Comparison of Collaborative and Individual Learning in English for Vocational Education and Training

by

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ABSTRACT

Collaborative Learning is a widely implemented method in classroom settings. Over the past few decades, it has gained substantial attention and has become a key area of focus in educational research and practice. The research started in the 70s with two key theories: Collaborative and Cooperative Learning. The purpose of this study is to investigate the effects of Collaborative Learning on Vocational Education and Training (VET) in contrast to the effects of Individual Learning. The study is specifically concerned with the effects of the methodologies into the acquisition of metalinguistic knowledge, the creation of a final product, and the attitudes and opinions of the students of the methodologies. The subjects of this study were students of Marketing and Advertising and International Tarde, divided into control and experimental group. While both groups were assigned the same tasks, the experimental group worked collaboratively whereas the control group worked individually. A pretest-posttest design was employed to examine the progress of students in acquiring metalinguistic knowledge and compare the results of the groups. A writing task was assigned to compare the results of a final product, while a questionnaire was utilized to analyse the students' perspectives on both methodologies. The results of this study indicate that students who worked together collaboratively showed a greater improvement in their knowledge acquisition than those in the control group. However, there was no significant difference observed between the groups in the final product they created. Additionally, the students expressed a positive opinion towards both methodologies and did not show a preference for either one. It concludes that while both methodologies are beneficial for VET students, Collaborative Learning offers several different advantages that are important to take into consideration.

Key words: Collaborative Learning, Individual Learning, Cooperative Learning, Vocational Education and Training

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CHAPTER 1: INTRODUCTION

Of particular interest and complexity are Collaborative and Individual Learning, which have been extensively studied in recent years, especially Collaborative Learning. This study investigates how Collaborative Learning affects the students' improvement while comparing the methodology with Individual Learning. More specifically, it will investigate which type of learning is more effective in teaching English for Specific Purposes in VET: Marketing and Advertising, and International Trade. The study also examines learners' opinions towards both styles as a tool for interactive learning.

Collaborative Learning refers to the process in which students work in groups in order to achieve a common final product, where students share the same objective. In Individual Learning, students work individually to achieve their objectives. Although considerable research has been devoted to the impact of Collaborative Learning in university and higher education, less attention has been paid to using this methodology in Vocational Education and Training (VET). Moreover, recent research has focused on how technology has changed how students learn rather than the impact of the methodology inside the classroom. This article does not center on the effects of technology but rather on the effects of the methodology.

Previous research has found a variety of results. Some studies show no significant differences between Collaborative and Individual Learning. In other studies, Collaborative Learning proved to be more successful than Individual Learning. At the same time, Collaborative Learning has successfully increased learners' motivation, but there was no difference between the final product and the acquisition of language proficiency. This study investigates which results can be found in English for VET students, which falls into the English for Specific Purposes category.

The project has three main objectives. Firstly, the study aims to determine the effectiveness of Collaborative and Individual Learning in enhancing knowledge acquisition among VET students. Secondly, it will investigate whether Collaborative Learning contributes to improved performance in their final work. Lastly, the study will seek to gather learners' opinions regarding collaborative and individual work and obtain knowledge of their past experiences and how being inside a group impacts the individual.

The questions the study seeks to answer are related to the three main objectives, as it analyzes whether the impact of the methodologies is significant, as well as analyzing their opinions.

CHAPTER 2: THEORETICAL BACKGROUND

The theoretical background sets a base for the study, as it puts the research inside a specific context. It will start with contextualizing the study inside a group of students by explaining what Vocational Education and Training (VET) is and how it works in Spain, particularly Catalonia. It will also deal with the concept of English for Specific Purposes (ESP), explaining its importance in the study because English in VET falls within this category.

It will briefly address a critical theory related to Collaborative and Cooperative Learning: Social Interdependence. After explaining this base theory, the theoretical background will tackle the central issue of the article: Collaborative Learning, Cooperative Learning, and Individual Learning. The theoretical background will examine the differences between these terms and explain the reason behind using Collaborative Learning as the preferred option for the study rather than Cooperative Learning.

2.1. Vocational Education and Training and English for Specific Purposes

Vocational Education and Training (VET) prepares students for a specific job or career, such as Business Administration and Management or Industrial Chemistry. English is a mandatory subject in most of these programs, and it is considered an English for Specific Purposes (ESP) course. Therefore, during VET, the students do not study English for General Purposes; instead, they focus on their own area of knowledge. The development of English language proficiency is closely linked to the prior knowledge acquired from previous subjects.

In Catalonia, Vocational Education and Training is divided into different courses. The Spanish Initial Vocational Education and Training system encompasses upper secondary (basic and intermediate) and higher VET qualifications within the education framework. Tertiary-level higher programs lead to advanced technician qualifications, providing a pathway to bachelor's programs (Cedefop, 2019). The groups chosen for the analysis take part in the last group, which can only be accessed by adults; therefore, the age range of students spans from eighteen to forty.

English serves as a lingua franca in science, technology, and global trade, compelling individuals to develop a comprehensive skill set beyond linguistic capabilities to effectively navigate and contribute to the global academic and professional community.

The experiment was conducted on a class of VET students studying English, which can be considered English for Specific Purposes (ESP) because it integrates the knowledge of other subjects to teach the necessary English concepts. ESP does not possess a predetermined collection of language features, but instead, it is linked to the specific necessities of a particular profession. In addition, ESP's primary concern is preparing learners to effectively communicate in the tasks prescribed by their study or work

situation (Dudley-Evans, 1993). Therefore, it incorporates knowledge from a wide range of professions, guaranteeing consistency between the terminology shared and the practical language usage relevant to the specific field of study or occupation. ESP is distinguished by its ability to adapt to different disciplines, making it a flexible teaching method.

The use of authentic materials is crucial in ESP because they provide the student with real situations and relate the content to the learner's needs. These materials should help the learner practice through authentic texts. One of the teacher's roles is collaborator (Dudley-Evans & St. John, 1998) and materials provider. To create such materials, the teacher should collaborate with other specialists in the subject to ensure they correctly reflect the content needed.

According to Hutchinson and Waters (1987), ESP is a learning-centered approach, where the decisions on content and method are based on the learner's language needs. This instructional framework avoids a one-size-fits-all approach, as decisions regarding course content and teaching methods are designed to address the distinct necessities and goals of the learners.

The courses can be separated into two types (Dudley-Evans & St. John, 1998): English for Academic Purposes (EAP) for academia; and English for Occupational Purposes (EOP), which correspond to practicians of a profession. There is a more in-depth division, according to the degree of specificity appropriate for the course (Robinson, 1991): pre-experience, simultaneously, and post-experience. In this study, the type used is EOP and pre-experience, as the experiment participants are Marketing and Advertising and International Trade students.

Having a clear understanding of ESP is crucial for the experiment, as the aim of the investigation is to analyze the effectiveness of Collaborative and Individual Learning

inside a course that does not mainly aim for the students' proficiency to improve but to enhance the skills necessary to prepare for the workplace. Essential concepts inside their field, as well as being able to get their point across is vital, especially for the International Trade and Marketing and Advertising courses, who should be able to communicate their ideas directly.

2.2. Social Interdependence

Social Interdependence theory is the base for Cooperative Learning and has several similarities with Collaborative Learning. The theory explains how each other's actions inside a group can affect the other, so it could be argued that it is a solid base for the following theories on group work. This section provides a brief description of the theory, followed by its relationship with Cooperative Learning theory.

Social Interdependence happens when the results of individuals are affected by each other's actions (Johnson & Johnson, 1989). This theory analyses the relationship between people and how their actions can influence each other's outcomes during interactions. Group members become interdependent when they share common objectives; more than one person has to be involved in the process while they impact each other, "in that a change in the state of one causes a change in the state of the others (Johnson & Johnson, 2005, p. 288)". The relationship between the members of the group is key for the accomplishment of common goals, as "between-person relations are as meaningful as the individuals themselves (Rusbult & Van Lange, 2008, p.2050).

The theory has been subtyped into positive and negative (Deutsch, 1962). Positive Interdependence occurs when the interaction between individuals results in achieving each other's goals, while Negative Interdependence takes place when each other's actions obstruct their goals (Johnson & Johnson, 2005, p.289). In this context, success for one person is contingent upon the inability of others to accomplish their objectives.

The theory is closely related to Cooperative and Collaborative Learning. Five variables play a role in determining the effectiveness of cooperation (Johnson & Johnson, 2009): Positive Interdependence, Individual Accountability, Promotive Interaction, the Appropriate Use of Social Skills, and Group Processing.

Positive Interdependence and Individual Accountability are also found in Kagan's (1992) four principles of Cooperative Learning (see Fig.1), which are shared with Collaborative Learning.

Discussing Positive Interdependence, Johnson and Johnson (2009) state that "[k]nowing that one's performance affects the success of group mates seems to create responsibility forces that increase one's efforts to achieve (p.367)", which means that members of the group must be aware that their actions have an effect on the other members of the group, therefore they should feel responsible enough to try harder.

According to the Positive Interdependence principle, one student's failure is the failure of the group. Therefore, an individual only succeeds when the group succeeds. In Collaborative and Cooperative Learning, the role of each participant is key to the whole group's success. Every group member shares a common goal they have to achieve together and contributes their available resources to enhance collective progress.

Positive Interdependence's "responsibility forces (Johnson & Johnson,2009, p.367)" is directly related to Individual Accountability, as group members are responsible for creating the objective together and facilitating the work for other group members. Nevertheless, Positive Interdependence not only achieves this but also encourages the development of new perspectives and breakthroughs, as well as the enhanced use of level reasoning strategies (Gabbert et al., 1986).

The following principle is Promotive Interaction, which occurs when the group members "encourage and facilitate each other's efforts to accomplish the group's goals (Johnson & Johnson, 2009, p.368)". This variable is caused by Positive Interdependence.

Moreover, another variable is needed to make cooperation possible: the Appropriate Use of Social Skills. Learners must be familiar with and trust each other for the group to succeed. Other key issues are effectively communicating, supporting each other, and resolving conflicts constructively (Johnson & Johnson, 2009). Developing social skills can be challenging for some students, which is why learners must be made accustomed to working in collaboration while they are preparing for their future, making it easier for them once they work in groups in the workplace.

The last principle is Group Processing, which occurs when "group members (a) reflect on which member actions were helpful and unhelpful and (b) make decisions about which actions to continue or change (Johnson & Johnson, 2009, p. 369)". This principle's aim is to improve and clarify the efficiency with which members follow the essential processes for achieving the group's objectives.

In conclusion, Social Interdependence is a key aspect of Collaborative and Cooperative Learning, as it examines the relationship between group members and how they should work to achieve the common goal. It explains that each individual action affects the group, so students are responsible for creating a successful group environment. Failure to achieve these principles could result in a dysfunctional group and individual dissatisfaction.

2.3. Collaborative and Cooperative Learning

In order to comprehend Collaborative Learning, it is essential to grasp the concept of Cooperative Learning, given the blurry boundary between both terms. It can be argued that Collaborative Learning is the umbrella term used for both types, with Cooperative

Learning being viewed as a specific form of Collaborative Learning. It is essential to keep in mind that both methods share more similitudes than differences, as both theories encompass the use of group work.

Collaborative Learning and Cooperative Learning have been used to describe the process of learning in which students are required to work in groups. There has been a debate regarding the interchangeable use of the terms Cooperative and Collaborative Learning in academic literature. Some scholars, such as Romney (1997), have used these terms synonymously, while others, like Chung (1991), argue that Collaborative Learning is a broader concept encompassing Cooperative Learning as one of its forms. It can be challenging to distinguish between collaboration and cooperation as they frequently overlap in various group work procedures (Jeong & Hmelo-Silver, 2016). On the other hand, some researchers, including Mathews et al. (1995), emphasize the presence of significant differences between the two approaches.

Both theories have to be distinguished from group work, in which "[a] tendency exists in unstructured groups for some members to dominate while others passively follow the will of their peers (Myskow et al., 2018, p.4)". One member's domination causes the group to be unequal. Some students do not participate in group decisions and instead follow the lead of another student, creating an imbalance of power in that group. When students learn in collaboration or cooperation with their peers, each student plays a significant role within the group, and their efforts are even. The use of Collaborative and Cooperative Learning is not new. Since ancient times, groups have come together to work on a similar goal. Nonetheless, both concepts are by far more recent. Modern exploration of both approaches began in the 1960s (Yang, 2023) and emerged as fields of study in the 1970s. Before that, many researchers and communities could have used both approaches without giving them a name.

Collaborative and Cooperative Learning are methodologies that help students solve current tasks, where they benefit from each other's strengths and help each other with their weaknesses. When weaker students collaborate with more knowledgeable ones, they can learn from them, which helps their proficiency. Both parties benefit from the exchange, as stronger students can use this opportunity to remember their knowledge and training in order to help their classmates.

According to Mathews et al. (1995), Collaborative and Cooperative Learning share common ground in several aspects, such as the belief that active learning is more effective than passive learning. Furthermore, the teacher is perceived as a facilitator or coach rather than a traditional lecturer. Additionally, the significance of shared experiences between teachers and students, as well as the integration of small-group activities to enhance critical thinking skills, is highlighted. Furthermore, engaging in small-group activities aids in the development of higher-order thinking skills and improves individuals' capacity to utilize their knowledge effectively.

2.3.1. Collaborative Learning

The term 'Collaborative' was coined in Mason's (1970) book Collaborative Learning. The author suggested the development of a new educational system aimed at fostering authenticity in both knowledge acquisition and interpersonal connections between students, promoting meaningful dialogues among students, and fostering collaboration. However, the author did not define Collaborative Learning (Bruffee, 1984).

The leading collaborative theorist is Bruffee (1973,1984,1999), an American professor who obtained the name for the approach from Mason's (1970) book. The development of the theory was furthered by Bruffee (1999) experimenting with the idea of knowledge communities and reacculturation- a term Bruffee (1999) described as "switching

membership from one culture to another (p.298)"-, but the concepts were not connected to Collaborative Learning until the 1980s.

Following Bruffee's investigations, there was an increase in research focused on the theory. During the 1990s, numerous professionals began adopting Collaborative Learning as an instructional strategy, thereby facilitating the expansion of its application (Gamson, 1994).

Now, this method's research is centered on the use of technologies to be adapted to this methodology. Therefore, Computer-Supported Collaborative Learning has become a new area of research during the 21st century. That does not mean there has been no research on Collaborative Learning inside the classroom, as seen by the articles cited in this study.

Collaborative Learning is a theory that involves learning in groups for more excellent education. The concepts of this theory are more abstract than the Cooperative Learning theory, as there is no official definition for it. Nevertheless, after the research, it can be concluded that Collaborative Learning involves learners working together to achieve a common goal, with each learner having a different role. The main target for this method is to achieve such goal, focusing on the group members as individuals who complement each other. Roschelle and Teasley (1995) defined collaboration as "the mutual engagement of participants in a coordinated effort to solve the problem together" (p. 70). Thereby, the primary objective is to obtain a common final product with the collaboration of all group members.

Moreover, the students are entrusted with the responsibility of their own learning, while the teacher works as a guide who also monitors students. The teacher's objective is to encourage the group members to collaborate without the need for specific instructions to follow. The structure is flexible, and students can achieve the objective with their own

skills. Although the teacher may provide explanations and instructions the process is theirs to decide. Nonetheless, working in groups will help the learner obtain personal knowledge and help them improve their skills altogether.

The theory suggests that group learning helps students develop their knowledge while working together in a classroom environment. Students work together on a common objective and their "aim is to work towards a shared meaning as a result of the negotiation process and towards a common learning result, a result that also serves as the basis for individual understanding, a personal viewpoint and identity (Van der Linden et al., 2000, p. 39), enhancing the individual's skills and development in the target aspect while being part of a group and practicing their collaborative skills.

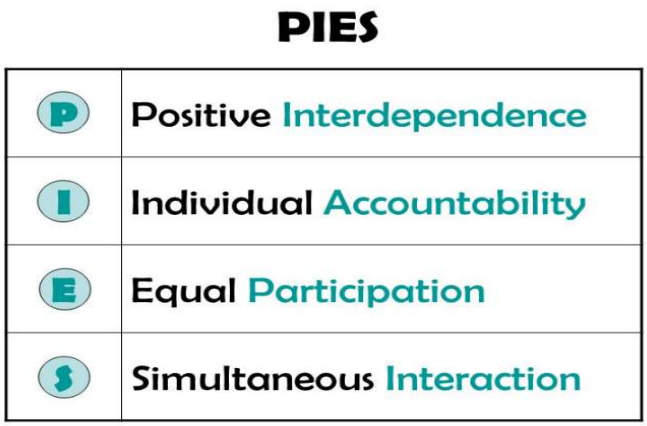
2.3.2. Cooperative Learning

Cooperative Learning started to be a topic of research in the 1960s and 1970s, yet the term ‘Cooperative Learning’ did not start to be employed until the 1980s. Since then, the theory has gained importance in the academic field. Cooperative Learning has prospered in research and has been widely embraced in educational settings at all levels since the 1990s.

