FACULTY OF EDUCATION
DEPARTMENT OF EDUCATION AND SPECIAL EDUCATION

GREEK TEACHERS' PERCEPTIONS TOWARDS FLIPPED CLASSROOM METHODOLOGY

An analysis on teachers' reflections

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Master's thesis:	30credits
Programme/course:	L2EUR (IMER) PDA184
Level:	Second cycle
Term/year:	Spring/Autumn 2022
Supervisor:	Victoria Rolfe
Examiner:	Daniel Bergh

Abstract

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As of today, in greek state schools, traditional teaching, that sets the teacher as the focus of the classroom, has been the predominant method of instruction. However, the last years, especially in the wake of the COVID-19 pandemic and the new conditions it created, resulted in numerous teachers experimenting with student-centered teaching methods, such as the flipped classroom. The flipped classroom reestablishes the roles and dynamics in class by putting the students in charge of their learning, whilst setting the teacher as the observer and coordinator of the class. Since this teaching method is relatively new for greek standards, the peer reviewed bibliography referencing the greek setting is rather limited and it merely focuses on the student experience. This study investigates the reflections Greek teachers have on the flipped classroom methodology and explores the extent of its use in Greek classrooms. Following the Concern Based Adoption Model (CBAM), a phenomenological approach was selected with the assistance of semi-structured interviews of twelve teaching professionals in Greece. All the participants that were questioned, were registered as teachers in Attica region and had previous experience with flipped teaching. Throughout the interviews, three basic themes emerged in regards to the educators concerns of the flipped classroom's use as an alternative method and its effects on student focus and test score success; the possible outcomes on student motivation and class immersion, and finally the possibility of adapting it as a future sustainable method. Our analysis showed that with practice, targeted training and adequate guidance, teachers could attain a more positive perception of the FC and are more likely to incorporate it into their classroom. Furthermore, teachers that managed to overcome the initial struggles of adapting to this new method, appeared to use it on a more frequent basis and were adjusting it to their students' needs.

Key words: flipped classroom, student-centered learning, sustainability, teachers' concerns, student engagement

Acknowledgements

I would like to express my gratitude to my supervisor Victoria Rolfe for her support and recommendations along the dissertation. Also, I would like to thank Thomi and Fanis, who have helped me throughout the process with great patience and support and never stopped to motivate me when I needed.

List of Abbreviations

CBAM	Concerns Based Adoption Model
FC	Flipped Classroom
IC	Innovation Configurations
LoU	Levels of Use
SoC	Stages of Concern

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1. Introduction

The classroom teacher has regularly been shown to have the greatest impact on students' academic achievement (Marzano et al., 2001). Marzano (2010) gave instructors a variety of options for how to interest children in a class, but also advised them that there is no panacea for every student's understanding. Teachers must adapt techniques when needed as this is the art of teaching (Marzano, 2010).

One strategy used by some K-12 instructors to try and improve student achievement is the Flipped Classroom approach. A flipped classroom is one in which students are completing their learning at home through online means, instead of conventional homework (Horn et al., 2014). When they return to class, they have to use the knowledge they obtained at home and take part in teacher-guided activities and projects (Horn et al., 2014). One of the main reasons for flipping the classroom is to shift the focus away from the teacher and toward the students' learning (Bergmann & Sams, 2012). As a result, students cannot become passive learners in a flipped classroom (Houston & Lin, 2012).

According to Gannod et al., (2008), there are a plethora of benefits to flipping a classroom, especially with the current availability of internet resources, such as audio and video on nearly every subject. Students can study the material at their own pace and do homework inside the classroom. It is easier for teachers to customize and update the curriculum and make it available 24/7. Teachers who use the method report immense improvement in regard to student achievement, interest, and engagement. When a flipped classroom was attempted, teachers were able to communicate with struggling students and differentiate their instructions by not presenting content during class time (Gannod et al., 2008).

