of a point twice. Twelve instances of agreement and one of expressing an opinion about a suggestion were made by Dalia. Six silent on-task instances and two off-task ones were noted in the total number of Dalia's comments.

### *Video 3: Class 2 seated in Circles*

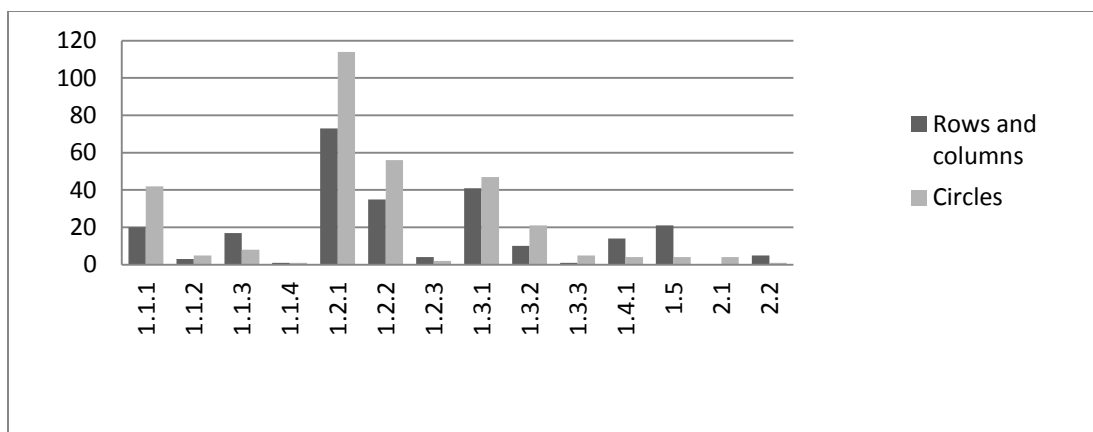
This video was taped in the meeting room where students were seated in circles. Rawan, Sohayla, Yosra and Manal were the students videotaped while working on the activity. They were asked to write an outline for a topic about gender differences and the use of language that was based on an article discussed previously in class. The four students were seated around a table facing each other. They were asked to write only one outline as a group and to hand it in to the instructor by the end of the class. It took the students almost 45 minutes to get done with the activity.

The total number of turns taken by the group was 265 turns. Sixty-eight comments were taken by Rawan while 26 turns were taken by Sohayla. Yosra and Manal took 74 and 97 turns respectively. Data showed that some of the turns taken by the students included more than one comment. Accordingly, the coding process showed that the total number of comments made by the group was 314 comments. Rawan made a total of 82 comments while Sohayla, Yosra and Manal made 29, 85 and 118 comments respectively (See figure 10).



**Figure 10: Number of turns, comments for each student (Class 2: circles) (in%)**

Comments were divided into both on-task comments and off-task instances. A total of five instances were found marked as off-task behavior (codes 2.1 and 2.2). These included instances where Manal left the class to receive a phone call once and another instance was when Manal started to talk to students in other groups. The rest of the comments were on-task ones as illustrated in figure 11.



**Figure 11: Number of comments made by students in Class 2 in each category (in number)**

In the circles seating arrangement, Rawan made a total of 82 comments, seven of which were asking for clarifications, two asking group members for understanding and two asking for suggestions. Thirty-one comments of explaining something to the group were made by Rawan in addition to 15 comments of offering suggestions and two comments of showing understanding of a point. Rawan also made 15 comments of agreement, four of disagreement and two comments of expressing her opinion about a suggested answer. She asked Manal to focus on the activity once and was involved in one off-task behavior when she checked her cell phone while Yosra was writing the final outline to submit to the teacher. Sohayla, on the other hand, made a total of 29 comments. Nine of these comments were asking for clarifications and one comment asking for suggestions. Sohayla explained something to group members eight times and offered suggestions three times. Five comments of agreement and one of disagreement were noted in Sohayla's comments. She was also involved in one silent on-task behavior while no off-task behavior was noted.

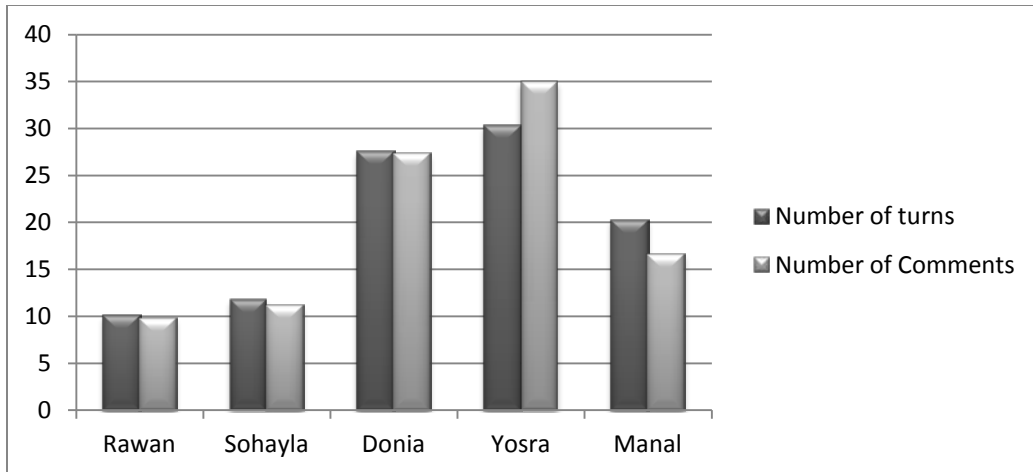
Eighty-five comments were made by Yosra in the circles seating arrangement. Yosra asked for clarifications eight times, asked a friend for understanding once, asked for suggestions five

times and asked the teacher for feedback once. She explained something to group members 36 times and offered suggestions 17 times. Nine comments of agreement and six of disagreement were made by Yosra while working on this activity. She directed Manal to focus on activity twice while no off-task behavior was noted in Yosra's comments. The largest number of comments in this video was made by Manal, 118 comments. Eighteen of these comments were asking for clarifications and two comments were checking for understanding. Thirty-nine comments of explaining something to group members were made by Manal while she offered suggestions 21 times. Manal agreed with group members 18 times, disagreed 10 times and expressed her opinion about a suggestions three times. She asked Sohayla to focus on activity once, was involved in silent on-task behavior twice and off-task behavior four times.