Cooperative Learning is defined as a pedagogical approach implemented within the classroom setting to enhance problem-solving abilities and critical thinking skills, cultivate positive self-perceptions and attitudes among students, enhance social skills, and increase socialization among peers (Gömleksiz, 1993). Cooperative Learning has the advantage for the students as it is necessary for them to be in the same physical space. This methodology is similar to Collaborative Learning. Nonetheless, they are not the same: Cooperative Learning is more centered on students improving their individual skills and not their collaborative skills. It is centered on the individual and how they can

contribute to a group project. Moreover, the activities are explained in more detail, and the structure of such activities is explained in the class. In Cooperative Learning, students are expected to learn on their own in order to be able to participate in the group.

Figure 1



The four principles of Cooperative Learning.

Cooperative Learning theory is based on four principles, according to Kagan (1992), known as P.I.E.S. (see Fig. 1).

The first two principles -Positive Interdependence and Individual Accountability- are shared with Social Interdependence, as these theories usually go hand in hand. Equal participation is the third principle, which emphasizes the importance of distributing the workload evenly among individuals. The principle of Simultaneous Interaction, being the last one, highlights the requirement for all group members to collectively address the task at the same time. In recent years, the significance of this final principle has diminished due to the rapid advancements in technology. These advancements have opened up more significant opportunities to accomplish tasks in online settings, reducing the importance of the abovementioned principle.

2.4. Differences of the theories and Suitability for the Study

Historically, both theories started to overlap in the middle of the 1990s, when several authors -such as Mathews et al. (1995)- tried to differentiate between the two concepts (Yang, 2023). Before that, the terms were connected because both were substitutes for the concept of 'peer group'; therefore, both concepts were used interchangeably. Even so, some key differences can be identified.

The four principles of Cooperative Learning (Kagan, 1992) are shared with the Collaborative Learning. However, the cooperative approach is more individual. Cooperative Learning must ensure that all individuals participate, so it is frequent practice to ask students to report on their classmates' contributions. As Myskow et al. (2018) noted, when a team member's contributions become more public, the level of Individual Accountability (see Fig.1) for the activity increases. Meanwhile, Collaborative Learning does not monitor individually, but monitors the groups' developments.

It has been argued that one of the differences between the two theories is that Collaborative Learning can take place anywhere as long as students work together and do not have to be together physically. Meanwhile, Cooperative Learning "takes place when students work together in the same place on a structured project in a small group (Educational Broadcasting Corporation, 2004)". As mentioned before, the Simultaneous Principle has to be adapted to the current age because online environments are more frequent now.

Another difference between the two methodologies is that Cooperative Learning involves a great amount of intervention by the teacher (Myskow et al., 2018) in order to plan the steps followed by the students and intervene during the activity. In contrast, in Collaborative Learning, teachers assume that students are responsible participants who

are able to complete tasks. In Collaborative Learning, the groups are typically "self-selected, self-managed, and loosely structured" (Davidson, 2021, p. 12), whereas in Cooperative Learning, the students rely on the teacher more often. Therefore, in Collaborative Learning the students are more responsible for their own learning, whereas in Cooperative Learning, the teacher monitors learners.

In Cooperative Learning, the focus is on the individual, while in Collaborative Learning, the objective is for the students to work as a group to achieve a common goal. Therefore, the main theory of this article is Collaborative Learning, as it is centered on the results of a collaborative task. In a VET course, the focus is on the professional field and not academics; thereby, students' primary objective should be on improving social skills and not only individual success. However, there is an absence on guidelines for the improvement of social skills. Another reason for choosing Collaborative Learning instead of Cooperative is the main objective of the assessment. Within collaborative settings, assessments are conducted collectively within groups, resulting in a shared grade, whereas in Cooperative Learning environments, assessments are conducted individually. The objective of the task created for this study is for students to obtain a correct final product. The activities in Cooperative Learning are thoroughly explained, and the structure must be extremely clear. Due to time limitations, these deep-explained activities cannot be conducted. Therefore, the use of Collaborative Learning -whose activities' structure is more unrestricted and does not need deep explanations- is more suitable for the experiment.

It is important to highlight that the method selection must be based on the specific group where the researcher previously knew their working habits. Based on the observations of the two groups being assessed, both are accustomed to group projects with little supervision from the teacher. Given the time constraints, the same methodology was

employed as their previous teacher in this investigation. This decision is beneficial for the students as it allows them to maintain their accustomed approach.

The learners' age and experience are also crucial in choosing which approach to use. It has been noted that "[t]he greater amount of teacher intervention in cooperative than collaborative learning has led some to conclude that the former may be better suited for younger learners such as elementary and secondary school students, while the latter is more appropriate for more mature learners in contexts such as universities or workplaces. (Myskow et al., 2018, pp. 365-366)". The students in this pre-experience learning experience would benefit from Collaborative Learning, as it sets a base for them to work in their respective professions later.

In conclusion, Collaborative Learning is more suitable for the study's participants. This methodology combines their accustomed way of dealing with the task at hand and provides the learners with the necessary instructions but makes them responsible for their own learning. The main focus of the approach is to complete an objective, which results in a final product. Furthermore, Collaborative Learning enhances important social and communication skills. By working in teams, students develop effective communication strategies, learn to listen actively and practice articulating their thoughts and ideas. These skills are essential for success in the professional world, where collaboration and effective communication are highly valued. That is why the collaborative method will be used for the rest of the study.

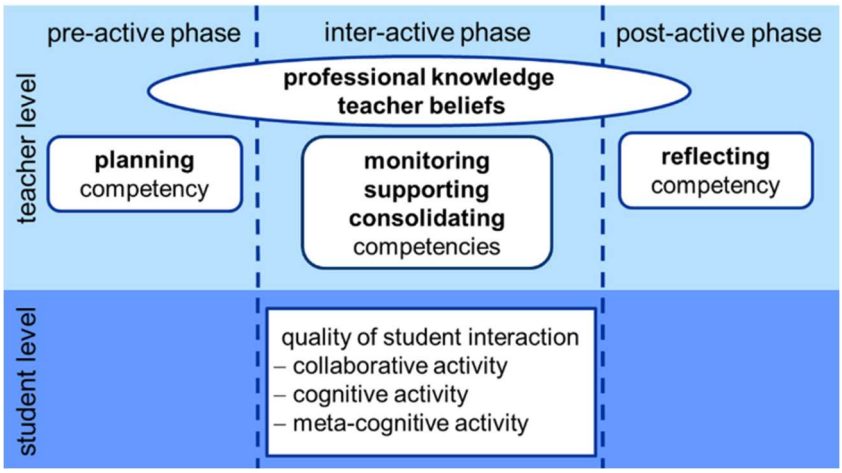
2.5. Integrating Collaborative Learning into the Classroom Framework

The framework seen in Figure 2 demonstrates the role of a teacher in fostering student interaction. It describes five teacher competencies through phases inside a classroom. It includes two levels: a student level and a teacher level (Kaendler et al.,2014); however,

the framework (Fig. 2) focuses on the teacher level as it works as a guide for the teacher on how to proceed in integrating Collaborative Learning into the classroom.

The framework has been adapted (Kaendler et al., 2014) from the metacognitive framework of teacher practice by Artz and Armour-Thomas (1998). This framework is for studying teacher metacognition underlying instructional practice in mathematics. It divides the process of solving a problem into three phases: pre-active, inter-active, and post-active.

Figure 2



Framework for integrating Collaborative Learning inside a classroom.

The pre-active phase involves the teacher preparing the didactic unit. Subsequently, in the context of Collaborative Learning, the instructor introduces the concept of the Collaborative Learning setting to the class.

In the second phase, the inter-active, students work collaboratively to find a solution and, particularly in language learning, to work on the task at hand. Meanwhile, the teacher should monitor and support students, as well as consolidate their competencies. Initially, the stage involves obtaining professional knowledge, which is considered to be

knowledge of the tasks and how to perform them. Professional competency is the ability to apply professional knowledge to conduct tasks within this particular context, making it task oriented. Although this competency is part of the teachers' part on the framework (See Fig. 2), it can also be used to talk about the students' professional competencies that they will need on their future jobs. During this phase, the instructor should choose which methodology to implement, collaborative or individual work.

In addition, teacher beliefs -their assumptions of their duty in the classroom- also play a key role, as they can influence task performance. Each teacher integrates the framework differently, as it is highly influenced by their personal beliefs about the students, their approach, and their involvement style. Therefore, it can be argued that each teacher would follow the rules for integrating the methodology but would utilize their personal style in doing so.

The last phase is the post-active, which takes place after the lesson. That is the time for the teacher to reflect on the previous phases and identify the necessary adjustments for the next lesson.

Moreover, during the three phases, key competencies are needed for planning the lesson, monitoring, and supporting student interaction, consolidating groups' work, and reflecting. Kaendler et al. (2014), integrate these competencies "into a framework in order to systematically describe the teacher's role in a Collaborative Learning setting (pp. 5-6)". This framework has been employed to create the intervention, as it provides clear instructions that help the teachers into integrating the methodology into the classroom.

2.6. VET through Collaborative Learning Techniques

The findings from Collaborative Learning research support its efficacy in preparing learners for their professional careers, where teamwork is a crucial skill and a

fundamental performance indicator (Slotte et al., 2004), thus preparing students for their future career paths and improving their professional competencies. In their future job, the learners will have to complete tasks in groups. For that, students must learn the "interpersonal and small-group skills needed for high-quality cooperation and be motivated to use them (Johnson & Johnson, 2009, p.369)". Therefore, VET learners will benefit from collaborative work, as learning how to collaborate in the classroom will give them previous experience.

From an educational viewpoint, research also indicates that students may benefit from engaging in collaborative activities when they are provided with instruction on how to work together effectively, as opposed to relying solely on the formation of groups through natural processes. It can be exemplified by dedicating ten minutes to teaching group members the necessary collaborative skills.

There is a gap in research on Collaborative Learning in VET related to ESP subjects. This gap represents a significant opportunity for further investigation and development, which can help teachers to implement the methodologies into the classroom.

An Erasmus+ Project (Rüdiger Kaufmann et al., n.d.) analyses the use of Online Collaborative Learning in Vocational Education. It concludes that Online Collaborative Learning in VET has helped the classroom by creating a safe student environment. Furthermore, incorporating Collaborative Learning techniques has facilitated the engagement of a diverse group of students, enabling them to exchange their thoughts and perspectives, thereby enhancing the overall quality of the educational output.

The study by Słowikowski et al. (2018b) attempts to create an approach to develop an ICT-based collaborative training, which incorporates "online Collaborative Learning solutions to be used in the field connected with VET education (including Mechatronics

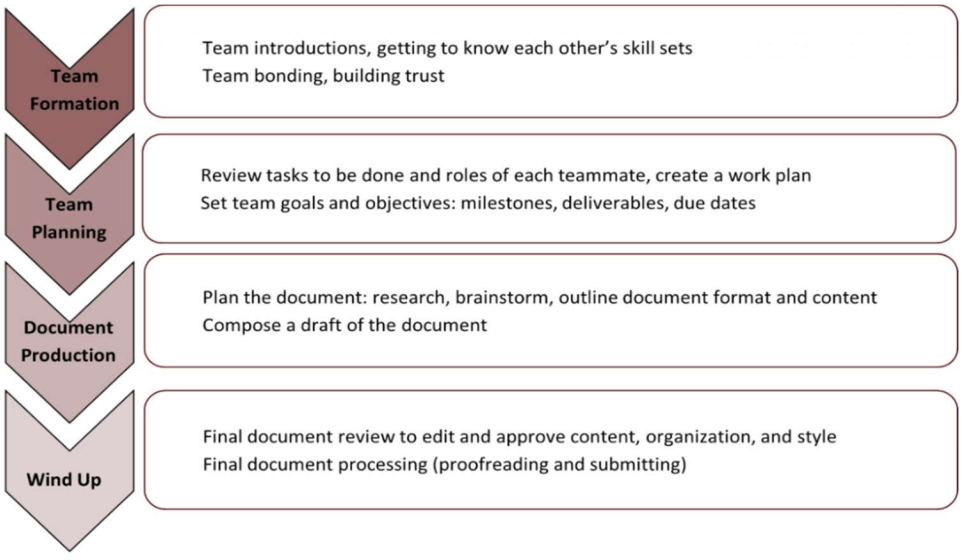
education) (Słowikowski et al., 2018b)". The authors conclude that Online Collaborative Learning benefits VET Mechatronics students, as it increases their motivation through gamification, for instance. Gamification is a powerful tool to increase learners' motivation. Nonetheless, they explain that in order to achieve future collaboration of learners, further development of ICTs is needed.

The aim of the current study is to observe whether Collaborative Learning is beneficial to VET students when using English in the classroom, especially when writing an essay collaboratively.

2.7. Collaborative Learning in Writing

In collaborative writing, students must be provided with the necessary instructions. Afterward, they are responsible for the project. That does not mean that students are alone while working on the project, as the teacher takes the role of a guide and monitor and helps the students who need it. The process of completing any collaborative writing project is illustrated in the table below (refer to Fig 3).

Figure 3



Process of Collaborative writing (Last et al., 2022).

In order to write collaboratively, learners do not simply divide the workload and complete it on their own; they need to work together on the task and fulfill distinct roles. The students can have different roles (the teacher assumes some). As commented by Kaendler et al. (2014), assigning distinct and well-defined roles or responsibilities to members within a group fosters a sense of Individual Accountability and encourages Positive Interdependence among the group. The roles refer to the responsibilities and duties that each participant shall undertake. Members of small teams are required to take on various roles during the prewriting, drafting, and revising stages of collaborative document creation. The roles of collaborative writing are usually those of writer, consultant, editor, reviewer, project manager, and facilitator (Last et al., 2022). Nonetheless, these roles were adapted to fit the study group, resulting in the following list.

The first role is the writer, the individual who bears the responsibility of composing a specific portion of the written material. They are accompanied by the editor, who assumes the responsibility for overseeing the overall production of content created by the writer. They possess the authority to change the content's style and substance. Typically, editors have ownership of the content production process. Another important role is that of project manager, a team member who actively participates in creating and reviewing the content.

Additionally, they lead the team through various processes, such as planning, rewarding, motivating, and ensuring the successful completion of the project. An additional role was added for argumentative essays, which is the role of the researcher. This group member is in charge of searching for the evidence needed in the essay but is not responsible for the writing. Finally, the last role is optional, as it cannot be found inside the group, but it is an external help, the consultant role. This person is not directly involved in the project and possesses no ownership or accountability for generating content. However, they

provide valuable feedback on both the content and the process, acting as external peer reviewers or instructors. The teacher can assume this role.

By employing these roles, students have the opportunity to enhance their collaborative skills, thereby ensuring a more organized and easier writing process. This approach not only enhances the quality of the writing, but also enriches the learning experience by fostering individual accountability. Therefore, the implementation of distinct roles in collaborative writing projects is crucial for improving the group's skills.

2.8. Comparing Collaborative Learning and Individual Learning

Collaborative Learning has been compared with Individual Learning, as both represent different task approaches. While Collaborative Learning aims for students to work together to achieve the same goal, Individual Learning focuses on individuals who work independently to complete a task.

To the best of my knowledge, there is no actual Individual Learning theory, as the closest equivalent would be what is known as an Individual Learning curriculum, which consists of a curriculum based on the individual's needs. Moreover, the most similar theory would be the Independent Learning theory, which implies that learners are responsible for their own learning. This is similar to the Individual Learning used in this study. However, Independent Learning makes the student entirely responsible for their own assessment, choices, and goals, whereas in this study, the teacher is responsible for the assessment, some of the choices, and goals of the student. In Individual Learning, the student works independently for a period to complete a task.

It is also important to comment that individual tasks are considered more time-consuming, as what is done by an individual could be shared among peers. When engaged in a collaborative group, students "do the things easier and quicker by saving their time,

stress and energy (Srinivas Rao, 2019, p.331)", which is more beneficial for achieving a final product. This also ensures that students are more energetic after finishing the task, giving them the opportunity to be more motivated for the following activity.

Individual Learning is beneficial for reserved and shy students and reinforces most students' understanding of newly introduced concepts. Nonetheless, it may give rise to uncertainty and monotony, lacking in effective communication. Advantages include the opportunity for students to proceed at their own pace, allocate time for contemplation, and express their individuality. It enables students to focus on addressing their personal learning requirements and advancements and not on their social skills.

According to Zambrano et al. (2019), in their research, "[w]hile more knowledgeable collaborating and individual learners performed equally well in the learning phase and the delayed test, on the retention test, collaborative groups demonstrated better performance. In general, "collaboration benefited learning compared to individual learning in complex tasks, but performance depended on the learner task-specific prior knowledge (p.3)", which shows that collaborative tasks can be more beneficial for retaining information in some cases. This study demonstrates that Collaborative Learning can benefit some learners, as task performance depends on the students' previous knowledge. This is crucial to the present research, as it demonstrates that a study's results can vary according to the chosen participants.

The null impact of Collaborative Learning is supported by previous studies in which there was no apparent difference between the Collaborative Learning method and other learning methods. A study (Gokhale, 1995) on the differences in learning critical skills through collaborative or Individual Learning concluded that Collaborative Learning helps develop critical thinking through discussion, clarification of ideas, and evaluation of others' ideas. Nevertheless, it demonstrates that both instructional methods were

determined to be equally successful in acquiring factual information. Consequently, if instruction aims to improve critical thinking and problem-solving abilities, Collaborative Learning proves to be more advantageous. According to the study, "[f]or Collaborative Learning to be effective, the instructor must view teaching as a process of developing and enhancing students' ability to learn (Gokhale, 1995)". The instructor must be a facilitator to enhance critical thinking skills and problem-solving abilities. However, if the aim of the activity is to obtain information, the different approaches-individual and collaborative- play a minor role in the results.

Collaborative group development does not always result in improved performance. A meta-analysis has demonstrated that the connection between cohesion and performance is more pronounced in tasks that demand a high level of Interdependence, such as communication, coordination, and mutual monitoring (Gully et al., 2012). Nonetheless, the situation and context of those studies differed from this one, and there is evidence that collaboration can foster learner improvement and obtain better results.

However, several studies support the idea that this method helps students. A recent study by Scager et al. (2016) looked at effective Collaborative Learning outcomes in five undergraduate courses in the life sciences. Nine focus group interviews were conducted to identify the characteristics that contribute to good collaboration. Student autonomy, self-control, and complex, transparent, and multifaceted group projects that encouraged innovation were important components.

Moreover, based on a conceptual review of this kind of learning and three real-world experiences, Herrera-Pavo (2021) examines how a pedagogical model for virtual higher education may integrate Collaborative Learning and its consequences. The researcher tries to integrate the collaborative theory into the classroom. Among its results, the study emphasizes the importance of meticulous planning, a suitable dynamic for forming

collaborative groups, the significance of student practices connected to daily technology use, the evolution of the teaching function, and autonomy in learning management.

The article by Ramzan et al. (2023) employed a qualitative research design to investigate how students perceive the Collaborative Learning tactics their teachers use to help them learn more vocabulary in English and how this experience impacts students' academic performance and motivation to learn. According to the study's findings, teachers use a variety of beneficial collaboration strategies in their lesson plans to help students strengthen their desire to learn and expand their vocabulary. These methods include group writing assignments, feedback, assessment, and shared learning. It raises student motivation to advance the Collaborative Learning culture and increases learning satisfaction. The study proves that the method had been a useful tool to increase motivation in the students.

Another article by researchers Sweller and Kirscher (2019) analyses how task-specific prior knowledge affects individual learners and collaborative groups in a collaborative context. An experiment involving 228 students demonstrated that knowledgeable individuals and collaborative groups achieved better learning outcomes compared to novice learners. Collaborative Learning was particularly beneficial for complex tasks, although its effectiveness varied depending on the learners' task-specific prior knowledge. Notably, collaborative groups displayed superior performance on the retention test compared to knowledgeable individuals and less knowledgeable learners who collaborated.

There is also the possibility that Collaborative Learning has no impact on their language acquisition, nor helps the students obtain better results. However, their motivation arose from employing this approach. This can be seen in the article by Ozkara and Cakir (2020), which studies the difference results of collaborative and Individual Learning in an online

setting. The study was conducted during the 2014-2015 Spring Semester, focusing on the principles derived from the community of inquiry framework. A pretest-posttest control group design was employed, with the control group utilizing online problem-based individual methods and the experimental group employing online problem-based Collaborative Learning methods. The comparison between the two groups was based on academic success, motivation, and satisfaction. The findings showed that the experimental group exhibited higher motivation levels, while no significant differences were observed in achievement and satisfaction between the experimental and control groups.

Furthermore, a recent investigation has demonstrated that students have reported an improvement in their critical thinking abilities when engaging in collaborative work (Du et al., 2007). In addition, they have observed that meeting the course objectives has become simpler and more productive for the students working collaboratively. However, the study by Du et al., (2007) examines the students' perceptions of collaborative work and finds that half the students have a negative opinion of Collaborative Learning due to their previous bad experiences. In addition, it is essential to consider the disadvantage of the method: group assignments can be frustrating when students cannot work together in a traditional classroom environment due to misunderstandings and arguments between students.

2.9. Hypotheses and Research Questions

The main goal of this experimental research is to determine the comparative effectiveness of Collaborative Learning and Individual Learning in developing writing skills among VET students of ESP. Furthermore, it aims to explore the perspectives of learners on both educational approaches. The results of this study are expected to contribute to the current research gap on Collaborative Learning versus Individual Learning within the VET

student population. The study will address the following hypothesis and research questions:

Alternative hypothesis: Students are able to retain more metalinguistic knowledge when using the Collaborative Learning method compared to the Individual Learning method.

Null hypothesis: There is no significant difference between the two groups in acquiring metalinguistic knowledge.

Alternative hypothesis: Collaborative Learning impacts VET students' completion of a complex task in English for Specific Purposes more positively than Individual Learning.

Null hypothesis: There is no difference between Collaborative Learning and Individual Learning for learning English for Specific Purposes for VET for completing a complex task.

Alternative hypothesis: Students have a more positive image of Collaborative Learning than Individual Learning.

Null hypothesis: Students have similar opinions on Collaborative Learning and Individual Learning.

Research questions:

- Are students more accustomed to individual or collaborative projects and tasks?
- Which methodology do they prefer?
- Do students feel more motivated working collaboratively or individually?
- Are extroverted people more likely to enjoy Collaborative Learning?
- How does being inside a group affect how the individual perceives their worth?

CHAPTER 3: METHOD

3.1. Participants, Setting and Data Protection

The 39 participants in this study are young adults aged between 18 and 22 and two adults aged between 35 and 40. They are bilingual, with either Catalan or Spanish as their first language. As signaled by the book they utilize for the course, students should have a B2 level of English. Based on observations conducted before the implementation period, it could be observed that it was not the case: students' proficiency levels vary from A1 to C1.

The educational institution is situated in Catalonia, Spain. The experimental group is enrolled in International Trade, consisting of 30 students, while the second group is studying Marketing and Advertising, with 25 students, yet not every student participated in the study. Several students were required to leave the class early –the experimental group's class was at the last hour and had some schedule issues -resulting in fewer participants in the questionnaire. This is due to the fact that the questionnaire takes a longer time to complete, causing some students to be unable to finish it. Additionally, some students were able to take part in the writing task but could not participate in the posttest and questionnaire.

This study was conducted in accordance with the European Union's research standards. All participants volunteered for the study. Consent was obtained from the participating school and the students, who are legal adults. Consent forms were issued to all participating students (see Appendix VIII). The questionnaire and tests were administered via Microsoft Forms.

3.2. Materials

Part of the materials used are a pretest and a posttest (see Annex II). Both groups are assessed on their knowledge of argumentative essays and linking words, as well as their knowledge of their area of expertise.

The film The Joneses was also part of the materials, which was screened in class. As the film is available on YouTube, the students who were not able to watch it in class were given homework to watch it at home. A Kahoot game was created to increase motivation. This instructive game is the perfect tool because it can be implemented with individual players or groups. They played individually in the control group, whereas in the experimental group, they played in their groups. Another key part of the experiment was the prohibition of computers when writing the essay. Before writing it, they could search from an asked concept: product placement, which was relevant to the essay. Afterward, they used only their knowledge to write the argumentative text. The reason for this is to prevent students from making use of AI in their assignments.

Another tool used was a PowerPoint to explain to the students the characteristics of Collaborative and Individual Learning and the theory of the argumentative essay. The PowerPoint (see Annex VII) was created by adapting a previous activity created by the subject teacher, in which the students had to prepare their arguments in groups and present them to the class. This activity was transformed into an argumentative essay.

3.3. Procedure

Before the intervention, students were required to watch a film included in their regular class curriculum. The film's plot was utilized to generate a prompt for an argumentative essay. Initially, this prompt served as a speaking activity, but it was subsequently modified to suit the research objectives. The film the students watched was titled 'The

Joneses' and centered around a family comprising individuals engaged in business. Its purpose was to introduce the concept of 'product placement,' which refers to a marketing strategy where specific brands or products are integrated into another work, such as a film or television program, with the intention of promotion. Product placement was easily spotted in the film, as the family members employed this strategy to sell their products. The activity serves the authentic materials purpose of ESP, as students are able to see how product placement works in real-life situations. After the intervention, students were asked to complete several activities related to the film in the following classes.

Experimental group

The intervention was divided into two classes. As the class where they were supposed to watch the film was dismissed, they were instructed to watch it at home. In the first class, students completed the pretest and signed the consent forms. After that, a PowerPoint (refer to Annex VII) was used to explain the concepts of Collaborative Learning and Individual Learning so that the students could understand the differences.

The next step was creating the groups. The students were able to choose their partners, as that was their accustomed way of creating groups. After some time, the groups were created. Then, they used their phones to play a collaborative Kahoot on an argumentative essay to build connections between the group, forming team bonding and building trust (see Fig 3).

Afterward, students were given a brief explanation of the roles in collaborative writing, ensuring that they clearly understood which role they wanted to play in their group (see Annex VII, Fig.6). Before explaining the writer's role, the students were informed that the essay would be handwritten. Later on, they were explained the structure of an argumentative essay and the concept of linking words, providing different examples, and telling them that they would be graded in their use of linking words as well as other

aspects. Some students had to leave before the end of the explanation due to scheduling conflicts.

In the next lesson, new students attended the class. Therefore, they were given a recap of the theory to ensure they could adequately participate in the assignment. Then, the groups were formed again, and they were given a concise explanation of what they had to write. Then, they were given time to write the essay. The teachers functioned as guides, monitoring and supporting student interaction, consolidating groups' work, and helping the students who needed help with the language. Students in the experimental group needed extra time to complete the task, as some wanted to discuss their ideas first with the group. After finishing the writing assignment, students completed the posttest and questionnaire. Eight students left before finishing the questionnaire due to scheduling conflicts, as this was the day's last class.

Control group

The procedure for the control group was similar but different. The intervention was conducted in one lesson. The students were given the consent forms the previous class; for that reason, they only had to complete the pretest. Then, they were explained the concepts of Collaborative and Individual Learning similarly to the experimental group.

After finishing the explanation, they were able to play the Kahoot individually. That was useful for them to engage in the theory and increase their motivation before writing the essay.

Unlike the experimental group, the students were not given an explanation of the steps to follow for individual work. One reason was time limitations, while the other was that they were used to writing essays individually in their classes.

As the concept of product placement had already been explained, they did not need to search for it or use their computers. They were able to complete the essay on time. On a

side note, it was observed that students in this group asked more questions and asked for more help than the experimental group.

3.4. Data Analysis

Most of the research data is quantitative. A test and a questionnaire were created, divided into a pretest, a posttest, and a questionnaire.

Additionally, there exists qualitative data in the form of written comments that students consider significant. A free answer can be used to determine student's opinions that were not tested.

The pretest used eight multiple-choice questions and two open-ended questions (Annex II) to assess their previous knowledge of the subject they would study in the lesson, obtaining a grade between 0 and 100. The tests assessed their knowledge of argumentative essays, linking words, and course materials explained implicitly through a film. The tests were supposed to be the same for the control and experimental groups. Nonetheless, due to unforeseen circumstances regarding the course materials, two questions had to be changed. After the experiment had ended, a posttest with the same questions was provided. The last question was changed for the control group to fit the needs of the analysis.

For the control group, the last question was changed on the pretest to fit the new circumstances, which was used to gather information on the starting point. To complete the writing assignment, they had to watch a film, and the question inquired whether they had seen the film. Due to a schedule change in the Marketing and Advertising group, product placement was already explained previous to the experiment. For that reason, on the pretest, they were asked if they had watched the film as some did not, and it was important background information (1 point was added to those who had watched it, as it

was homework for that day). On the posttest, they were asked an additional question on the parts of an argumentative essay. The experimental and control groups were allowed to take notes, so in the last question, most of the students got the full mark. In addition, it was changed again on the posttest, asking a more detailed question on the parts of an argumentative essay.

The activity consisted of writing an argumentative essay, and the students were graded on it, as this activity played a grading role in their curricular course. The Cambridge Assessment teachers' guide provided the rubric assessment (See Fig.4), which has been adapted to fit the objectives of the study.

Figure 4

	RUBRIC FOR ASSESSMENT	
STRUCTURE	✓ The writing is put together well. It is logical and ordered. The structure is clear and follows the structure of an argumentative essay. ✗ It is difficult for the reader to follow. It uses elements of organization that are not appropriate for the genre. The structure is unclear and/ or is missing, such as not writing a conclusion.	X/10
USE OF LANGUAGE	✓ There is a good range of vocabulary and grammar. They are used accurately. ✗ There are mistakes that could make the text difficult or confusing for the reader. Some mistakes are unproblematic. The examiner focuses on whether the reader is still able to understand the text.	X/10
USE OF LINKING WORDS	✓ The writer makes an appropriate use of linking words to connect ideas and paragraphs. ✗ There is an absence of linking words.	X/10

CONTENT	✓ The writer answered the task. They have done what they were asked to do. The arguments were effective and well-thought-out. ✗ The writer did not include everything they were asked to. They have written something irrelevant.	X/10
COHERENCE	✓ The writing is appropriate for the task. The writer used a style that is appropriate for the specific communicative context. ✗ They have written in a way that is not suitable – for example, using a very informal style in the essay, such as the use of abbreviations. The cohesion of the text is lacking.	X/10
	FINAL GRADE: MEAN OF THE 5 GRADES	**X/10**

Rubric for Assessment

The questionnaire (See Annex I) assessed their opinions and attitudes about working collaboratively and individually. It also determined their opinion of both methodologies after the experiment. For this, a Likert scale was used. Two statements and their corresponding responses were analyzed and compared between the two groups to determine if extroverted students were more likely to prefer Collaborative Learning.

The software used in the data analysis includes JASP, Microsoft Excel, and Microsoft Word. The tests were analyzed using Repeated Measures ANOVA to compare their results before and after the experiment. Their writings were graded and compared, but not the Kahoot scores, as this was part of the activities. The grade of each group was compared through an Independent Samples T-Test analysis. The questionnaire was analyzed through Chi-Square Goodness of Fit, and the two statements (4 &21) were compared through Repeated Measures ANOVA.

Two participants were eliminated from the questionnaire, as their answers followed a pattern, meaning that they did not pay attention to the questions.

In the end, 15 students participated in the pretest and posttest in the experimental group and 17 in the control group. There were 26 participants for the questionnaire between the two groups, 13 from both groups. However, for the writing task, a total of 39 students participated, 23 from the experimental group and 16 from the control group.

CHAPTER 4: RESULTS

This section presents the results of the statistical tests, descriptive analysis, and coded qualitative and quantitative data. It has been divided into four sections: the pretest and posttest analysis, with the Shapiro-Wilk test and the comparison of both groups' grades; the analysis of the written task; the analysis of each statement's answers to the questionnaire divided into groups; and the comparison of two statements.

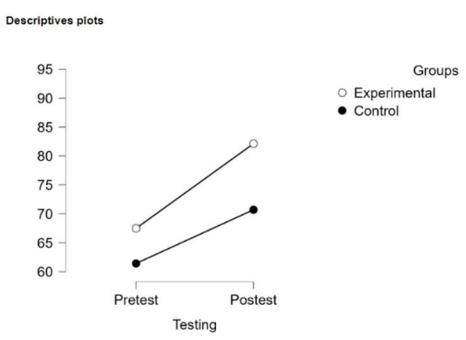
4.1 Pretest and Posttest Analysis

4.1.1 Shapiro-Wilk Test

The results of the Shapiro-Wilk test (refer to Annex III) show that the value is significant (less than 0.5), therefore it is normally distributed. In that case, the data can be analysed through a Repeated Measures ANOVA.

4.1.2 Results of Repeated Measures ANOVA

Table 1



Descriptive plots for Repeated Measures ANOVA, pretest, and posttest

The Repeated Measures ANOVA (see Annex III) did show a significant difference between the groups. A Repeated Measures ANOVA revealed that there was a statistically significant difference in mean exam score F (1, 13) = 7, 157, p=0.019.