*Video 4: Class 2 seated in rows and columns*

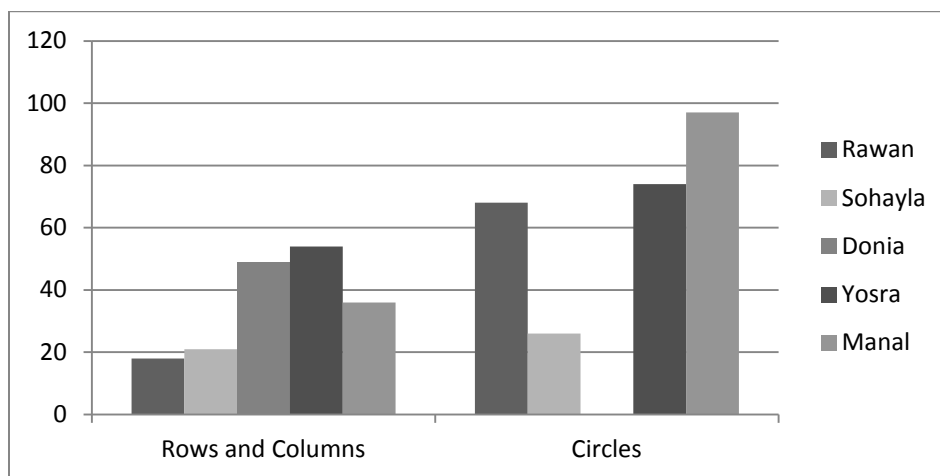
This video was taped in the regular rows and columns classroom. The same group of students was videotaped including Donia who was sick and could not come to the previous session. The activity was the same; they were also asked to write an outline for an essay topic about how different values could affect communication between people of different cultures. The topic was also based on two articles that had been discussed before in class. The activity lasted for almost 30 minutes; the first 10 minutes, Donia and Manal sat together brainstorming for some of the ideas to be included in the outline while Yosra, Rawan and Sohayla brainstormed for the outline separately. In order to write the outline as one group, Donia and Manal moved from their seats and sat in front of Yosra, Rawan and Sohayla. Because the chairs were bolted together and were heavy to move, both Donia and Manal used the instructor's chairs to sit facing the rest of the group. Despite the fact that it was no longer a rows and columns seating arrangement, full data of this video is presented below.





**Figure 12: Number of turns and comments for each student (Class 2: rows and columns) (in%)**

Figure 12 shows the number of turns and the number of comments for each student in the group. A total of 178 turns were taken by students in this group where Yosra and Donia took the most turns; 54 and 49 respectively. Manal took a total of 36 turns while Sohayla and Rawan took 21 and 18 turns respectively (See figure 13 for a comparison between students' turns in both seating arrangements). These turns were divided into a total of 245 comments where students made more than one comment in a turn in some instances.



**Figure 13: Number of turns in both seating arrangements (Class 2)**

Rawan made a total of 23 comments which included four comments asking for clarifications, one comment asking for suggestions, five comments explaining a point to group members, three comments offering suggestions and one comment showing an understanding of a point. Rawan's comments also included four comments of agreement and another four of disagreement and she made one off-task instance when she was talking to Manal about their assignment. Sohayla's comments were 26; four comments asking for clarifications, one asking a friend for understanding, nine comments explaining something to group members, four comments offering suggestions and one comments showing understanding of a point. Sohayla's comments also included five comments of agreement and one of disagreement in addition to one off-task instance when she was also discussing her assignment with Yosra.

A total of 71 comments were made by Donia in the rows and columns seating arrangement. Donia asked for clarifications four times and asked for suggestions four times. She explained something to the group in 21 comments and offered suggestions 11 times. Seven comments of agreement, two of disagreement and one of showing her opinion about a suggestion were made by Donia during this activity. Donia drew the group's attention to focus on activity eight times and was involved in silent on-task behavior 13 times. Yosra made a total of 85 comments during this activity. She asked for clarifications once, asked her group members for understanding twice, for suggestions 11 times and asked the teacher for feedback once. She explained something to group members 28 times, offered suggestions 11 times and showed understanding of a point once. Yosra also made 18 comments of agreement and three of disagreement. She asked her group to focus on the activity four times when they talked about the assignment and was involved in four silent on-task instances and one off-task instance. The last member of this group, Manal, made a total of 40 comments which included seven comments asking for

clarifications, and one comments asking a friend for understanding. Manal explained something to group member 10 times, offered suggestions six times and showed understanding of a point once. Seven comments of agreement were made by Manal during this activity. She also aksed group members to focus on the activity twice and was involved in silent on-task behavior four times and off-task behavior twice.

### **Ten-minute paper**

After experiencing both seating arrangements, students were asked to respond to a 10-minute paper in which they would be able to reflect on their feelings in both seating arrangements and to decide which they liked most and which of the seating arrangements helped them complete the task better. Class 1 returned only 11 papers out of the 16 while Class 2 returned 17 out of 27 papers. Participants' responses to question 1 are presented in Appendix H since it mainly acted as a warm-up question so that students would be able to answer the other two questions on the paper efficiently. Responses of students videotaped in both classes to question one in this paper are presented while more data from questions two for both classes are presented in detail. Most of the students did not add more information in their replies to the third question. Most of them mentioned the same reasons they had in the second question,

In Class 1, Amin said that he did not feel comfortable in the rows and columns since it was hard to communicate with more than one student while he said that the circles was a very good way to communicate with all the group which made him feel comfortable. Dalia, on the other hand, that she felt more organized in the rows and columns which enabled her to focus more in class. She also said that the circles seating arrangement made her feel more connected to group members which enabled her to share ideas easily. Farida said the rows and columns seating

arrangement did not help her share ideas with group members unlike the circles which facilitated communication. Monda wrote that the rows and columns seating arrangement annoyed her. “It disturbs me and I can’t concentrate well in it with my group,” Monda wrote her feelings towards the rows and columns. She also wrote that the circles seating arrangement was better “because we feel that we are all together and working well with each other.” She added that it was more comfortable since they could talk and discuss everything with each other.

All group members videotaped in Class 2 responded to the 10-minute paper except Manal and Donia. Rawan said she felt uncomfortable and unsatisfied in the rows and columns seating arrangement while the circles made her feel more comfortable and able to see everyone in the group. In reply to the questions about their feelings to both seating arrangements, Sohayla wrote “not active” for the rows and columns and “more active, share easily” for the circles seating arrangement while Yosra wrote, “Rows and columns are not comfortable. I don’t prefer working in rows and columns. I feel that I work individually because the way we are sitting.” About the circles seating arrangement, Yosra wrote, “Circles are more comfortable because I feel that I am talking to the person through his/her eyes. And, this is an easier means of communication for me.”

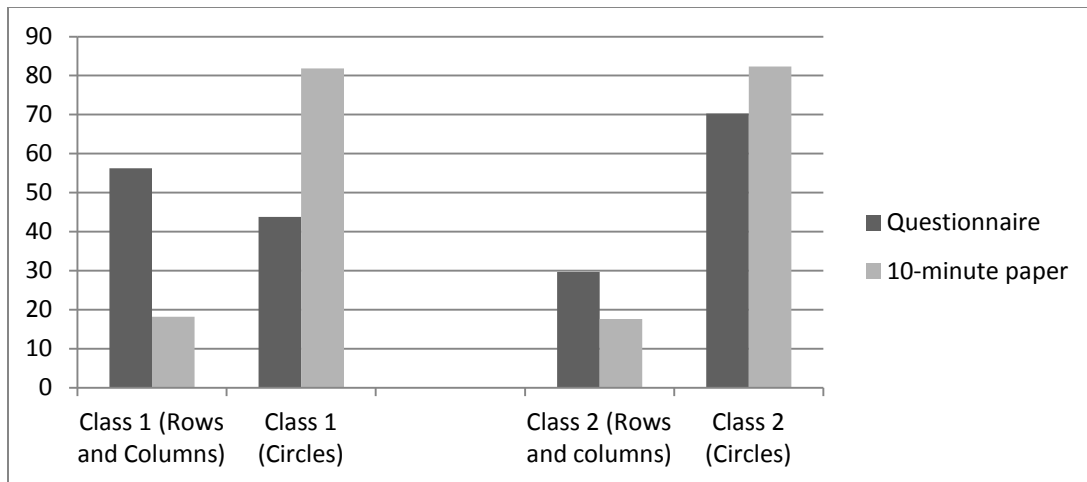


Figure 16: Students' seating arrangement preferences in questionnaire and 10-minute paper (in %)

Figure 16 shows students' preferences for both seating arrangements in the questionnaire and the 10-minute paper. Reasons for choosing each seating arrangement are highlighted in table 3. One student from Class 1 said he preferred the rows and columns because it made him feel closer to the rest of the group. Three students, Farida being one of them, said the circles seating arrangement was easier in communication. Amin from Class 1, on the other hand, wrote, "in the past, I used to think that rows and columns was best for the students, but when I tried the circle, I found that it's a cool way." While another student said the circles seating arrangement helped in maintaining eye-contact with group members. Two students, including Monda, said that sitting in circles helped them concentrate more in class while one said it was more comfortable and that it was easier to share ideas in this seating arrangement. On the other hand, being able to focus and understand more in class was the reasons written by Dalia from Class 1 for choosing the rows and columns seating arrangement as her preference. Another student in Class 1 also chose the rows and columns saying that it was more comfortable to her.

Three students from Class 2 said they preferred the rows and columns seating arrangement. Their reasons included the fact that they either were used to this seating arrangement, preferred

to work alone, or were able to focus more in the rows and columns seating arrangement. One student also added that the rows and columns enabled her to listen to her group members easier. One of the students who preferred the circles seating arrangement in Class 2 said that it made her feel closer to group member. Seven students, including Yosra and Rawan, said the circles seating arrangement made it easier for group members to communicate while four students, including Yosra, Rawan and Sohayla, said it helped them maintain eye-contact with group members. Four students reported that the circles seating arrangement was more comfortable to them and two students said it helped them concentrate more in class. Being able to finish the activity faster was another reason mentioned by four students. In addition, three students said the circles arrangement made it easier for them to share ideas while two students reported that it was easier for them to hear each others in the circles seating arrangement. Sohayla said the circles seating arrangement made the class more active while another student said it helped him think of more ideas.

In reply to the last question in the 10-minute paper concerning which seating arrangement helped the students learn more and why, most students in both classes mentioned the same reasons they had in the second question. Amin, from Class 1, mentioned no reasons for why circles helped him learn more while Monda said that the circles seating arrangement helped her concentrate better in class. Dalia said she preferred the rows and columns because it helped her understand more while Farida did not reply to the third question.

*Table 3: Reasons for students' preferences for seating arrangements in the 10-minute paper*

Seating arrangement	Reason	# of students	
		Class 1	Class 2
Circles	Feel you are close to the rest of the group	1	1
	Easier communication	3	7
	Cool	1	—
	Maintain eye contact	1	4
	Concentrate more	2	2
	Comfortable	1	4
	Easier to share ideas	1	3
	Finished the activity faster	—	4
	Can hear each other easily	—	2
	More active	—	1
	Helped me think	—	1
Rows and columns	More focused	1	1
	Understand more	1	—
	More comfortable	1	—
	Prefer to work alone	—	2
	Used to this seating arrangement	—	1
	Can hear what our friends are saying	—	1

In Class 2, although Passant said she preferred the circles seating arrangement, she said that the rows and columns helped her complete the activity more but she did not mention any reasons. Neither Donia nor Manal from the videotaped group, replied to the 10-minute paper while Rawan mentioned the same reason that circles seating arrangement helped her finish the activity more efficiently because she was able to concentrate. In reply to the third question, Sohayla said the circles seating arrangement made it easier for her to communicate with group members, thus completing the activity faster. Yosra agreed with Sohayla adding that the circles seating arrangement was a good means of “saying everything and our points of view clearly to each other.”

## CHAPTER 5: DISCUSSION AND CONCLUSION

Data collected during this study aimed to answer five research questions. The first two questions were about whether seating arrangements, rows and columns and circles, affected students' on-task/off-task participation while working on CL activities or not and if they affected their participation, in what ways this was done. The other three questions were concerned with students' preferences for the two different seating arrangements, the reasons for their choices and whether their preferences changed after experiencing both arrangements. Major results showed that some students changed their perception and preferences concerning which seating arrangement helped them learn more. Looking closely at students' responses to the questionnaire and the 10- minute paper, it was shown that their choices reflected their personal preferences as to whether they liked to work individually or in groups as well as to their personal concentration rate inside the class. In addition, the videos showed that most of the comments made by students while working on cooperative learning activities were on-task comments with minimal off-task behavior. In this chapter, results of this research paper will be discussed in the light of two main points:

### **On-task and off-task participation in both seating arrangements**

In order to be able to answer the first and second research questions, a close look at the videotaped students in both seating arrangements was done. Their comments in both seating arrangements as well as their responses to the questionnaire and 10-minute paper are discussed in this section in order to see how far the two seating arrangements contributed to the learning process of these students.