4.1.3. Post Hoc Test

The Tukey Post Hoc test (see Annex III) shows that the differences between the Experimental Pretest and the Experimental Posttest; the Control Pretest and the Experimental Posttest with the Control Posttest are not significant.

There was not statistically significant difference in mean exam score between the Experimental Pretest and Control Pretest (p=0.528)

4.1.4 Group Mean of Pretest and Posttest, Control and Experimental Group

Table 2

Group	Mean of Pretest	Mean of Posttest	Improvement
Experimental	67.5	76.4	8.9
Control	61	69	8

Results of Mean and Improvement, both groups

4.2. Results of the Writing Task Analysis

4.2.1 Shapiro-Wilk Test for T test

The results of the Shapiro-Wilk test (refer to Annex IV) show that the value is significant (less than 0.5), therefore it is normally distributed. In that case, the data can be analysed through Independent Samples T Test

4.2.2 Independent Samples T Test

The students in the experimental group (M=8.435, SD=0.837) had similar scores on the writing task as the control group (M=8.445, SD=1.029) and the results were not significant t(37) = -0.033, p= 0.974 with a medium Cohen's d effect. Therefore, the alternative hypothesis is rejected in favor of the null hypothesis.

4.3 Questionnaire

4.3.1 Chi-Square Goodness of Fit

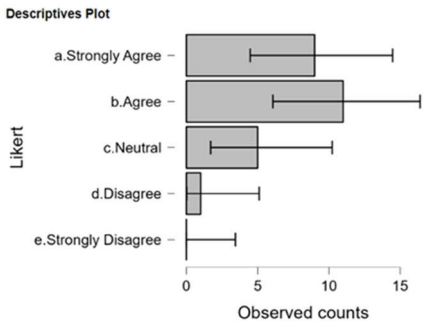
Chi-square tests were conducted to determine whether participants' responses to each question would be expected in the general population of VET English learners. The results show that students responses to all questions are significant: the p-value of each chi-square test is less than 0.5 (See Annex V). Therefore, similar responses can be expected if the study were repeated using similar population. The contingency tables for each test can be seen in Annex V.

This section has been divided into five groups: past experience of methodology, opinion of methodology, motivation and attitudes of the impact of the methodology, sociability through Collaborative Learning and how the individual feels inside and outside a group.

Past experience of methodology

Q1

Table 3



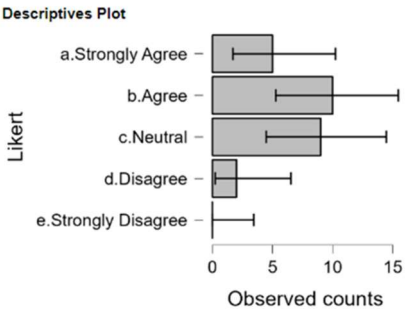
Descriptive Plot for Chi-Square Goodness of Fit Statement 1

The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants agreed on understanding the difference between collaborative and individual work X^2 (4, N=26) = 17.846, p= 0.001

Q3

The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants agreed on usually working on their own to complete tasks X^2 (4, N=26) = 14.385, p= 0.006

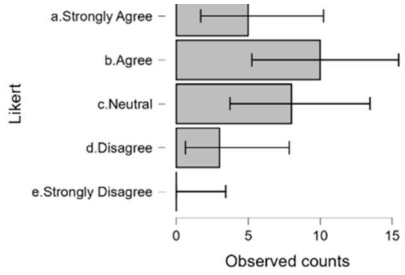
Table 4



Descriptive Plot for Chi-Square Goodness of Fit Statement 3

Q6

Table 5



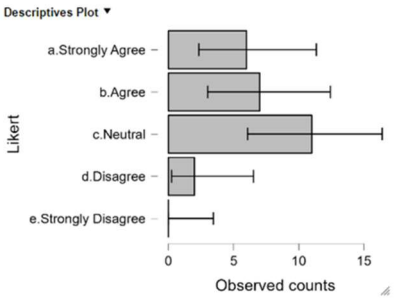
Descriptive Plot for Chi-Square Goodness of Fit Statement 6

The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants agreed on usually working in groups to complete tasks X^2 (4, N=26) =12.077, p= 0.017

Q7

The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants were neutral on having had good experience working in groups X^2 (4, N=26) = 14.385, p =0.006

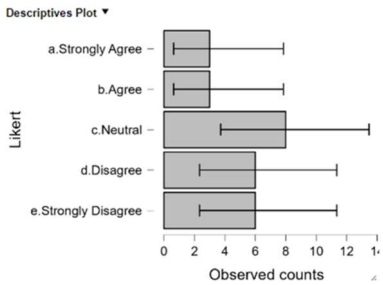
Table 6



Descriptive Plot for Chi-Square Goodness of Fit Statement 7

Q11

Table 7



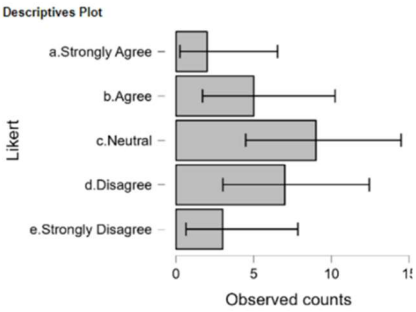
Descriptive Plot for Chi-Square Goodness of Fit Statement 11

The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants were neutral on their experience working individually being bad X^2 (4, N=26) = 3.615, p= 0.461

Q16

The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants were neutral on saying that when they were in high school, most of the projects were individual X^2 (4, N=26) = 6.308, p= 0.177

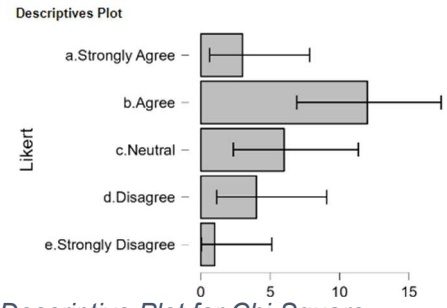
Table 8



Descriptive Plot for Chi-Square Goodness of Fit Statement 16

Q28

Table 9



Descriptive Plot for Chi-Square Goodness of Fit Statement 28

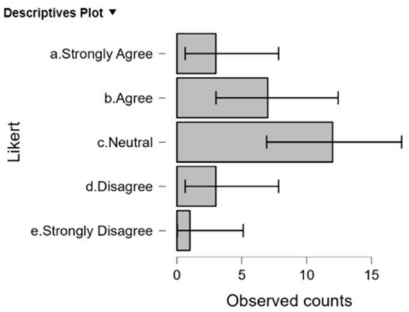
The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants agreed that while they were in high school most of their projects were in pairs or in groups X^2 (4, N=26) = 13.615, 0.009

General Opinion of the methodologies

Q4

The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants were neutral on enjoying working collaboratively X^2 (4, N=26) =14.769, p= 0.005

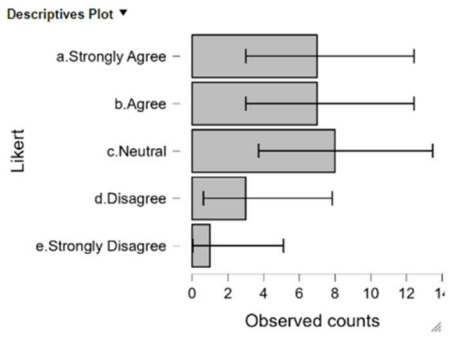
Table 10



Descriptive Plot for Chi-Square Goodness of Fit Statement 4

Q5

Table 11



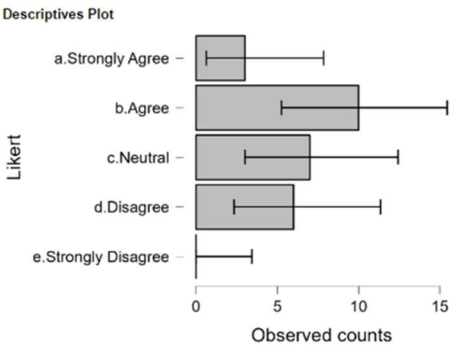
Descriptive Plot for Chi-Square Goodness of Fit Statement 5

The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants were neutral on preferring to work on their own than in groups X^2 (4, N=26) =7.077, p= 0.132

Q8

The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants agreed on preferring to work collaboratively than individually X^2 (4, N=26) = 11.308, p=0.023

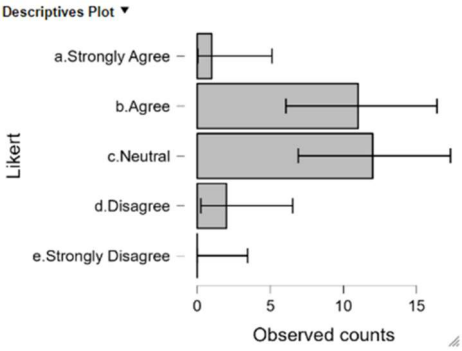
Table 12



Descriptive Plot for Chi-Square Goodness of Fit Statement 8

Q10

Table 13



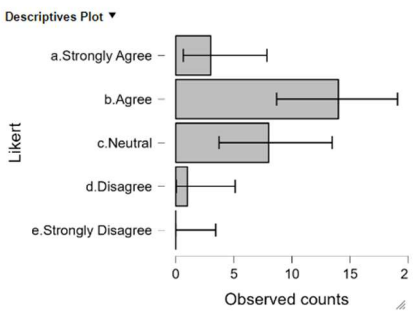
Descriptive Plot for Chi-Square Goodness of Fit Statement 10

The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants were neutral on working individually being better than working in groups X^2 (4, N=26) = 25.923, p= <.001

Q29

Table 14

The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants agreed that both collaborative and individual methods are beneficial depending on the task at hand X^2 (4, N=26) = 25.923, p= <.001

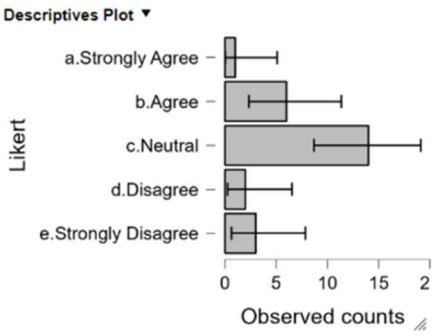


Descriptive Plot for Chi-Square Goodness of Fit Statement 29

Motivation and attitudes of the impact of the methodology

Q2

Table 15



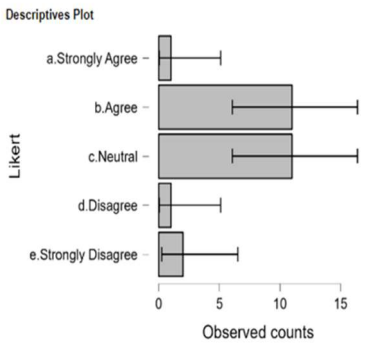
Descriptive Plot for Chi-Square Goodness of Fit Statement 2

The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants were neutral on wanting to learn more about collaborative and Individual Learning X^2 (4, N=26) = 21.308, p= <0.001

Q9

Table 16

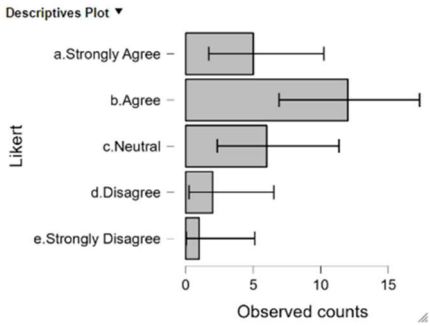
The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants agreed/were neutral their motivation increasing when they work in groups X^2 (4, N=26) =21.692, p= <.001



Descriptive Plot for Chi-Square Goodness of Fit Statement 9

Q13

Table 17



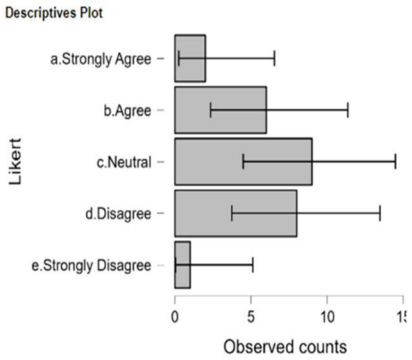
Descriptive Plot for Chi-Square Goodness of Fit Statement 13

The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants agreed that their motivation increases when they work individually X^2 (4, N=26) = 14.385, p=0.006

Q14

The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants were neutral on thinking that when they work alone, they think that they would rather work with other people on the task X^2 (4, N=26) = 9.769, p=0.044

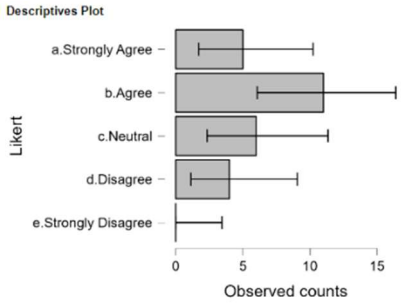
Table 18



Descriptive Plot for Chi-Square Goodness of Fit Statement 14

Q30

Table 19



Descriptive Plot for Chi-Square Goodness of Fit Statement 30

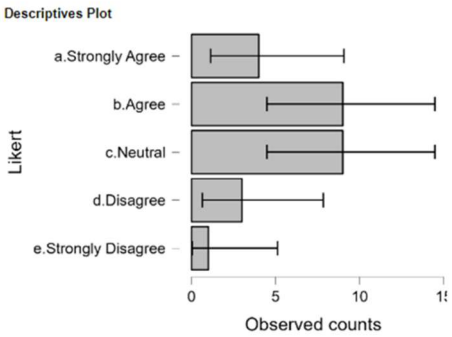
The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants agreed on enjoying working on the activity X^2 (4, N=26) = 12.077, p= 0.017

Sociability through Collaborative Learning

Q12

Table 20

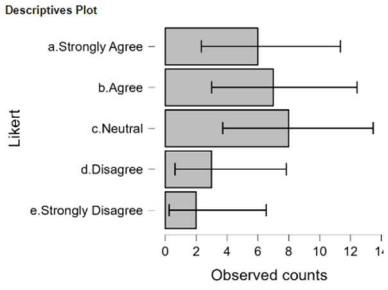
The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants agreed /were neutral on thinking that working in groups is better, but it depends on the groups X^2 (4, N=26) = 10.154, p= 0.038



Descriptive Plot for Chi-Square Goodness of Fit Statement 12

Q17

Table 21



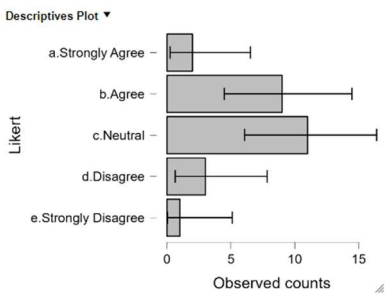
Descriptive Plot for Chi-Square Goodness of Fit Statement 17

The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants were neutral on only liking working in groups if their partners are their friends X^2 (4, N=26) = 5.154, p= 0.272

Q21

Table 22

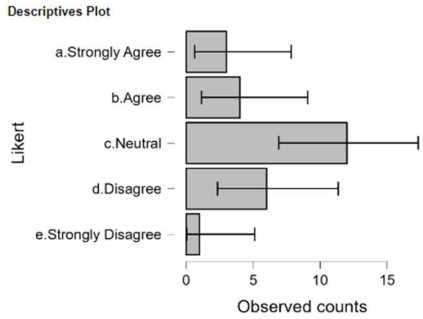
The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants were neutral on the considering themselves as the kind of person who talks to all their classmates X^2 (4, N=26) = 15.538, p= 0.004



Descriptive Plot for Chi-Square Goodness of Fit Statement 21

Q25

Table 23



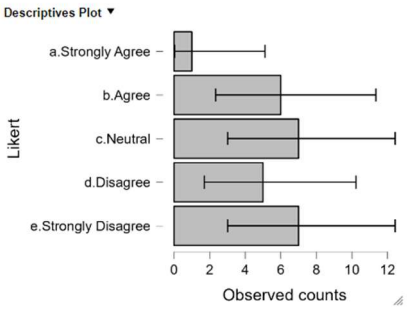
Descriptive Plot for Chi-Square Goodness of Fit Statement 25

The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants were neutral on liking working in groups because they enjoy talking with other people even if they are not their friends X^2 (4, N=26) = 13.615, p= 0.009

Q26

The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants were neutral or strongly disagreed on that they would rather work individually than in groups when their partners are not their friends X^2 (4, N=26) = 4.769, p= 0.312