The total number of on-task comments made by students in Class 1 in the rows and columns seating arrangement was 161 comments as opposed to a total of 131 on-task comments in the circles seating arrangement. This makes a ratio of 1.2:1. The ratio of off-task comments in rows and columns to circles was 2:1. The difference in the number of on-task comments in both seating arrangements does not lead to the conclusion that one seating arrangement is better than the other for this group of students. However, the fact that off-task instances decreased from 10 instances in the rows and columns to only five in the circles seating arrangement suggest that the circles seating arrangement helps enhance students' on-task participation while working on CL activities. In addition, students' postures when seated in the rows and columns seating arrangement highlight this finding. As mentioned earlier, Amin seated himself one chair away from the group. Dalia was seated in the middle between Monda and Farida who both turned to face Dalia in order to be able to discuss their ideas with each other. Even when Amin talked to them being part of the group, the video showed that Monda had to lean back a little bit in order for Amin to be able to see Dalia and Farida. In other words, even though the seats were bolted together and were too heavy to move, the group tried to create their own circle shape while working on the activity in the rows and columns class and when they could not, Amin was almost excluded from the group, possibly, because of the seating arrangement. A close look at Amin's number of comments in both seating arrangement can further explain this finding. Amin made a total of eight comments in the rows and columns offering suggestions only once and showing disagreement three times. In the circles seating arrangement, however, he made a total of 17 comments where he explained some points to group members 12 times, offered suggestions three times and was involved in silent on-task behavior 11 times. This shows that Amin was more involved in the task in the circles seating arrangement.

This result is more highlighted in Class 2. In this class, the ratio of on-task comments in the circles to the rows and columns is 1.34:1 (a total of 309 on-task instances in the circles seating arrangement and 229 instances in the rows and columns). Students had a number of five off-task instances in both seating arrangements equally. Again, although the difference in the number of on-task comments in both seating arrangement does not support the claim that the circles seating arrangement encourages more participation, the results obtained from the rows and columns seating arrangement do not actually reflect this particular seating arrangement since students were actually subversive to the rows and columns seating arrangement. When seated in rows and columns, the group in Class 2 was split into two sub-groups in the first 10 minutes of the activity where Donia and Manal worked as a pair while Yosra, Sohayla and Rawan worked together. For the rest of the activity, both Donia and Manal moved themselves and sat in front of Yosra, Sohayla and Rawan using the instructor's seats to face them while finalizing their outline. This shows that this group believed that the circles seating arrangement was more convenient to them. They realized in the beginning that they would not be able to work as a group of five students when seated in one row and, probably, this was why they moved themselves to face each other.

In order to be able to see exactly how each seating arrangement affected students' participation in class, a close look at students' responses to both the questionnaire and the 10-minute paper is done in the following two sections in addition to comparing their responses to their actual participation rate as recorded on the videos.

### *Class 1*

Amin responded to the questionnaire saying that he considered himself a shy student. He preferred the rows and columns seating arrangement because, according to him, it was more

organized and would not make anyone feel rejected. Amin's answers to the questionnaire show that he was a student who preferred to work alone and that he was sometimes unable to function well within groups. When seated in rows and columns Amin took only six turns of a total of eight comments, all of which were on-task. He wrote his own version of the outline although his ideas were the same as those of the group. In the circles seating arrangement, on the other hand, he took a total of 16 turns with 17 comments. All of his comments were also on-task where he, in this particular seating arrangement, suggested more ideas that built towards the final outline they were working on. He referred to the readings more often and directed the group to ideas in the readings they were not paying attention to. When asked at the end of the research period which seating arrangement he preferred more, Amin wrote, "in the past, I used to think that rows and columns was best for the students but when I tried the circles, I found that it's a cool way." This answer highlights the idea that his choice of the rows and columns in the questionnaire was probably attributed to his personal preference as well as to the fact that he never tried the circles seating arrangement before. He also said that the circles seating arrangement helped him learn more but he did not mention reasons.

Similar to Amin, Farida, who chose point 2 on the shy/talkative scale, said that she preferred the rows and columns seating arrangement more to be able "to communicate easily." In the 10-minute paper, however, she said that she preferred the circles seating arrangement more because it was easier for group members to talk to each other and share ideas. The videos showed that Farida, like Dalia, had a total of 5 off-task instances in the rows and columns seating arrangement and another three in the circles seating arrangement as opposed to 58 and 54 on-task comments in the rows and columns and circles seating arrangements respectively.

Monda, the fourth student videotaped in Class 1, chose point 3 on the shy/talkative scale. She replied to the questionnaire saying that she preferred the circles seating arrangement because she “like[d] to be in a quiet place.” Monda believed that the circles seating arrangement meant having smaller number of students which would help her concentrate more in class. In the 10-minute paper, Monda said that she felt “annoyed” when seated in the rows and columns which made her unable to concentrate as opposed to the circles seating arrangement which she felt “better because we feel that we [are] all together.” She added that it was more comfortable to her to sit in circles and discuss all her ideas with group members. Monda had no instances of off-task behavior in both seating arrangements. She made a total of 43 comments in the rows and comments seating arrangement as opposed to only 15 in the circles seating arrangement. The difference in the number of comments made by Monda is noticeable. However, this could be attributed to the idea that Amin was more active in the circles seating arrangement which means that he took part of her talking time while working on the activity. If one might claim that maybe the circles seating arrangement did not help Monda learn, her answer to the first question in the reflective paper showed otherwise. Monda said she felt annoyed in the rows and columns while she felt more comfortable in the circles seating arrangement. It may, however, be argued that the fewer number of comments in the circles seating arrangement could be attributed to the fact that she was not well prepared for class. In the beginning of the video, Dalia and Farida checked whether they all read the articles they needed to refer to in the outline or not. Monda said that she read the first one only which means that she contributed to the task based on her knowledge during this class and could not contribute more because she did not read.

Dalia, on the other hand, said she was a talkative student in class by choosing point five on the shy/talkative scale. She also chose the rows and columns seating arrangement as her

preferred one because it was more organized, helped her see what was written on the board and concentrate with everyone in class. It is obvious that Dalia's choice is also part of her personal learning style as well as her beliefs about the learning process. When asked about her feelings about both seating arrangements in the 10-minute paper, she said that in the rows and columns, she felt "more organized, and more focused to the target," while in the circles seating arrangement, she felt "more connected [to other students] and that we can share more ideas." It is also clear that both seating arrangements helped Dalia learn and achieve the course objectives in some way. However, the videos showed that she had five out of the ten off-task instances in the rows and columns seating arrangement. Her total number of on-task instances was 52 comments. In the circles seating arrangement, Dalia had only two off-task instances and 45 on-task comments. If the ratio of off-task to on-task instances made by Dalia in both seating arrangements is calculated, one could notice that Dalia made a ratio of 1:10.4 in the rows and columns and 1:22.5 in the circles seating arrangement. It could thus be claimed that she was more productive in the circles seating arrangement than she was in the rows and columns. It should be mentioned, however, that Dalia was on-task in both seating arrangements but, at the same time, being seated in circles might have shown that she minimized her off-task behavior.

### *Class 2*

Two important points were mentioned by students in this class. These were eye-contact and being able to share ideas with group members. Manal responded to neither the questionnaire nor the 10-minute paper while Donia responded to the questionnaire only. However, Rawan who considered herself shy in class by marking point 2 on the scale, Sohayla who chose point 3 on the scale and Yosra who considered herself talkative in class (chose point 4 on the shy/talkative scale) replied to the questionnaire by saying that the circles seating arrangement was more

preferred because it helped them maintain eye-contact with their group members. This idea was also highlighted in their responses to the 10-minute paper. Rawan said she preferred the circles seating arrangement more because she was able to see everyone and communicate easily.

Sohayla and Yosra agreed with Rawan as well. Sohayla said that the circles seating arrangement made it easier for the group to communicate while Yosra wrote the circles seating arrangement enabled them to see each other which, in turn, made it easier for the group to discuss their ideas..

The videos showed that the number of off-task instances was five in each seating arrangement. On-task instances in the rows and columns were 229 instances as opposed to 309 comments in the circles seating arrangement. The ratio of on-task instances in the circles to the rows and columns seating arrangement is 1.34:1 which also shows that the seating arrangement might not be a priority to the students since they were mostly on-task throughout the activity in both furniture arrangements. However, the fact that they actually changed their seating arrangement when seated in the rows and columns makes the results obtained during this seating arrangement the same as those obtained from the circles one. In other words, the group's decision to change the way they were seated is a very good example that seating arrangements are a priority to students' on-task behavior. Students in Class 2 were fully aware that they would not be able to work on a group activity if they remained the in the rows and columns seating arrangement. For this reason, they were first split into two sub-groups and then Donia and Manal moved from their chairs and sat facing Rawan, Sohayla and Yosra to complete the activity. The fact that Donia and Manal started to work together away from the rest of the group for 10 minutes and then seat themselves facing the group for the rest of the activity highlights their idea that eye-contact while working on group activities was a priority to them. This was probably why they split into two groups where each group brainstormed for ideas first and then Donia and

Manal used the teacher's chairs to sit facing the rest of the group to write one outline as instructed in the activity.

### **Students' preferences for both seating arrangements and their effect of students' learning**

In answer to the third, fourth and fifth research questions, a comparison between students' responses to the questionnaire and 10-minute paper took place. Appendix I shows students' choices in the questionnaire and the 10-minute paper. Three out of the 11 students who returned the 10-minute paper in Class 1 and 3 out of the 10 students in Class 2 said they preferred the rows and columns seating arrangements. Their reasons for choosing it were that they preferred to work individually or that it made them concentrate more. Mona from Class 1, for example, said that sitting in a regular rows and columns class helped her concentrate more on what the instructor said in class and work more efficiently on the activities. Dana Z. and Noha from Class 2 also preferred the rows and columns seating arrangement saying that they preferred to work individually or in pairs. Dana Z. commented on her choice by saying that the circles seating arrangement is very good for group work but it did not help her concentrate during class. This could possibly be attributed to students' personal learning preferences. Although Dana Z. considered herself one of the talkative students in class and the fact that she usually actively participated in class discussions, she mentioned that she preferred working by herself especially when the task was a writing activity. According to her, it was not a matter of seating arrangement as it was the issue of the activity type itself since she preferred to work alone.

Noha almost said the same. However, it was clear that Noha did not like to take part in class discussions unless asked to by the instructor. In her response to the 10-minute paper, Noha wrote that the circles seating arrangement was more suitable for children and that it was not

“professional” for university students. It could be mentioned here that Noha’s opinions reflect, to a great extent, Johnson’s (1982) idea of “socialization function” of the educational institution. All classes in the university where this study took place had their seats arranged in rows and columns. It could be argued, then, that the concepts of cooperative learning and group work are not part of the institution’s policy and this was what Noha was possibly aware of. Her idea that the circles seating arrangement was not “professional” reflects this idea of formal education where students receive all information from the instructor and then students work on activities individually. Informal teacher and researcher’s observations showed that Noha was one of the students who preferred asking the teacher for feedback rather than depending on her group. This could also reflect Noha’s beliefs in the importance of the teacher’s role as the main source of information, as the one who is more experienced than her classmates. In both seating arrangements, Noha resorted to her instructor for feedback even when her team was working on the activity competently.

Students’ responses to the questionnaire showed that most of them have probably never tried the circles seating arrangement before and this is why they preferred what they already knew, the rows and columns. Ahmad, Amal, Amin, Amina and Basma from Class 1 all chose the rows and columns seating arrangement as their preference in the questionnaire. However, Amin and Ahmad said that when they tried the circles seating arrangement, they found it more efficient for their learning. Amin was one of the students videotaped in Class 1. It was clear in the videos that he did not participate a lot in the group work while sitting in the regular classroom; only six out of 110 turns were taken by Amin throughout the activity. However, when seated in circles, he took 16 turns from a total of 118 turns, all of them were on-task comments where he often suggested answers and ideas to the group. Not being able to participate a lot in the rows and



columns seating arrangement could be attributed to the fact that Amin preferred to work alone. He said in the questionnaire that the rows and columns would not let anyone “feel rejected from group members.” However, when seated in circles and the fact that Amin was well-prepared for the task as shown in the video, he was more involved in the activity and was able to contribute more to the task. This could be attributed to the idea that he possibly felt more knowledgeable compared to other group members since he had read both readings they were asked to refer to while working on the activity. This even enabled him to be more on-task, suggest ideas and refer more to the readings.

Two other outlier responses came from Passant and Yasmina in Class 2. In her questionnaire, Passant said that she would prefer the regular rows and columns seating arrangement more. She said she preferred the rows and columns more because it helped her “concentrate more, contribute more and learn more.” Her reply to the second question on the 10-minute paper was that she liked the circles seating arrangement more since it helped her concentrate in class. However, in her answer to the third question on the 10-minute paper about which seating arrangement helped her learn more efficiently, Passant said that sitting in rows and columns helped her learn more. She did not provide reasons though. Yasmina, on the other hand, responded to the questionnaire saying that she would prefer the circles seating arrangement since it would be easier to communicate with group members as well as maintain eye-contact with students in her group. However, she said that after trying both seating arrangements, she preferred the rows and columns more because “it is more comfortable.” When asked which of these seating arrangements helped her learn more, Yasmina wrote that it was the rows and columns helped her learn more because “all of the [group] could see in one desk what our friend is telling us and discuss the topic with us.” Although the reason might seem contradictory but the

fact that she felt more comfortable in the rows and columns, which is mainly a learning preference, made her able to work more competently on the activity, thus, learning better.