Table 24

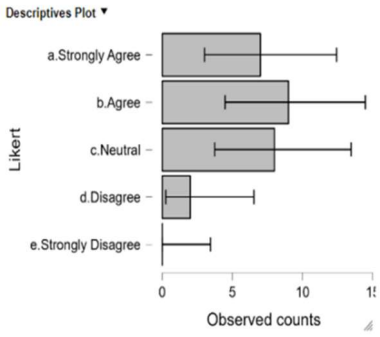


Descriptive Plot for Chi-Square Goodness of Fit Statement 26

How the individual feels inside and outside the group

Q15

Table 25



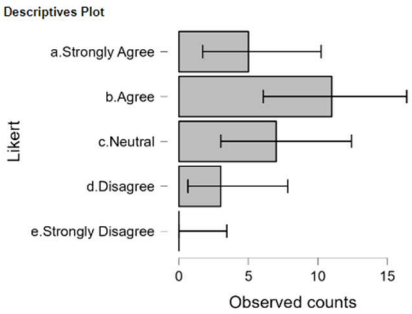
Descriptive Plot for Chi-Square Goodness of Fit Statement 15

The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants agreed on feeling more satisfied when their grade is high and they worked alone X^2 (4, N=26) = 12.077, p= 0.017

Q18

Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants agreed that working individually permits them working at their own pace X^2 (4, N=26) = 13.231, p= 0.010

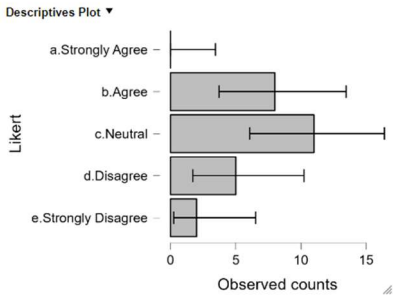
Table 26



Descriptive Plot for Chi-Square Goodness of Fit Statement 18

Q19

Table 27



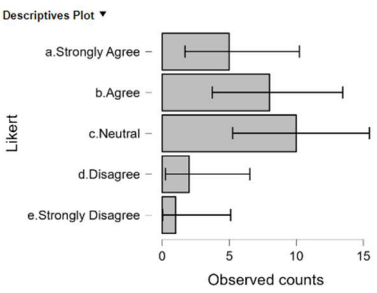
Descriptive Plot for Chi-Square Goodness of Fit Statement 19

The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants were neutral on thinking that when they work alone, they usually do not lose concentration a lot X^2 (4, N=26) = 15.154, p=0.004

Q20

The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants were neutral on thinking that working individually helps me reflect on their mistakes X^2 (4, N=26) = 11.308, p= 0.023

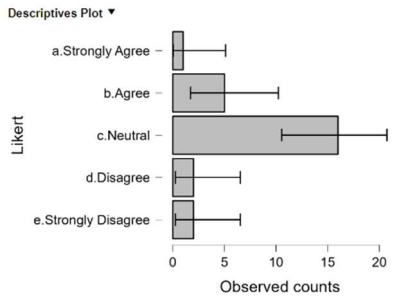
Table 28



Descriptive Plot for Chi-Square Goodness of Fit Statement 20

Q22

Table 29



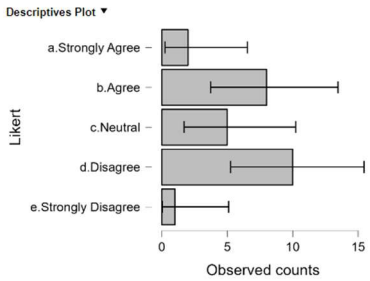
Descriptive Plot for Chi-Square Goodness of Fit Statement 22

The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants were neutral on thinking that while working in groups, they feel like they slow down their partners X^2 (4, N=26) = 29.769, p= <.001

Q23

The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants disagreed with feeling like they deserve their grade even when the project was collaborative X^2 (4, N=26) = 11.308, p= 0.023

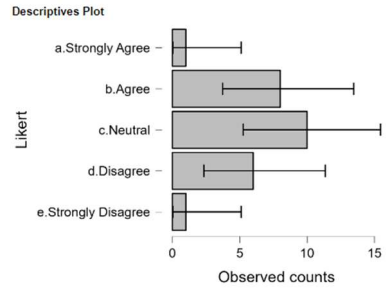
Table 30



Descriptive Plot for Chi-Square Goodness of Fit Statement 23

Q24

Table 31



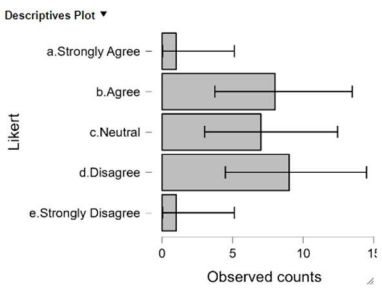
Descriptive Plot for Chi-Square Goodness of Fit Statement 24

The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants were neutral on working in groups distracted them from the task X^2 (4, N=26) = 12.846, p=0.012

Q27

The Chi-Square Goodness of Fit showed that the frequency of responses where the majority of the participants disagreed that working in groups helps them reflect on their mistakes X^2 (4, N=26) = 11. 692, p= 0.020

Table 32



Descriptive Plot for Chi-Square Goodness of Fit Statement 27

4.3.2. Comments on the questionnaire

At the end of the questionnaire, students were able to add any comments they might have had. The comments are divided into two categories depending on the group they belong:

Experimental:

1. "I like work in groups but if they working hard to have a nice note"
2. "I liked working in groups but I didnt concentrate because they talk a lot"
3. "I prefer to work in groups when my classmates work"

Control:

1. "the work in groupe help me for take opinion my team for my development more"
2. "I don't like English, this is the reason why I did not like the activity."
3. "working in groups in class is better because there is less work"
4. "I like working alone and in groups."

4.4. Analysis of Statements 4 and 21 with Repeated Measures ANOVA

Two statements of the questionnaire were analyzed to determine whether extroverts were more likely to enjoy Collaborative Learning. Both groups were analyzed and compared.

4.4.1. Repeated Measures ANOVA for Statements 4 and 21

The Repeated Measures ANOVA (see Annex IV) did show a significant difference between the factors. A Repeated Measures ANOVA revealed that there was a statistically significant difference in mean score F (1, 12) = 1,220, p=0.291.

4.4.2. Post Hoc Test

The Tukey Post Hoc test (see Annex IV) shows that the differences between the Control Level of Extroversion and the Control Enjoyment of Collaborative Learning the Experimental Level of Extroversion and the Experimental Enjoyment of Collaborative Learning are not significant.

CHAPTER 5: DISCUSSION

5.1 Introduction

One of the primary purposes of this study is to assess whether Collaborative Learning surpasses Individual Learning in terms of acquiring metalinguistic knowledge, specifically in argumentative essays and linking words. An additional aim is to contrast the outcomes of a finished product produced by a group of students working independently with those of a group working together. Furthermore, another key issue was determining students' attitudes and opinions of both methodologies and assessing if they had a more favorable image of Collaborative Learning or if their opinion on both methodologies was similar.

The first research question to guide the study was related to student's past experiences with collaborative and individual work, in this way finding which method is more common for them and how their past experiences shaped their opinions. Furthermore, an

additional research inquiry focused on examining the influence of two distinct methods in fostering learners' motivation. Moreover, the students were asked to express their preference regarding the methodology they found most favorable. Another question set the basis for searching for a possible correlation between being extroverted and enjoying Collaborative Learning, which was analyzed through two questions on the questionnaire. Finally, the last research question referred to how the individual finds their value inside a group.

5.2 Improvement of Metalinguistic Knowledge

The pretest and posttest analysis results show a significant difference between the two groups. This situation has been supported by different articles (refer to p. 19) in which the use of Collaborative Learning proved successful in integrating knowledge with the learners. Based on these results, the hypothesis has been accepted, and the null hypothesis has been rejected.

The difference is minimal, as seen by the group grades' calculated mean. The experimental group scored 67.5 on the pretest and 76.4 on the posttest, improving 8.9 points. On the other hand, the control group obtained a mean of 61 on the pretest and 69 on the posttest, improving 8 points. The difference between the two is 0.9 points out of 100. Nevertheless, the difference is still significant, and it shows that Collaborative Learning actually helps improve the learners' acquisition of metalinguistic knowledge.

This shows that collaboration is helpful for the student to obtain individual knowledge, as students are able to help each other during the path of metalinguistic acquisition. In this way, stronger students can help weaker ones during knowledge acquisition, thereby significantly improving the posttest more than the control group, who worked individually. As shown in the recent article by Zambrano et al. (2019) or by researchers

Sweller and Kirscher (2019), Collaborative Learning is more beneficial for retaining information than Individual Learning.

Nevertheless, several aspects must be considered that show that even though the improvement of both groups was similar, Collaborative Learning was more beneficial to the students in Vocational Education and Training (VET).

As explained in the procedure, there is a difference in proficiency between the two groups. Initially, the two groups appeared to be similar since they were both enrolled in their first year of tertiary-level higher programs. For that reason, their proficiency level should at least be a B1. As the program is considered an ESP course, students should acquire that level of English before starting the classes. Nonetheless, according to their course instructor, most students in the experimental group did not possess such a level, and although it was a similar case with the control group, there was a significant difference in proficiency between the two groups.

The class hours were also crucial to this analysis. The experimental class was conducted in the last hour; therefore, students were tired from all the previous work. Moreover, as most of them had to take a bus to get home, they rushed through the posttest, as seen in the time they dedicated to it. While in the pretest, the mean of time used for the test was around six minutes, in the posttest, the mean was two and a half minutes. Meanwhile, the control group was given a more favorable hour, the first hour of their classes, at 3.30 pm. They were more motivated to participate and paid attention to the questions.

Considering these situations, it was surprising that there was a significant difference between the two groups during the pretest-posttest procedure. This shows the success of the Collaborative Learning method because the experimental group obtained a significant improvement.

However, it is important to also note that the class was before the Easter Break, therefore students were eager to finish and therefore be distracted. Furthermore, another issue to consider is that the implementation was conducted in two seasons; therefore, students were more energized than the control group, and they had more time to learn about the metalinguistic aspects of the test. Students had a chance to complete the posttest after working in groups, feeling more rested. This can be linked to a student's comment on the questionnaire (refer to comment 3 on the control group), where they commented that they enjoyed working collaboratively as they had less work. It is important to highlight that, as it provides another explanation for the success of the post-test: students felt more energized than the control group because they shared the workload, proving that collaboration can improve students' knowledge acquisition.

In conclusion, the significant improvement between the control and experimental groups supports the alternative hypothesis, showing that Collaborative Learning enhances students' knowledge acquisition. Stronger students help weaker ones, leading to greater posttest improvement for the experimental group. While both groups improved, Collaborative Learning was particularly beneficial for VET students. Despite being less proficient and having classes late in the day, the experimental group showed notable progress, highlighting the approach's effectiveness.

5.3 Success in the Final Product

Collaborative Learning has as its most prominent characteristic that students have to work together to accomplish the same objective, as explained in the theoretical background. Therefore, the results should show that students in the experimental group obtained better grades on the writing task than those in the control group. Nonetheless, this was not the case, as the Independent Sample T-Test results show no significant difference between the two groups. This has happened in several research findings, such as the article by

Gully et al. (2012) or the study by Ozkara and Cakir (2020), where students working collaboratively obtained a final product similar to those working individually. As seen in the results section, the alternative hypothesis has been rejected, and the null hypothesis has been accepted.

The experiment's lack of significance can be attributed to distinct reasons, in addition to each methodology's distinct strengths and weaknesses, resulting in similar results.

The situation of both groups should be considered. As explained before, the proficiency level of each group is different, and that had an impact on the writing task. It should be emphasized that the participants scored the lowest in the language use category during the correction process, with a significant difference between the two groups. The experimental group had more issues with grammar structure. Moreover, the control group had a lower score in content, as their arguments were repetitive: they usually included one argument that lasted the entirety of the essay, whereas the experimental group had more variety, which helped them enrich the content aspect. However, the other aspects had a similar score between the two groups. A plausible explanation for the lack of supportive arguments would be that they had no extra help from their peers.

A disadvantage of using Collaborative Learning was seen in the implementation. In the experimental class, some groups needed additional time to complete the assignment, as they wanted to discuss their ideas before writing and write an outline before starting the essay. These students obtained the highest score in the class. Therefore, the results are profitable even if more time is needed to complete the essay. Despite these challenges, students who took extra time to collaborate effectively achieved the highest scores, suggesting the potential benefits of Collaborative Learning with better time management.

Time was observed as an issue because students engaged in conversations unrelated to the assignment. In contrast, students in the control group showed a slightly higher concentration level.

In conclusion, both methodologies are useful for obtaining a satisfactory final product, as proved by the similar scores between the experimental and control groups. Both methodologies improve their professional competencies, as both will be used in their future jobs. On one hand, while engaging in Collaborative Learning, the experimental group produced more varied and enriched content but had difficulty with language use. On the other hand, the control group, working individually, demonstrated stronger language use but repetitive arguments. These differences can be used to highlight how each methodology can complement the other.

5.4. Opinions and Attitudes of the Students on the Methodologies

The questionnaire was divided into five categories: past experience of methodology, general opinion of methodologies, motivation and attitudes toward the methodology's impact, sociability through Collaborative Learning, and how the individual feels inside and outside the group.

Although most of the answers turned out to be neutral, the analysis can also be conducted by looking at the second most prominent answer. In most cases, the answers are distributed between the same polarity; therefore, they can be analyzed as the students having a majorly positive/negative opinion on the statement. Usually, neutrality indicates a lack of certainty or indifference, which is considered in the discussion.

A tendency to agree with the statement was noted, as students hardly answered that they highly disagreed. However, some statements were similar but with different polarities,

giving the impression of non-coherence through the answers, as the answers on the two polarity statements were contradictory.

5.4.1. Past Experience

According to the analysis of the questionnaire responses, both methodologies are being implemented in their classroom, and students are familiar with both. This experience with both approaches is crucial for forming informed opinions, as it allows students to apply their critical thinking skills when responding to the questionnaire. Another key aspect of forming informed opinions would be understanding the key differences between both methodologies. After the implementation, students agreed on understanding the difference between the two methodologies.

In the questions related to high school projects, most students agreed that they implemented the collaborative approach most of the time. Therefore, they are accustomed to it. However, the differences between group work and collaboration, as explained in class, were current information. Furthermore, students agreed on having good experience working in groups and individually. This should play a major role in their opinion of the methodologies. Students are accustomed to collaborative projects, yet tasks are individual and collaborative.

5.4.2. General Opinion of the Methodologies

The results demonstrate that most students remained neutral in their choice of methodology preference. However, there is a greater inclination towards preferring individual work, as seen in the distribution of answers. Despite this, there is a discrepancy in the responses, with the analysis indicating a preference for collaborative work over individual work. Nonetheless, students preferred individual work over collaborative work in considering it a better methodology. Therefore, a clear conclusion regarding the

preferred methodology among students cannot be identified. Students enjoy working with the two methodologies and do not have a preference between one or another. This was commented on by a student in the control group (see comment 4), who clarified that they liked both methodologies.

It is important to consider that most students agreed that both methodologies are beneficial depending on the task at hand. This demonstrates that students are able to distinguish the advantages and disadvantages of each methodology, therefore being capable of deciding which works better for each task, demonstrating the students' critical thinking skills on the issue. Their professional competence is also necessary because the learners who will work as product managers should be able to distinguish which tasks can be assigned individually and which collaboratively.

5.4.3. Motivation and Attitude of the Impact of the Methodology

According to the analysis of the questionnaire, students mostly agreed that working collaboratively increased their motivation, however, more students agreed on thinking that individual work increased their motivation. Thereby, although Collaborative Learning increases student motivation, working individually is more effective in motivating students. This is further supported by the neutral or disagreeing responses to the preference for collaborative work when working individually in the analysis of statement 14. In contrast to the findings of Du et al.'s (2007) research, which indicated that half of the students held a negative view towards collaborative work, the present study revealed that students expressed a positive perception towards both methodologies.

Students are also indifferent on learning about the differences between Collaborative and Individual Learning, as they might believe that such information does not influence their academic achievement regarding their class. Their neutrality can also be a sign of lack of

information; therefore, they could want to learn more but just about one of the methodologies.

After the implementation process, students were asked about their enjoyment of the activity, as to make sure the implementation was correct. Most students agreed that they had enjoyed working on the activities. Nonetheless, a student commented that they did not enjoy the activity just because they do not enjoy the subject. This comment was also discussed in class, and some students shared the same opinion. Therefore, it could be assumed that the students' dislike of the activity was related to their dislike for the English language.

5.4.4. Sociability and Extroversion through Collaborative Learning

This section discusses individuals' preferences for group work, including enjoyment only when working with friends, indifference towards the identity of their partners, enjoyment of Collaborative Learning depending on the group composition, and the preference for group work due to the social interaction it provides. Additionally, it discusses the connection between being extrovert and enjoying collaborative work.