These results show that, according to the students, seating arrangement is a priority to them. Students care for where and how they feel comfortable. Comfort, being part of the Eهران et al.'s (2003) affective factors, is what helps students learn more efficiently. It can then be argued that classroom seating arrangement is directly related to students' participation while working on cooperative learning activities since it has to do with students' feeling comfortable in class. Students' comments thus agree with Cornell's (2002) argument that furniture arrangement should be functional. By functional, he means that seating arrangements should help both the students and the instructor equally to achieve the course goals. They also agree with what Chambers (2004) said about the importance of classroom seating arrangements being "comfortable to use" for both the teacher and the student (p. 7).

### **Conclusion**

Results of this paper conform to Wengel's (1992) idea that there is no one furniture arrangement that is better than the other. The whole idea of choosing a seating arrangement, as explained by Wengel (1992), should be done according to the class needs as well as the students' learning styles and personal preferences. This paper also agrees with Baron's (1992) idea that the seating arrangement is a priority when considering students' on-task behavior. It also conforms to what Wannarka and Ruhl (2008) said about student's on-task behavior depends on the class activity and the desired communication pattern inside the class.

Results of this paper show that classroom seating arrangements could affect student on-task/off-task participation when working on group activities. Being unable to control other

variables that might have affected students' participation during the data collection process makes it difficult, at some point, to be certain about such a finding. However, Rawan's and Amin's performance in the circles seating arrangement highlights another major and important finding. Both of them reported that they consider themselves shy but when seated in a circle, their on-task comments were almost doubled. This means that it could be claimed that class seating arrangements, although it might not highly affect talkative students in class, could certainly help shy students be more engaged in class activities.

### **Teaching implications**

Data obtained from this study highlights a number of points concerning the educational beliefs of the educational institution. The way seats are arranged inside classes reflect the university beliefs that the teacher is still the main source of information. Although there has been a call directed to all instructors to encourage cooperative learning activities and group work among students, the way classes are laid out does not encourage this teaching method.

The fact that different seating arrangements should be available to teachers to choose what is suitable to their activities and the desired communication pattern should be stressed. However, what is more important is to have training programs for both the teachers and students. Teachers should get enough training as to how to be able to decide on the suitable seating arrangement and to where they should stand and react in each of these seating arrangements. On the other hand, students should be trained to work in groups and to depend more on each other rather than the teacher in order to learn more efficiently.

## **Further Research**

This paper focused only on observing students' participation in two different seating arrangements, rows and columns and circles. Further research could explore more seating arrangements like the U shape and the semi-circle for example. Another area is to study students' perceptions towards different seating arrangement in more details. This can incorporate collecting more data about students' learning styles and personal preferences as well as asking students to do in-depth reflection on both seating arrangements. Another area that needs more investigation, especially in Egypt, is that of teacher and student training and its effect on the teaching and learning processes with regards to cooperative learning.

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## APPENDIX A

### Free-form questionnaire

Please, respond to the following questions:

1. On a scale of 1 – 5, how would you describe yourself in class?

1

2

3

4

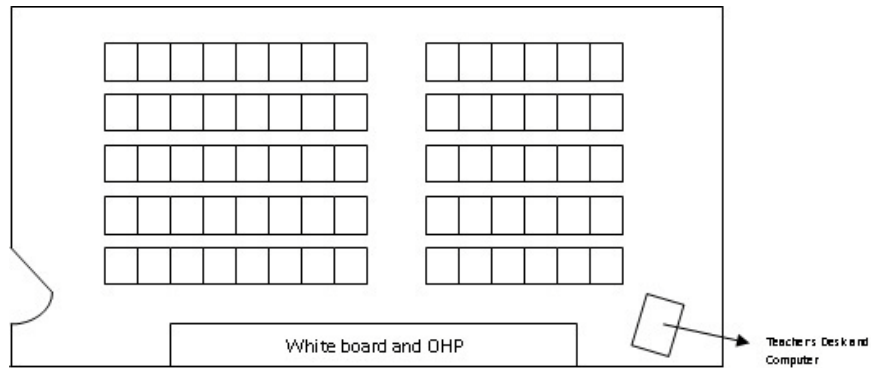
5

Shy

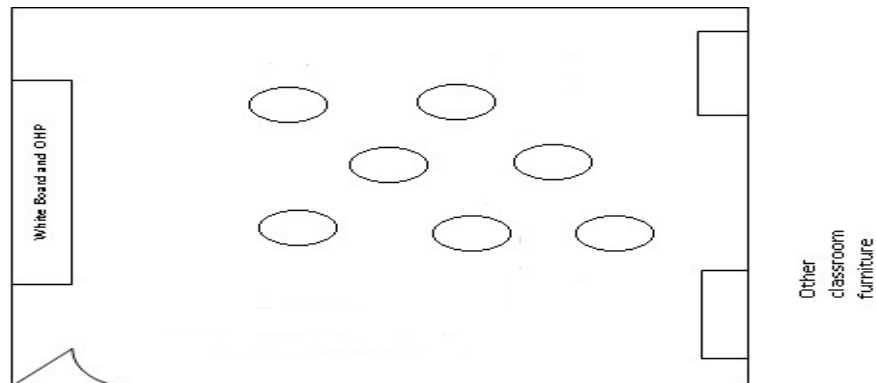
Talkative

2. Which of the following seating arrangements would you prefer to have your class in?

A.



B.



3. Explain why you choose this specific diagram. (think of at least three reasons)

## **APPENDIX B**

### Sample Activity

Different cultures encompass a set of values that affect people's perceptions of the idea of communication. This, sometimes, results in communication problems or communication gaps among people from different cultures and backgrounds. Discuss with reference to the two articles "*American Values and Assumptions*" and "*Where Do We Stand?*"

In your group, write a detailed outline for a five paragraph essay following the MLA style to organize your outline

## APPENDIX C

### Students' profiles

*This profile is based on teachers' observations of all students videotaped during the class*

#### Class 1

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<i>Amin</i>	Amin always preferred to work alone. This was clear from his performance during pair- and group- activities. When directed to work with other students, Amin usually asked for permission to work alone. He, also, was a punctual student who usually came to class on time and was well-prepared for class discussions. He was never shy to ask questions when he did not understand what was supposed to be done and usually checked with the instructor before completing the activity.
<i>Farida</i>	She was usually late to class. She always liked to be grouped with her friends so that they would chat together while working on the activity. However, she was usually an active member in the group and used to take part in class discussions. She was usually chosen to be the writer of her group. When working on an activity, Farida preferred to ask other students rather than asking the instructor even if she was assigned to work on an individual activity.
<i>Dalia</i>	She liked to chat with her friends while working on class activities. She was one of those who easily went off-task either by talking to her friends or by asking the instructor about what assignments she was missing. However, her competence of English usually helped her, as well as her group, on doing the task more quickly compared to other groups.
<i>Monda</i>	She was a very punctual student who always came to class on time, did her assignments and actively participated in class discussions activities. Within her group, Monda was the one who managed to pull her team together and get them back to task.

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#### Class 2

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<i>Yosra</i>	Yosa's attitude in class showed that she was a punctual student who was always keen to come to class on time. She never missed a class without informing her instructor. She was an active student in the class who was always keen to participate in all class activities and class discussions. She is also a member in a science society off-campus. She is used to giving oral presentations and works very well within groups. She tends to lead her team during group work activities.
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- Donia* Donia came to the university on a LOTUS fellowship (Part of the Institute of International Education (IIE) programs in Egypt). She is used to giving oral presentation and is involved in community work as part of her fellowship activities. Donia was a punctual student as well. She never missed classes without asking for permission and was always keen to ask both the instructor and her friends about what was covered in class while she was absent. Although her English was not very good, she actively took part in all class activities and was keen to speak in English most of the class time. She also tried to lead the team during group work activities. She works better within groups than working alone. It was noticed that she preferred to ask for feedback, whether from the teacher or her friends, before deciding on an answer.
- Manal* She was a punctual student who missed a couple of classes in the beginning of the semester because of illness. Although she was an active student in activities, she often went off-task while talking to her friends during the activities or even checking her cell phone and texting during class. However, she always asked questions to make sure she understood what she was supposed to do before starting to work on class activities.
- Sohayla* Although Sohayla was one of the students who always participated in class, on the first class, she told the instructor that she has usually found it difficult to participate in class discussions. It was noted that Sohayla always sat in the front row in class so that she could share her ideas with the instructor to show that she has done her part in preparing for class. It was also noted that she worked efficiently within her group but with minimal comments.
- Rawan* Rawan's English is fairly good. She was one of the students who always shared her ideas during whole class discussions. While working in groups, Rawan was one of those who suggested ideas, was always prepared as she made sure she read the articles before coming to class and fully understood what the articles were all about. However, it was noted that she worked better when assigned an individual activity.

## APPENDIX D

### Ten-minute paper

1. How did you feel when you worked on group activities while sitting in:
  - a. Rows and columns
  
  
  
  
  
  
  
  
  
  
  - b. Circles
  
2. Which seating arrangement did you prefer? Why?
  
  
  
  
  
  
  
  
  
  
3. Which seating arrangement helped you complete the activity more? Why?



## APPENDIX E

Excerpt from the video transcripts

- Rawan: this is one, and this two...”differences that began when...”
- Yosra: (interrupting): This is the third one
- Manal: the first one is ??? and measures
- Yosra: the first one *elli heya* “women and men encounter when they talk to each other...”
- Rawan: ok
- Manal: ya Yosra...these are the ones
- Yosra: ok, then this the second *wi di el-third*.
- Manal: Tayeb Yosra, you have to add the ?? and measures the way you wrote it does not make sense
- Sohayla: is this el-thesis statement?
- Yosra: yes...this is the first one
- Manal: you are marking from the beginning of “women and men encounter...” we need to underline the part before that as well.
- Yosra: Ok, then...starting from “they talk to each other,” is the first one.
- Rawan: why? By the way...
- Manal: Do you understand what I am saying? Yosra, you have to start with this one
- Rawan: why?
- Manal: because the meaning is not complete...what are they doing? Where is the problem in them “encountering each other”?...you have to say that there disputes, that there are frustrations
- Rawan: frustrations means *ihbat*
- Manal: no, frustrations means *khenat*, that is... it is
- Rawan: *ihbat*...it means *ihbat*
- Manal: not *ihbat*, no
- Sohayla: yes, it means *ihbat*
- Rawan: *ihbat*, believe me
- Manal: no, not *ihbat*

## APPENDIX F

### List of Codes

*Ordered according to appearance in the first video coded*

1. On-task comments
  - 1.1. Asking others for help/advice
    - 1.1.1. Asking for clarifications
    - 1.1.2. Asking a friend for understanding
    - 1.1.3. Asking for suggestions
    - 1.1.4. Asking the teacher for feedback
  - 1.2. Offering opinion or expert advice
    - 1.2.1. Explaining something to the group
    - 1.2.2. Offering suggestions
    - 1.2.3. Showing understanding of a point
  - 1.3. Taking a stand
    - 1.3.1. Showing agreement
    - 1.3.2. Showing disagreement
    - 1.3.3. Expressing opinion about a suggestion
  - 1.4. Group management
    - 1.4.1. Asking a group member to focus on activity
  - 1.5. Silent on-task behavior (writing an answer or reading from the book)
2. Off-task behavior
  - 2.1. Using their cell-phones
  - 1.2. Chatting with friends

## APPENDIX G

### *Students' responses to Questions 2 and 3 on the questionnaire*

Class	Name	Answer to Q2	Reasons for choosing the seating arrangement (Q3)
Class 1	Alaa	Circles	Rows and columns is boring Sitting in groups will motivate me more.
	Ahmad	Rows and columns	The class should be organized
	Amal	Rows and columns	It enables class discussions
	Amin	Rows and columns	It is more organized Can't make groups so no one feels rejected
	Amina	Rows and columns	Having many students in the class Sitting among friends
	Basma	Rows and columns	More comfortable Easy for class discussions
	Christine	Circles	Helps in group communication Helps the teacher keeps an eye on all groups.
	Dalia	Rows and columns	Organized See the board clearly
	Farida	Rows and columns	Communicate easily Share ideas with groups
	Hala	Rows and columns	I am used to this seating arrangement It's more comfortable to me
	Irene	Circles	Because students would be more close to each other so they can participate easily Because it would be more fun
	Monda	Circles	Because there are less chairs so there will be less people, so, I will understand more and concentrate well. I like to be in a quiet place. It helps the teacher be in a good mood.
	Mai	Circles	Better in group work We can see the people who are talking easily.
	Mona	Rows and columns	Because group sitting can be annoying at some point, and affects my concentration
	Ola	Circles	More attractive More effective
Soha	Circles	It has smaller number of people It helps to work in groups We can see each other more easily	

Class 2

Abdel Rahman Aisha	Rows and columns Circles	Better organization, better view of the teacher, better focus Will be more communicative Eye contact
Donia	Circles	Closer to my group and I can communicate with the teacher easily
Dana N. Dana Z.	Circles Rows and columns	To be more cooperative, to concentrate I like to learn more about the subjects that interest me and when I am sitting in the front of the class, I tend to pay more attention. Everyone is paying better attention this way It is more academic but circles is more professional
Maram	Rows and columns	I choose this specific diagram because it's easier to see the board, it's easier for students to concentrate and it's also better for the teacher as he/she could see everyone in class
Marwan	Circles	It would be more friendly Easy to share information Easy to see all your group
Maha	Circles	We can share our ideas I like joining group work
Malak	Circles	More comfortable Able to concentrate more Easy to be helpful
Morad	Circles	Not too crowded Looks more organized Easy to share information
Mohammad	Circles	Because groups help me to find new and good ideas
Nadia Noha	Circles Rows and columns	Easier to communicate and concentrate I think it's more organized and eye-relieving I think it's more academic and helps in being focused The diagram "B" is better off in pre-school or elementary school, not college
Nora	Circles	Easier to communicate To concentrate To be more cooperative
Omayma	Circles	It will be easier to communicate More concentration
Passant	Rows and columns	I chose this specific diagram because I concentrate more, contribute more, and learn more
Radwa	Rows and column	Will concentrate more, will be more organized and will be easy to see the board.