Several students agreed that they enjoyed working collaboratively under some conditions, as it depended on the group composition. Most students considered that they only liked working in groups when their partners were their friends. Nevertheless, there is a variety of answers -neutral encompassing most students- on the statement that they enjoy talking with other people in the group even if they were not previously friends (refer to Q25 in the results section).

Moreover, the analysis of statement 26 shows a variation of students who prefer working individually to working with groupmates who are not their friends. This indicates mixed opinions on group dynamics and social interaction, which could mean that every student

has their own opinion, and as a group, they have a variety of personalities, which was the expected answer. Therefore, for some students, social comfort is vital for them to enjoy working collaboratively. In contrast, others are able to feel comfortable and adapt to the social circumstances required for collaborative work. The interaction among group members is crucial in reaching common objectives, as interpersonal dynamics are equally significant as the individual members (Rusbult & Van Lange, 2008).

Another key issue for comfort in group composition can be found in the comments left by two students in the experimental group (see comments 1 and 2). As long as their peers demonstrate a strong work commitment, students find collaborative work enjoyable and beneficial. Having two comments on the same topic could indicate this is a general student opinion. Students like to work with classmates who have a similar objective to them, mainly when they aim to obtain a nice grade, as commented by the participant in the experimental group (see comment 1in experimental group).

Moreover, it could be argued that extroverted participants were more likely to enjoy collaborative work as a whole, as extroverted people are more comfortable around different types of people, maybe preferring to work with them than individually. That is the reason this was analyzed. Nonetheless, as the results of the T Test show, there is no correlation between these two factors. Therefore, the level of extroversion is separate from enjoying collaborative work. This could mean that extrovert and introvert students can enjoy Collaborative Learning alike.

This could be due to the structure of collaborative tasks, which might provide enough flexibility for introverts to engage in a way that suits their comfort levels while benefiting from group interactions. Additionally, the nature of the collaborative tasks and the flexibility of group composition could play a significant role in making these activities accessible and enjoyable for all personality types. That is why building team bonding is

crucial for the students. However, as the implementation had a short duration, it was more beneficial for students to work with groups they were familiar with before working together, allowing introverted and shy students to work comfortably.

In conclusion, the analysis demonstrates mixed opinions on collaborative work. Some students prefer working with friends, while others can adapt to new peers. Social comfort is key, as students prefer partners with similar goals. Interestingly, extroverted and introverted students enjoy Collaborative Learning alike, as no correlation was found between extroversion and group work enjoyment. Adequate team bonding and comfortable group compositions are crucial for success.

5.4.5 The Individual Inside a Group

Knowing how individual participants feel inside a group is crucial to understanding the positive and negative aspects of Collaborative Learning. Working inside a group can lead to loss of agency or lower satisfaction for the individual, which can be caused by unequal contributions.

Students feel more satisfied when their grades are high, and they work alone (refer to Q15) and disagree with feeling like they deserve their grades when the project is collaborative; therefore, their sense of fulfillment is lowered when working collaboratively. This implies that personal accomplishment and independence play a crucial role in determining the students' satisfaction levels. Moreover, Collaborative work among students may result in a diminished loss of agency or difficulties in ensuring equal participation, thereby decreasing their satisfaction levels. This dissatisfaction could be rooted in the perception that the group's efforts do not accurately reflect the individual contributions.

The neutral responses to statement 22 show students' indifference about potentially slowing down their partners when working together. This is a positive indication, as most students had not previously considered this concern, which is a negative part of Collaborative Learning.

Another important issue regarding how Collaborative Learning affects the individual is that it can lead to distractions. This can be seen in a comment (see comment 3 on the experimental group) about how their classmates talked too much, making the participant lose concentration. It could be interpreted as the student implying that their groupmates were chatting about other issues unrelated to the assignment while the student tried to complete the task independently. Another interpretation would be that while the students were engaging in other topics of conversation, the student who tried to complete the task was unable to continue and joined the conversation. Either way, this made the group lose time completing the work, leading to the participant's dissatisfaction.

Statement 24 is related to this issue, yet students' answers were more distributed, concluding that some students find collaborative work a source of distraction that does not permit them to complete the task, but this is not the case for everyone. This disrupts the Positive Interdependence principle, as students are not aware or careless about how their actions negatively affect the other group members, which is then Negative Interdependence. As the group members' objectives are not aligned, the principles of Social Interdependence: Individual Accountability, and Promotive Interaction are lacking in the group.

Another question to consider is which methodology helps students better reflect on their mistakes. The analysis of statements 20 and 27 shows that students believe working individually is more effective for this purpose, with more participants agreeing that it

helps in self-reflection. In contrast, most students disagreed that group work helps them reflect on their mistakes. It could be argued that including the Social Interdependence principle of Group Processing in the classroom is a perfect solution, as it will permit the students to reflect on their mistakes during collaborative work. Furthermore, a student also commented on this issue, as they commented that working in groups helps them discuss their opinion with their team, which helps them develop better. This shows that students are aware of the help that the group members can provide, which is seen as a positive aspect of Collaborative Learning.

CHAPTER 6: CONCLUSIONS

6.1. Conclusions

The primary objective of this study was to compare the effectiveness of two methodologies, Collaborative Learning, and Individual Learning, and observe their effectiveness in enhancing learners' outcomes. The study examined several variables, including the students' effective acquisition of specific knowledge and the quality of the final product they produced. Finally, the students' perceptions and opinions of the two methodologies were analyzed. While analyzing their opinions, the focus was on determining which methodology the students were more accustomed to, which methodology motivated them more, and which method they preferred. Another key aspect was finding whether there was a correlation between extroversion and enjoyment of Collaborative Learning and how being inside a group affected the individual perception. The pretest and posttest results demonstrate a significant improvement in metalinguistic knowledge, where the Collaborative Learning group improved better than the Individual Learning group. This suggests that Collaborative Learning has been a valuable tool for

increasing learners' knowledge acquisition. These findings align with previous studies by Zambrano et al. (2019) and Sweller and Kirscher (2019), highlighting the benefits of this methodology for retaining specific information.

Moreover, the final product comparison showed that both methodologies were successful. At the same time, the differences were not significant, which aligns with the studies by Gully et al. (2012) and Ozkara and Cakir (2020), where the results were also not significant. However, it was noted that there were differences in both corrections. The Collaborative Learning group demonstrated a higher level of content, as their essays were more creative and richer. Nevertheless, they encountered a more significant number of grammatical challenges in comparison to the Individual Learning group, whose writing was more grammatically accurate but needed more variety. This indicates that each methodology has different strengths: Collaborative Learning improves creativity and variety, while Individual Learning had ensured grammatical accuracy. Therefore, both methodologies have proved to be successful in creating a final product, improving their transversal competencies in collaborative writing.

Students have had previous experience on the methodologies using both methodologies for tasks and collaboration with projects without favoring either. Students believe that choosing the methodology should be done considering the nature of the task. This helps them in their professional competencies and critical skills, as having information on both methodologies helps future workers choose the best option. Moreover, students opine that the methodology that increases their motivation more significantly is, in fact, the individual. Creating a comfortable environment for the students in a group is key to their satisfaction. As commented by Srinivas Rao (2019), Collaborative Learning helps save time. It decreases stress and energy while performing tasks, which is a key advantage for students, as commented by one of them in the questionnaire. Students can help each other,

as sharing their ideas helps them develop their understanding and increase their skills. Improving students' social skills is also crucial for working effectively in the workplace; therefore, working collaboratively can help them. Providing clear guidance and support to the students in collaborative projects can help them work efficiently and provide a comfortable environment for the group members.

Despite Collaborative Learning having several advantages for the students, the study proves that both methodologies have been useful for acquiring metalinguistic knowledge and developing a correct final product. Students' opinions on the methodologies are positive and do not show a clear preference. Talking about Collaborative Learning, Gamson (1994) comments: "Those who try it and fail are often more disillusioned than those who never try it (p.46)"; however, this is not the case for this study, as it has shown the benefits of the methodology and their utility for VET students. Finally, employing a balanced approach combining both methodologies in their tasks and activities increases their chances of success, as both methodologies have strengths and weaknesses.

6.2 Limitations of the Study

The study has four main limitations, the most important of which is time limitation. The implementation had to be conducted in a maximum of two hours, which probably did not impact the students as much as it was intended. The positive aspect is that students had previous experience with both methodologies; therefore, their opinions and attitudes were well formed despite limitations.

Another limitation was the sample. As the participants were chosen before the research began, the groups could not be suitable. This happened because one group showed better proficiency in the language: the groups were not comparable because one had better proficiency.

The third limitation is connected to the context of the study. Shortly before the implementation, another experiment was conducted. Participating in a previous study can affect the students in diverse ways. Students can experience fatigue, which undermines attention and engagement in the experiment. Moreover, it can lead to habituation—causing decreased response—or sensitization—decreasing response-, which impacts the outcomes of the study.

The last limitation is related to students' bias in answering. As commented on in the discussion, students tend to agree with the statement, which shows that learners mostly agree with what the teacher says or want to positively impact the research.

6.3 Future Research

For further research, allocating more time for implementation could be beneficial. If learners had had more time to work on their project and to acquire metalinguistic knowledge, the results could have been different. With a short span, Collaborative Learning significantly improved the participants' outcomes, suggesting that extended time could yield even more positive outcomes for this methodology, as it would allow students to fully grasp the content explained, create a better group experience, and obtain meaningful results.

In addition, it was observed that specific guidelines to improve learners' social skills still need to be provided. Addressing this gap by investigating how to improve learners' social skills and implementing it in the research would be a valuable insight for further research. Social skills are crucial for success in collaboration and developing social skills can be difficult for some students. Therefore, students can be taught these guidelines to increase improvement in future collaborative work. Utilizing Social Interdependence principle of Appropriate Use of Social Skills (Johnson & Johnson, 2009) as a base to create the guidelines could beneficiate the students. Moreover, if the collaborative project is

international, teaching intercultural competencies could become a great addition to improving the group.

Furthering the research on the impact of Collaborative Learning in ESP courses can be beneficial, as students should be able to improve their group skills in the future. ESP courses prepare students for specific contexts in their careers. Therefore, effective collaboration is crucial. By researching collaborative learning in ESP, researchers can evaluate how well this approach equips students for real-world teamwork.

In addition, students have increasingly adopted the practice of utilizing AI to complete their assignments, which certainly impacts the nature of collaboration. Understanding the implications of this impact on collaborative processes is crucial for the future. Future research could investigate how students integrate these tools into the classroom collaboratively. Additionally, such investigations could provide valuable insights and recommendations on effectively integrating AI to enhance peer collaboration.

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ANNEX I

The questionnaire given to the participants through Microsoft Forms using a Likert scale of: I highly agree/I agree/Neutral/I disagree/I highly disagree.

1. I understand the difference between collaborative and individual work
2. I want to learn more about collaborative and Individual Learning
3. I usually work on my own to complete tasks
4. I enjoy working collaboratively
5. I would rather work on my own than work in groups
6. I usually work in groups to complete tasks
7. I have had good experience working in groups
8. I would rather work collaboratively than work individually
9. My motivation increases when I work in groups
10. Working individually is better than working in groups
11. My experience working individually is bad
12. I think working in groups is better, but it depends on the groups
13. My motivation increases when I work individually
14. When I work alone, I think that I would rather work with other people on the task
15. I feel more satisfied when my grade is high, and I worked alone
16. When I was in high school, most of the projects were individual
17. I only like working in groups if they are my friends
18. Working individually permits me working at my own pace
19. When I work alone, I usually do not lose concentration a lot
20. Working individually helps me reflect on my mistakes
21. I am the kind of person who talks to all their classmates

22. While working in groups, I feel like I slow down my partners

23. I feel like I deserve my grade even when the project was collaborative

24. Working in groups distracts me from the task

25. I like working in groups because I enjoy talking with other people even if they are not my friends

26. I would rather work individually than in groups when my partners are not my friends

27. Working in groups helps me reflect on my mistakes

28. While I was in high school most of my projects were in pairs or in groups

29. I think both collaborative and individual methods are beneficial depending on the task at hand

30. Overall, I enjoyed working on the activity

Other comments:

ANNEX II

Pretest and posttest given to the participants through Microsoft Forms

1. An argumentative essay is used to persuade the reader to buy something. **True/False**
2. In an argumentative essay, your opinion is central. **True/False**
3. The main objective of this type of essay is to convince the reader of your position. **True/False**
4. Your argumentative essay will be graded on whether the teacher agrees with your position after reading it. **True/False**
5. In an argumentative essay, you have to present arguments against your position to find a solution. **True/False**
6. In an argumentative essay, you must include a heading before each paragraph (heading: a word, phrase, or sentence that explains what the paragraph is about). **True/False**
7. "To sum up" is used to start an argument in an essay. **True/False**
8. "But", "yet" "he" and "and" are linking words. **True/False**
9. Write two linking words.
10. What is product placement? Write a short answer. /Have you watched the film 'The Joneses'/ Write the parts of an argumentative essay.

ANNEX III

Shapiro-Wilk Test for ANOVA

Table 33

Descriptive Statistics

Descriptive Statistics

	PRETEST Experimental	POSTEST Experimental	PRETEST Control	POSTEST Control
Valid	14	14	17	17
Missing	3	3	0	0
Mean	67.500	82.143	61.176	69.706
Std. Deviation	15.032	13.114	13.979	13.517
Shapiro-Wilk	0.944	0.912	0.912	0.909
P-value of Shapiro-Wilk	0.466	0.167	0.106	0.095
Minimum	40.000	60.000	40.000	50.000
Maximum	90.000	100.000	85.000	90.000

Descriptive Statistics: Shapiro-Wilk Test for Pretest and Posttest

Tukey Post Hoc

Table 34

Post Hoc Comparisons - Groups ✻ Testing

			95% CI for Mean Difference				
		Mean Difference	Lower	Upper	SE	t	p_{tukey}
Experimental, Pretest	Control, Pretest	6.071	−6.576	18.719	4.426	1.372	0.528
	Experimental, Postest	−14.643	−30.298	1.012	5.413	−2.705	0.057
	Control, Postest	−3.214	−19.269	12.840	5.577	−0.576	0.938
Control, Pretest	Experimental, Postest	−20.714	−36.769	−4.660	5.577	−3.714	0.006
	Control, Postest	−9.286	−24.941	6.369	5.413	−1.715	0.339
Experimental, Postest	Control, Postest	11.429	−1.219	24.076	4.426	2.582	0.071

Note. P-value and confidence intervals adjusted for comparing a family of 6 estimates (confidence intervals corrected using the bonferroni method).

Tukey Post Hoc for Pretest and Posttest

ANNEX IV

Shapiro-Wilk Test for T Test

Table 35

Descriptive Statistics ▼

	Grades	
	Control	Experimental
Valid	17	22
Missing	0	0
Mean	8.435	8.445
Std. Deviation	0.837	1.029
Shapiro-Wilk	0.943	0.904
P-value of Shapiro-Wilk	0.357	0.036
Minimum	7.000	6.800
Maximum	9.800	9.800

Descriptive Statistics: Shapiro- Wilk Test for Statements 4 and 21

Independent Samples T Test

Table 36

Independent Samples T-Test

	t	df	p	Cohen's d	SE Cohen's d
Grades	−0.033	37	0.974	−0.011	0.323

Note. Student's t-test.

Descriptives

Group Descriptives

	Group	N	Mean	SD	SE	Coefficient of variation
Grades	Control	17	8.435	0.837	0.203	0.099
	Experimental	22	8.445	1.029	0.219	0.122

Independent Samples T Test for Statements 4 and 21

ANNEX V

Questionnaire Multinomial test Tables

Q1

Table 37

Multinomial Test

	χ^2	df	p
Multinomial	17.846	4	0.001

Descriptives

			95% Confidence Interval	
Likert	Observed	Expected: Multinomial	Lower	Upper
a.Strongly Agree	9	5.200	4.476	14.473
b.Agree	11	5.200	6.072	16.401
c.Neutral	5	5.200	1.704	10.231
d.Disagree	1	5.200	0.025	5.106
e.Strongly Disagree	0	5.200	0.000	3.439

Note. Confidence intervals are based on independent binomial distributions.

Chi-Square Goodness of Fit Analysis for Statement 1

Q2

Table 38

Multinomial Test

	χ^2	df	p
Multinomial	21.308	4	< .001

Descriptives

			95% Confidence Interval	
Likert	Observed	Expected: Multinomial	Lower	Upper
a.Strongly Agree	1	5.200	0.025	5.106
b.Agree	6	5.200	2.333	11.348
c.Neutral	14	5.200	8.676	19.087
d.Disagree	2	5.200	0.246	6.534
e.Strongly Disagree	3	5.200	0.636	7.840

Note. Confidence intervals are based on independent binomial distributions.