Rania	Circles	Easier to communicate, to concentrate, and be more cooperative
Reem	Rows and columns	It would be more organized I can clearly hear my teacher I can concentrate
Rawan	Circles	I would like to see everybody in the group, be able to hear each other and maintain eye contact in circles is much better.
Salma	Circles	We will be more communicating Eye-contact is important in group work
Samar	Circles	To be more cooperative To concentrate
Sohayla	Circles	We can be more active Share easily See everyone in my group
Shereen	Rows and columns	The class in this way is organized The teacher will appear to everyone clearly and we can listen to him easily The white board will clear appear to me
Yasmina	Circles	To communicate with my group Eye-contact
Yosra	Circles	The eye-contact with the group members is much more better I feel more connected and comfortable in this seating It's easier to share ideas
Zeyad	Circles	Because groups help me to fine new and good ideas.

## APPENDIX H

Students' responses to Question 1 on the reflection page

Class	Name	Rows and Columns	Circles
Class 1	Alaa	Working in rows and columns makes a distance between groups	It is more preferred, it gives you the sense of sitting in one group
	Ahmad	Normal but hard to communicate	Better and more comfortable
	Amal	-----	-----
	Amin	Not comfortable, it's hard to communicate with more than one student	Very good way to communicate with all group members
	Amina	-----	-----
	Basma	-----	-----
	Christine	We don't all share in this activity	We can all share ideas/better communication
	Dalia	I feel more organized and more focused on the target	I feel more connected by each other and that we can share more ideas.
	Farida	We cannot share ideas with each other in all activities	We can communicate easier
	Hala	More comfortable. Gives me happiness more than the circles	-----
	Irene	-----	-----
	Monda	It is annoying me. It disturbs me and I can't concentrate well in it with my groups	It is better because we feel that we are all together working with each other. It's more comfortable than the rows and columns. We all talk together and discuss everything with each other and we feel that we are all

		one family.
Mai	-----	-----
Mona	comfortable	could have been better
Ola	I do not prefer it	I feel I can communicate better with other
Soha	working as a group in rows and columns is bad. We can't communicate like a circle	better so I can see everyone with me in the group and share and talk.
<hr/>		
Abdel Rahman	-----	-----
Aisha	-----	-----
Donia	-----	-----
Dana N.	-----	-----
Dana Z.	In rows and columns, I feel very comfortable and focused. I enjoy small group work or solitary work than large groups	In circles, it is very hard to focus and I feel uncomfortable to study.
Maram	It was a bit difficult, as talking to the last person in the row was hard. It's easier to concentrate with the teacher this way	It's better when it comes to team work, as we can all hear each other's ideas.
Marwan	-----	-----
Maha	-----	-----
Malak	It's complicated	easy and helpful
Morad	-----	-----
Mohammad	-----	-----
Nadia	It's much difficult than circles	I feel comfortable and it was much easier
Noha	columnist feels more academic and helps a lot in focusing	It was not professional. I could not concentrate and I

		felt distant
Nora	-----	-----
Omayma	It brings me a headache and we are sitting far away from each other	much better
Passant	-----	-----
Radwa	It was a bit confusing and difficult to concentrate	much better than the rows and columns
Rania	formal and uncomfortable	comfortable
Reem	It's boring	much better because I can see both the teacher and the students and communicate easily
Rawan	It feel uncomfortable and not satisfied	I feel it's more comfortable and can see everyone.
Salma	I don't prefer it because there's no eye-contact which is important	better to communicate
Samar	It was uncomfortable	I liked it more than sitting in rows and columns
Sohayla	not active	more active and easier to share ideas
Shereen	-----	-----
Yasmina	I can understand better by being in front of the teacher and can look at her	I felt it is difficult to understand from the teacher and cannot look at her correctly
Yosra	rows and columns are not comfortable. I don't prefer working in rows and columns. I feel that I work individually because the way we were sitting	It's more comfortable because I feel that I am talking to the person through his/her eyes. And this is an easier means of communication for me.
Zeyad	-----	-----



## APPENDIX I

Students' preferences in both the questionnaire and the 10-minute paper

Class	Name	Questionnaire	10-minute paper
Class 1	Alaa	Circles	Circles
	Ahmad	Rows and columns	Circles
	Amal	Rows and columns	-----
	Amin	Rows and columns	Circles
	Amina	Rows and columns	-----
	Basma	Rows and columns	-----
	Christine	Circles	Circles
	Dalia	Rows and columns	Rows and columns
	Farida	Rows and columns	Circles
	Hala	Rows and columns	Rows and columns
	Irene	Circles	-----
	Monda	Circles	Circles
	Mona	Rows and columns	Rows and columns
	Ola	Circles	Circles
	Soha	Circles	Circles
Class 2	Abdel Rahman	Rows and columns	-----
	Aisha	Circles	-----
	Donia	Circles	-----
	Dana N.	Circles	-----
	Dana Z.	Rows and columns	Rows and columns

Maram	Rows and columns	Circles
Marwan	Circles	-----
Maha	Circles	-----
Malak	Circles	Circles
Morad	Circles	-----
Mohammad	Circles	-----
Nadia	Circles	Circles
Noha	Rows and columns	Rows and columns
Nora	Circles	-----
Omayma	Circles	Circles
Passant	Rows and columns	Preferred rows and columns but circles helped her learn more
Radwa	Rows and columns	Circles
Rania	Circles	Circles
Reem	Rows and columns	Circles
Rawan	Circles	Circles
Salma	Circles	Circles
Samar	Circles	Circles
Sohayla	Circles	Circles
Shereen	Rows and columns	-----
Yasmina	Circles	Rows and columns
Yosra	Circles	Circles
Zeyad	Circles	Circles