Chi-Square Goodness of Fit Analysis for Statement 2

Q3	**Table 39** Multinomial Test χ^2 = 14.385, df = 4, p = 0.006 Descriptives Likert: a.Strongly Agree — Observed 5, Expected: Multinomial 5.200, 95% CI Lower 1.704, Upper 10.231 b.Agree — 10, 5.200, 5.259, 15.452 c.Neutral — 9, 5.200, 4.476, 14.473 d.Disagree — 2, 5.200, 0.246, 6.534 e.Strongly Disagree — 0, 5.200, 0.000, 3.439 *Note.* Confidence intervals are based on independent binomial distributions. *Chi-Square Goodness of Fit Analysis for Statement 3*
Q4	**Table 40** Multinomial Test χ^2 = 14.769, df = 4, p = 0.005 Descriptives Likert: a.Strongly Agree — Observed 3, Expected: Multinomial 5.200, 95% CI Lower 0.636, Upper 7.840 b.Agree — 7, 5.200, 3.009, 12.425 c.Neutral — 12, 5.200, 6.913, 17.324 d.Disagree — 3, 5.200, 0.636, 7.840 e.Strongly Disagree — 1, 5.200, 0.025, 5.106 *Note.* Confidence intervals are based on independent binomial distributions. *Chi-Square Goodness of Fit Analysis for Statement 4*
Q5	**Table 41** Multinomial Test ▼ χ^2 = 7.077, df = 4, p = 0.132 Descriptives Likert: a.Strongly Agree — Observed 7, Expected: Multinomial 5.200, 95% CI Lower 3.009, Upper 12.425 b.Agree — 7, 5.200, 3.009, 12.425 c.Neutral — 8, 5.200, 3.725, 13.465 d.Disagree — 3, 5.200, 0.636, 7.840 e.Strongly Disagree — 1, 5.200, 0.025, 5.106 *Note.* Confidence intervals are based on independent binomial distributions. *Chi-Square Goodness of Fit Analysis for Statement 5*

Q6	**Table 42** Multinomial Test χ^2 = 12.077, df = 4, p = 0.017 Descriptives Likert: a.Strongly Agree — Observed 5, Expected: Multinomial 5.200, 95% CI Lower 1.704, Upper 10.231 b.Agree — 10, 5.200, 5.259, 15.452 c.Neutral — 8, 5.200, 3.725, 13.465 d.Disagree — 3, 5.200, 0.636, 7.840 e.Strongly Disagree — 0, 5.200, 0.000, 3.439 *Note.* Confidence intervals are based on independent binomial distributions. *Chi-Square Goodness of Fit Analysis for Statement 6*
Q7	**Table 43** Multinomial Test ▼ χ^2 = 14.385, df = 4, p = 0.006 Descriptives Likert: a.Strongly Agree — Observed 6, Expected: Multinomial 5.200, 95% CI Lower 2.333, Upper 11.348 b.Agree — 7, 5.200, 3.009, 12.425 c.Neutral — 11, 5.200, 6.072, 16.401 d.Disagree — 2, 5.200, 0.246, 6.534 e.Strongly Disagree — 0, 5.200, 0.000, 3.439 *Note.* Confidence intervals are based on independent binomial distributions. *Chi-Square Goodness of Fit Analysis for Statement 7*
Q8	**Table 44** Multinomial Test ▼ χ^2 = 11.308, df = 4, p = 0.023 Descriptives Likert: a.Strongly Agree — Observed 3, Expected: Multinomial 5.200, 95% CI Lower 0.636, Upper 7.840 b.Agree — 10, 5.200, 5.259, 15.452 c.Neutral — 7, 5.200, 3.009, 12.425 d.Disagree — 6, 5.200, 2.333, 11.348 e.Strongly Disagree — 0, 5.200, 0.000, 3.439 *Note.* Confidence intervals are based on independent binomial distributions. *Chi-Square Goodness of Fit Analysis for Statement 8*

Q9	**Table 45** Multinomial Test ▼ χ^2 df p Multinomial 21.692 4 < .001 Descriptives Likert Observed Expected: Multinomial 95% Confidence Interval Lower Upper a.Strongly Agree 1 5.200 0.025 5.106 b.Agree 11 5.200 6.072 16.401 c.Neutral 11 5.200 6.072 16.401 d.Disagree 1 5.200 0.025 5.106 e.Strongly Disagree 2 5.200 0.246 6.534 *Note.* Confidence intervals are based on independent binomial distributions. *Chi-Square Goodness of Fit Analysis for Statement 9*
Q10	***Table 46*** Multinomial Test ▼ χ^2 df p Multinomial 25.923 4 < .001 Descriptives Likert Observed Expected: Multinomial 95% Confidence Interval Lower Upper a.Strongly Agree 1 5.200 0.025 5.106 b.Agree 11 5.200 6.072 16.401 c.Neutral 12 5.200 6.913 17.324 d.Disagree 2 5.200 0.246 6.534 e.Strongly Disagree 0 5.200 0.000 3.439 *Note.* Confidence intervals are based on independent binomial distributions. *Chi-Square Goodness of Fit Analysis for Statement 10*
Q11	**Table 47** Multinomial Test ▼ χ^2 df p Multinomial 3.615 4 0.461 Descriptives Likert Observed Expected: Multinomial 95% Confidence Interval Lower Upper a.Strongly Agree 3 5.200 0.636 7.840 b.Agree 3 5.200 0.636 7.840 c.Neutral 8 5.200 3.725 13.465 d.Disagree 6 5.200 2.333 11.348 e.Strongly Disagree 6 5.200 2.333 11.348 *Note.* Confidence intervals are based on independent binomial distributions. *Chi-Square Goodness of Fit Analysis for Statement 11*

Q12	**Table 48** Multinomial Test χ² df p Multinomial 10.154 4 0.038 Descriptives Likert Observed Expected: Multinomial 95% Confidence Interval Lower Upper a.Strongly Agree 4 5.200 1.133 9.066 b.Agree 9 5.200 4.476 14.473 c.Neutral 9 5.200 4.476 14.473 d.Disagree 3 5.200 0.636 7.840 e.Strongly Disagree 1 5.200 0.025 5.106 *Note.* Confidence intervals are based on independent binomial distributions. *Chi-Square Goodness of Fit Analysis for Statement 12*
Q13	**Table 49** Multinomial Test ▼ χ² df p Multinomial 14.385 4 0.006 Descriptives Likert Observed Expected: Multinomial 95% Confidence Interval Lower Upper a.Strongly Agree 5 5.200 1.704 10.231 b.Agree 12 5.200 6.913 17.324 c.Neutral 6 5.200 2.333 11.348 d.Disagree 2 5.200 0.246 6.534 e.Strongly Disagree 1 5.200 0.025 5.106 *Note.* Confidence intervals are based on independent binomial distributions. *Chi-Square Goodness of Fit Analysis for Statement 13*
Q14	**Table 50** Multinomial Test ▼ χ² df p Multinomial 9.769 4 0.044 Descriptives Likert Observed Expected: Multinomial 95% Confidence Interval Lower Upper a.Strongly Agree 2 5.200 0.246 6.534 b.Agree 6 5.200 2.333 11.348 c.Neutral 9 5.200 4.476 14.473 d.Disagree 8 5.200 3.725 13.465 e.Strongly Disagree 1 5.200 0.025 5.106 *Note.* Confidence intervals are based on independent binomial distributions. *Chi-Square Goodness of Fit Analysis for Statement 50*

Q15	**Table 51** Multinomial Test χ² df p Multinomial 12.077 4 0.017 Descriptives Likert Observed Expected: Multinomial 95% Confidence Interval Lower Upper a.Strongly Agree 7 5.200 3.009 12.425 b.Agree 9 5.200 4.476 14.473 c.Neutral 8 5.200 3.725 13.465 d.Disagree 2 5.200 0.246 6.534 e.Strongly Disagree 0 5.200 0.000 3.439 *Note.* Confidence intervals are based on independent binomial distributions. *Chi-Square Goodness of Fit Analysis for Statement 15*
Q16	**Table 52** Multinomial Test χ² df p Multinomial 6.308 4 0.177 Descriptives Likert Observed Expected: Multinomial 95% Confidence Interval Lower Upper a.Strongly Agree 2 5.200 0.246 6.534 b.Agree 5 5.200 1.704 10.231 c.Neutral 9 5.200 4.476 14.473 d.Disagree 7 5.200 3.009 12.425 e.Strongly Disagree 3 5.200 0.636 7.840 *Note.* Confidence intervals are based on independent binomial distributions. *Chi-Square Goodness of Fit Analysis for Statement 16*
Q17	**Table 53** Multinomial Test ▼ χ² df p Multinomial 5.154 4 0.272 Descriptives Likert Observed Expected: Multinomial 95% Confidence Interval Lower Upper a.Strongly Agree 6 5.200 2.333 11.348 b.Agree 7 5.200 3.009 12.425 c.Neutral 8 5.200 3.725 13.465 d.Disagree 3 5.200 0.636 7.840 e.Strongly Disagree 2 5.200 0.246 6.534 *Note.* Confidence intervals are based on independent binomial distributions. *Chi-Square Goodness of Fit Analysis for Statement 17*

Q18

Table 54

Multinomial Test

	χ^2	df	p
Multinomial	13.231	4	0.010

Descriptives

			95% Confidence Interval	
Likert	Observed	Expected: Multinomial	Lower	Upper
a.Strongly Agree	5	5.200	1.704	10.231
b.Agree	11	5.200	6.072	16.401
c.Neutral	7	5.200	3.009	12.425
d.Disagree	3	5.200	0.636	7.840
e.Strongly Disagree	0	5.200	0.000	3.439

Note. Confidence intervals are based on independent binomial distributions.

Chi-Square Goodness of Fit Analysis for Statement 18

Q19

Table 55

Multinomial Test

	χ^2	df	p
Multinomial	15.154	4	0.004

Descriptives

			95% Confidence Interval	
Likert	Observed	Expected: Multinomial	Lower	Upper
a.Strongly Agree	0	5.200	0.000	3.439
b.Agree	8	5.200	3.725	13.465
c.Neutral	11	5.200	6.072	16.401
d.Disagree	5	5.200	1.704	10.231
e.Strongly Disagree	2	5.200	0.246	6.534

Note. Confidence intervals are based on independent binomial distributions.

Chi-Square Goodness of Fit Analysis for Statement 19

Q20

Table 56

Multinomial Test

	χ^2	df	p
Multinomial	11.308	4	0.023

Descriptives

			95% Confidence Interval	
Likert	Observed	Expected: Multinomial	Lower	Upper
a.Strongly Agree	5	5.200	1.704	10.231
b.Agree	8	5.200	3.725	13.465
c.Neutral	10	5.200	5.259	15.452
d.Disagree	2	5.200	0.246	6.534
e.Strongly Disagree	1	5.200	0.025	5.106

Note. Confidence intervals are based on independent binomial distributions.

Chi-Square Goodness of Fit Analysis for Statement 20

Q21

Table 57

Multinomial Test

	χ^2	df	p
Multinomial	15.538	4	0.004

Descriptives

			95% Confidence Interval	
Likert	Observed	Expected: Multinomial	Lower	Upper
a.Strongly Agree	2	5.200	0.246	6.534
b.Agree	9	5.200	4.476	14.473
c.Neutral	11	5.200	6.072	16.401
d.Disagree	3	5.200	0.636	7.840
e.Strongly Disagree	1	5.200	0.025	5.106

Note. Confidence intervals are based on independent binomial distributions.

Chi-Square Goodness of Fit Analysis for Statement 21

Q22

Table 58

Multinomial Test

	χ^2	df	p
Multinomial	29.769	4	< .001

Descriptives

			95% Confidence Interval	
Likert	Observed	Expected: Multinomial	Lower	Upper
a.Strongly Agree	1	5.200	0.025	5.106
b.Agree	5	5.200	1.704	10.231
c.Neutral	16	5.200	10.548	20.741
d.Disagree	2	5.200	0.246	6.534
e.Strongly Disagree	2	5.200	0.246	6.534

Note. Confidence intervals are based on independent binomial distributions.

Chi-Square Goodness of Fit Analysis for Statement 22

Q23

Table 59

Multinomial Test ▼

	χ^2	df	p
Multinomial	11.308	4	0.023

Descriptives

			95% Confidence Interval	
Likert	Observed	Expected: Multinomial	Lower	Upper
a.Strongly Agree	2	5.200	0.246	6.534
b.Agree	8	5.200	3.725	13.465
c.Neutral	5	5.200	1.704	10.231
d.Disagree	10	5.200	5.259	15.452
e.Strongly Disagree	1	5.200	0.025	5.106

Note. Confidence intervals are based on independent binomial distributions.

Chi-Square Goodness of Fit Analysis for Statement 23

Q24	**Table 60** Multinomial Test 		χ^2	df	p
---	---	---	---
Multinomial	12.846	4	0.012 | Descriptives |			95% Confidence Interval	
---	---	---	---	---
Likert	Observed	Expected: Multinomial	Lower	Upper
a.Strongly Agree	1	5.200	0.025	5.106
b.Agree	8	5.200	3.725	13.465
c.Neutral	10	5.200	5.259	15.452
d.Disagree	6	5.200	2.333	11.348
e.Strongly Disagree	1	5.200	0.025	5.106	 *Note.* Confidence intervals are based on independent binomial distributions. *Chi-Square Goodness of Fit Analysis for Statement 24*
Q25	**Table 61** Multinomial Test 		χ^2	df	p
---	---	---	---
Multinomial	13.615	4	0.009 | Descriptives |			95% Confidence Interval	
---	---	---	---	---
Likert	Observed	Expected: Multinomial	Lower	Upper
a.Strongly Agree	3	5.200	0.636	7.840
b.Agree	4	5.200	1.133	9.066
c.Neutral	12	5.200	6.913	17.324
d.Disagree	6	5.200	2.333	11.348
e.Strongly Disagree	1	5.200	0.025	5.106	 *Note.* Confidence intervals are based on independent binomial distributions. *Chi-Square Goodness of Fit Analysis for Statement 25*
Q26	**Table 62** Multinomial Test ▼ 		χ^2	df	p
---	---	---	---
Multinomial	4.769	4	0.312 | Descriptives |			95% Confidence Interval	
---	---	---	---	---
Likert	Observed	Expected: Multinomial	Lower	Upper
a.Strongly Agree	1	5.200	0.025	5.106
b.Agree	6	5.200	2.333	11.348
c.Neutral	7	5.200	3.009	12.425
d.Disagree	5	5.200	1.704	10.231
e.Strongly Disagree	7	5.200	3.009	12.425	 *Note.* Confidence intervals are based on independent binomial distributions. *Chi-Square Goodness of Fit Analysis for Statement 26*

Q27	**Table 63** Multinomial Test ▼ χ^2 df p Multinomial 11.692 4 0.020 Descriptives Likert / Observed / Expected: Multinomial / 95% Confidence Interval (Lower, Upper) a.Strongly Agree 1 5.200 0.025 5.106 b.Agree 8 5.200 3.725 13.465 c.Neutral 7 5.200 3.009 12.425 d.Disagree 9 5.200 4.476 14.473 e.Strongly Disagree 1 5.200 0.025 5.106 *Note.* Confidence intervals are based on independent binomial distributions. *Chi-Square Goodness of Fit Analysis for Statement 27*
Q28	**Table 64** Multinomial Test χ^2 df p Multinomial 13.615 4 0.009 Descriptives Likert / Observed / Expected: Multinomial / 95% Confidence Interval (Lower, Upper) a.Strongly Agree 3 5.200 0.636 7.840 b.Agree 12 5.200 6.913 17.324 c.Neutral 6 5.200 2.333 11.348 d.Disagree 4 5.200 1.133 9.066 e.Strongly Disagree 1 5.200 0.025 5.106 *Note.* Confidence intervals are based on independent binomial distributions. *Chi-Square Goodness of Fit Analysis for Statement 28*
Q29	**Table 65** Multinomial Test χ^2 df p Multinomial 25.923 4 < .001 Descriptives Likert / Observed / Expected: Multinomial / 95% Confidence Interval (Lower, Upper) a.Strongly Agree 3 5.200 0.636 7.840 b.Agree 14 5.200 8.676 19.087 c.Neutral 8 5.200 3.725 13.465 d.Disagree 1 5.200 0.025 5.106 e.Strongly Disagree 0 5.200 0.000 3.439 *Note.* Confidence intervals are based on independent binomial distributions. *Chi-Square Goodness of Fit Analysis for Statement 29*

Q30	**Table 66** Multinomial Test 		χ^2	df	p
---	---	---	---
Multinomial	12.077	4	0.017 | Descriptives |			95% Confidence Interval	
---	---	---	---	---
Likert	Observed	Expected: Multinomial	Lower	Upper
a.Strongly Agree	5	5.200	1.704	10.231
b.Agree	11	5.200	6.072	16.401
c.Neutral	6	5.200	2.333	11.348
d.Disagree	4	5.200	1.133	9.066
e.Strongly Disagree	0	5.200	0.000	3.439	 *Note.* Confidence intervals are based on independent binomial distributions. *Chi-Square Goodness of Fit Analysis for Statement 30*

ANNEX VI

ANOVA Questions 4 and 21

Table 67

Repeated Measures ANOVA

Within Subjects Effects

Cases	Sum of Squares	df	Mean Square	F	p	η^2
Groups	0.692	1	0.692	1.220	0.291	0.022
Residuals	6.808	12	0.567			
Factor	6.409×10^{-31}	1	6.409×10^{-31}	7.325×10^{-31}	1.000	2.035×10^{-32}
Residuals	10.500	12	0.875			
Groups ✻ Factor	0.692	1	0.692	0.649	0.436	0.022
Residuals	12.808	12	1.067			

Note. Type III Sum of Squares

Between Subjects Effects

Cases	Sum of Squares	df	Mean Square	F	p
Residuals	13.577	12	1.131		

Note. Type III Sum of Squares

Repeated Measures ANOVA Analysis for Statements 4 and 21

Table 68

Descriptives ▼

Descriptives ▼

Groups	Factor	N	Mean	SD	SE	Coefficient of variation
Control	Level of extroversion	13	3.538	0.660	0.183	0.187
	Enjoyment of CL	13	3.308	1.251	0.347	0.378
Experimental	Level of extroversion	13	3.077	1.115	0.309	0.362
	Enjoyment of CL	13	3.308	0.630	0.175	0.191

Descriptives of ANOVA for Statements 4 and 21

Tukey Post Hoc Test for Repeated Measures ANOVA

Table 69

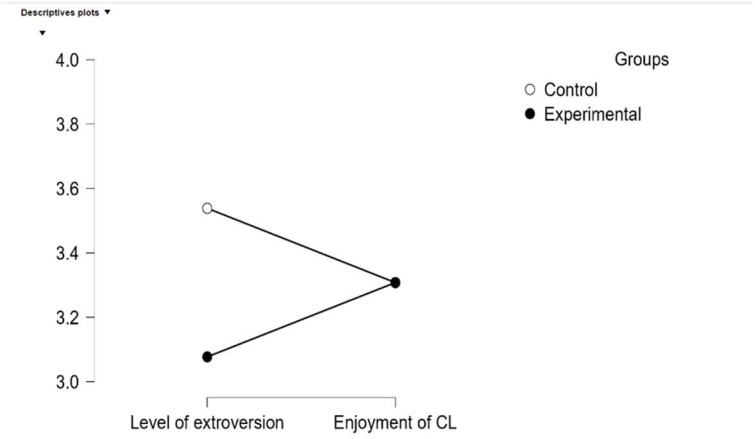
Post Hoc Comparisons - Groups ✻ Factor ▼

			95% CI for Mean Difference				
		Mean Difference	Lower	Upper	SE	t	P_{tukey}
Control, Level of extroversion	Experimental, Level of extroversion	0.462	−0.567	1.490	0.355	1.302	0.572
	Control, Enjoyment of CL	0.231	−0.882	1.343	0.387	0.597	0.932
	Experimental, Enjoyment of CL	0.231	−0.731	1.192	0.333	0.693	0.899
Experimental, Level of extroversion	Control, Enjoyment of CL	−0.231	−1.192	0.731	0.333	−0.693	0.899
	Experimental, Enjoyment of CL	−0.231	−1.343	0.882	0.387	−0.597	0.932
Control, Enjoyment of CL	Experimental, Enjoyment of CL	-4.163×10^{-16}	−1.028	1.028	0.355	-1.174×10^{-15}	1.000

Note. P-value and confidence intervals adjusted for comparing a family of 6 estimates (confidence intervals corrected using the bonferroni method).

Post Hoc Test for Repeated Measures ANOVA for Statement 4 and 21

Table 70

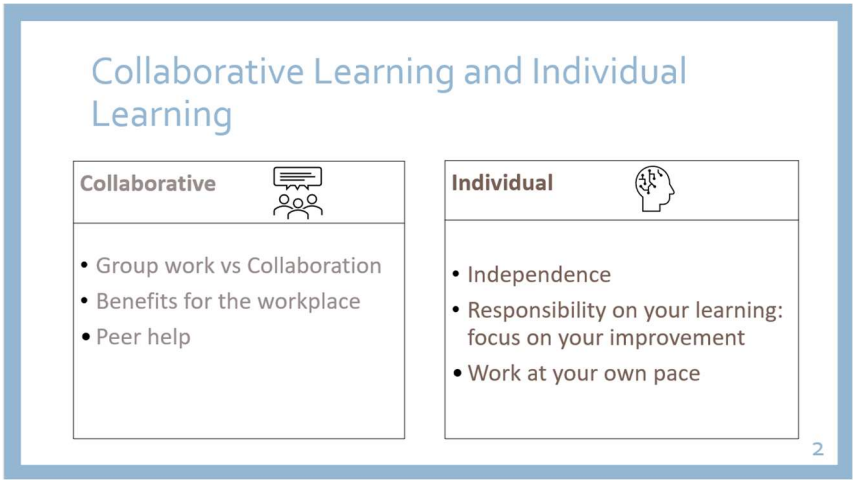


Descriptive Plots of Repeated Measures ANOVA Statement 4 and 21

ANNEX VII

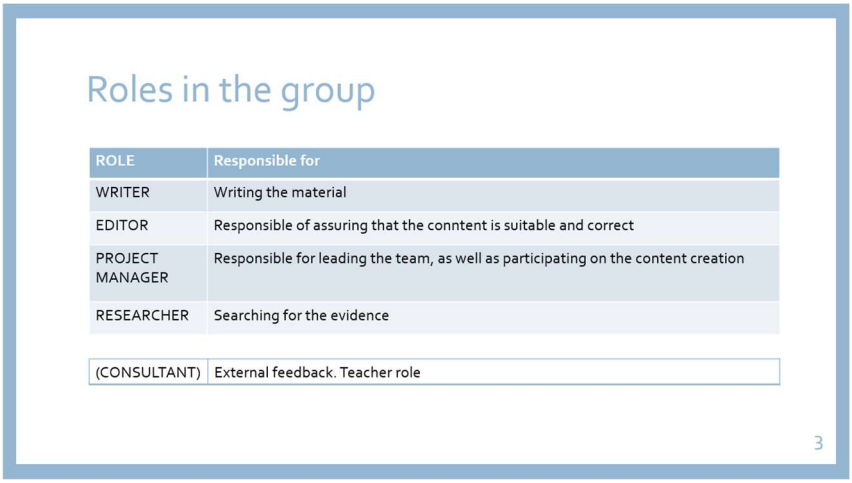
Slides of the PowerPoint

Figure 5



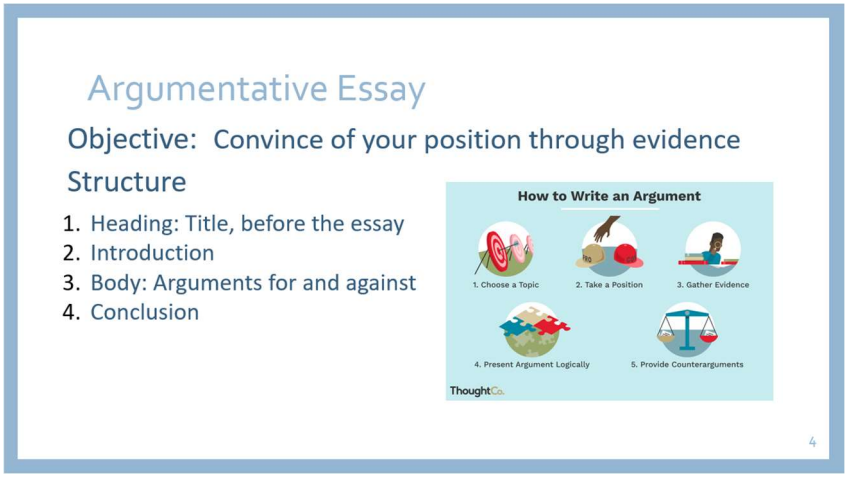
Slide 2 of the PowerPoint

Figure 6



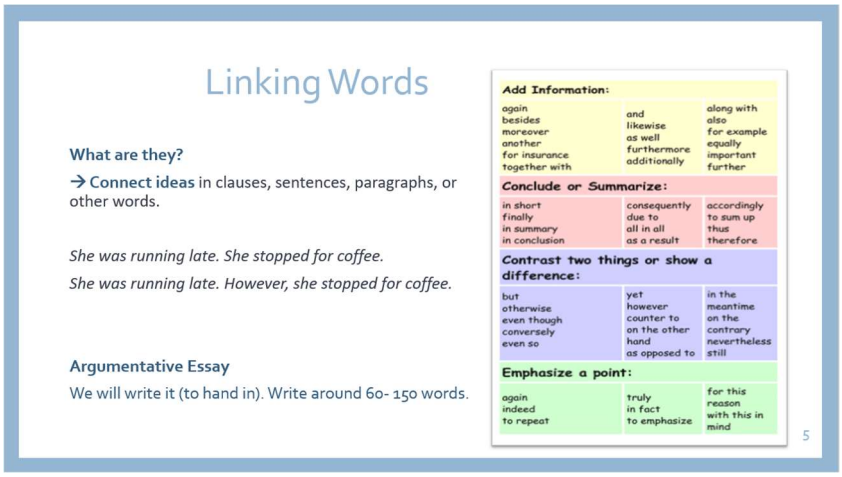
Slide 3 of the PowerPoint

Figure 7



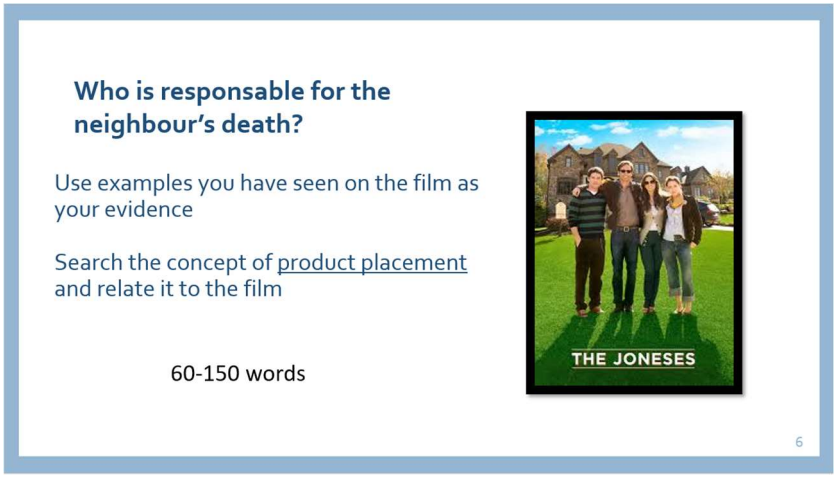
Slide 4 of the PowerPoint

Figure 8



Slide 5 of the PowerPoint

Figure 9



Slide 6 of the PowerPoint

ANNEX VIII

Consent form given to the participants

Full de consentiment informat

Títol de l'estudi: [1]

Dades de contacte de l'investigador principal:[2]
Grup de recerca, si escau:

Jo ..... [3] amb DNI .....

- He llegit el full d'informació al participant sobre l'estudi del qual se m'ha entregat una còpia.
- He pogut fer preguntes i resoldre els meus dubtes sobre l'estudi i la meva participació.
- Comprenc la meva participació a l'estudi d'acord amb allò expressat al full d'informació al participant sobre l'estudi i de les respostes a les meves preguntes, així com els riscos i beneficis que comporta.
- Accepto que la meva participació és voluntària i dono lliurement la meva conformitat per participar a l'estudi.
- Conec que em puc retirar en qualsevol moment de la participació a l'estudi sense que això em pugui causar cap perjudici.
- Estic informat sobre el tractament que es realitzarà de les meves dades personals.
- Dono el meu consentiment per a l'accés i utilització de les meves dades en les condicions detallades al full d'informació al participant sobre l'estudi.
  ☐**Sí** ☐**No**
- [4]Dono el meu consentiment per a la difusió de les meves dades personals junt amb la publicació dels resultats de l'estudi.
  ☐**Sí** ☐**No**
- Un cop finalitzada la investigació, és possible que les dades obtingudes siguin d'interès per a altres estudis relacionats. En relació amb això, s'ofereixen les següents opcions:

  ☐**NO autoritzar** l'ús de les seves dades en altres projectes d'investigació relacionats.

  ☐**SÍ autoritzar** l'ús de les seves dades en altres projectes d'investigació relacionats.

- [5]Un cop finalitzada la investigació, és possible que hi hagi mostra sobrant. En relació a aquestes, s'ofereixen les següents opcions:

  ☐La **destrucció** de la mostra sobrant.

[1] Del projecte de recerca, Tesi Doctoral, TFG o TFM. Si existeix, incloure també el codi o referència de l'estudi.
[2] Indicar les dades de contacte de l'investigador principal; nom, telèfon, correu electrònic i ubicació física.
[3] Indicar el nom i cognoms del participant.
[4] Només si en els resultats de l'estudi que es publicaran apareix el nom de les persones o dades que permetin identificar la persona, així com la seva imatge o la seva veu sense tècniques d'anonimització.
[5] Si no hi ha tractament de mostres biològiques es pot eliminar.

☐La seva **utilització en futurs projectes** d'investigació biomèdica relacionats amb el mateix tema

[6] I per expressar aquest consentiment, el participant signa en data ..... i lloc ..... aquest full de consentiment:

Signatura del participant .....

[7] I per expressar aquest consentiment, el representant legal del participant signa en data ..... i lloc ..... aquest full de consentiment:

Nom del representant legal.....

Relació del representant legal amb el participant .....

Signatura del representant legal .....

Projectes de recerca / Tesis doctorals / Treballs de Fi de Màster / Treballs de Fi de Grau de la URV

Informació bàsica de protecció de dades

Informació bàsica sobre protecció de dades (format tabular)

INFORMACIÓ DE PROTECCIÓ DE DADES PERSONALS	
Responsable	El responsable del tractament de les seves dades personals és la Universitat Rovira i Virgili amb CIF Q9350003A i amb domicili fiscal al carrer de l'Escorxador, s/n, 43003 de Tarragona.

[6] Si el participant pot prestar lliurement el consentiment utilitzar aquest redactat fins a la següent nota el redactat del qual es pot eliminar.

[7] Si el participant no pot llegir o escriure, és menor de 14 anys o per qualsevol altre motiu no pot prestar lliurement el consentiment és necessari que el seu consentiment el presti el tutor o representant legal. En aquest cas utilitzarem aquest redactat i eliminarem el corresponent a la nota anterior.

Finalitat	Participar en l'estudi del Treball Final de de Màster [8] en els termes que es descriuen al full d'informació al participant. En el cas que l'estudi prevegi la publicació, difusió i reutilització dels resultats obtinguts incloent dades personals, les dades personals seran utilitzades per a aquesta finalitat sempre que l'interessat hagi atorgat el seu consentiment.
Drets	Pot exercir els drets d'accés, rectificació, supressió, portabilitat, limitació o oposició al tractament, mitjançant un escrit adreçat al Registre General de la URV a la mateixa adreça del domicili fiscal o mitjançant la seva presentació al Registre General de la Universitat, presencialment o telemàtica, segons s'indica a https://seuelectronica.urv.cat/registre.html.
Informació addicional	Pot consultar informació addicional sobre aquest tractament de dades personals denominat *Treballs de Fi de Màster de la URV*.[9] i els seus drets al Registre d'Activitats del Tractament de la URV publicat a https://seuelectronica.urv.cat/rgpd on també s'hi pot consultar la Política de Privacitat de la URV. Així mateix, pot consultar aquesta informació al Full d'informació al participant sobre l'estudi. Addicionalment, pot adreçar als nostres delegats de protecció de dades qualsevol consulta sobre protecció de dades personals a la direcció de correu electrònic del dpd@urv.cat.

[8] Indicar "el projecte de recerca" en el cas que es tracti d'un projecte de recerca, "l'estudi de la Tesis Doctoral" en el cas que es tracti d'una tesi doctoral o "l'estudi del Treball Final de Grau o de Màster" en el cas que es tracti d'un TFG o TGM.

[9] Indicar en cursiva *"Projectes de recerca de la URV"*, *"Treballs de Fi de Grau o de Màster de la URV"* o *"Tesis Doctorals de la URV"* segons correspongui