According to the results from Herreid and Schiller's (2013) survey, teachers supported a classroom flip to utilize the time inside the classroom more substantially, monitor the process of homework execution, allow for remote access to lectures and engage students more deeply in the learning experience. On a general note, the method "promotes thinking inside and outside of the classroom"(Herreid & Schiller, 2013).

Although there has been a plethora of studies on the international spectrum regarding the flipped classroom method and its application, this study will be specifically focused on Greece. It is important to underline that currently, Greek state schools use the traditional lectures as the main teaching method. In accordance, the bibliography examining the application of student-centred teaching methods in Greece is rather scarce and focused mainly on the student's perspective. This creates questions of how a country with such a traditional inclination in regards to teaching, could perceive a complete alternate form of learning that reverses the classroom roles.

This study aims to examine the reflections Greek teachers have about the flipped classroom methodology and explore the extent of its use in Greek classrooms. In order to approach this aim, the following three questions have been set to assist the attempt:

> RQ 1. What are teachers' perceptions and concerns regarding the Flipped Classroom methodology in Greek High Schools?
> RQ 2. What is the current Level of Use[1] of Flipped Classroom methodology in Greece?
> RQ 3. What are teachers' reflections about implementing and managing a flipped classroom in a Greek High School?

[1] As referred to the second pillar of the CBAM theory, known as "Levels of Use".

In the following chapters, a literature review of the flipped classroom will be presented. Subsequently, the theoretical framework and the methodology of this research will be conferred. The final chapters, Data Analysis & Results and Discussions & Conclusions will unravel the outcome of the study and the answers to the research questions posed by the researcher.

2. Literature Review

This chapter provides a literature review of the flipped classroom. First, a basic description of the traditional classroom will be provided. Then there will be a detailed examination of the Flipped Classroom Models and what they include. Following that, a comparison of the Flipped Classroom to the Traditional Classroom, the new Roles in the Flipped Classroom Model, and finally the challenges of a Flipped Classroom will be introduced.

2.1 Traditional classroom and New Era changes

2.1.1 Traditional Classroom: Historical Regression

The concept of official urban schools and universities, structured by age stratification, where students gathered in classrooms and were governed in time units, was an excellent choice for an industrial society at the turn of the century (Bates, 2014). According to Mitra (2013), this is the reason why classrooms bear such great resemblance to a basic Production Line; workers that receive the same training according to their position -or in this case, age, or grade- and are expected to acquire identical results.

Additionally, the structure of a classroom itself carries similarities with a factory, divided into multiple departments. The sectioning per class grade – department usually allows for a few dozen members. Students turn out a uniform package of crisp, identical detail and thought, judged according to universal quality assessment systems, and graded for value (Bleske, 2021).

2.1.2 Traditional Classroom Challenges and New Era Changes

A classroom could consist of between 10 and a few hundred students, mostly of the same age, that have already completed the previous educational prerequisites or are all simply just starting their educational journey. Traditional face-to-face classes are typically bound both in the classroom space and scheduled time, placing constraints on the types of interactions students and faculty can have and how learning develops. In order to help students develop higher-level cognitive skills through discussions, arguments, and resolution, face-to-face classes employ a case-based, writing-intensive approach (Warner, 2016). Warner (2016) specifically states: “I had organized the classes around writing papers on industry and firm topics drawing on information from a case packet on a single industry. I specifically forbade collaboration or conversation about the analysis. I believed this was the best way to assure the integrity of the educational process.”. But while he continued to have some students perform well in the writing and analytics of the courses, he found that more students were disengaging from the process. Dunn (2001) also suggests that collaborative learning is one of the most optimal methods for students to learn and understand Statistics.

These problems with face-to-face classrooms can be categorized into two basic pillars; pacing and time shortage. As far as lecture pacing is concerned, more advanced students tend to feel that the lecture is too slow while others face difficulties following along, in some cases, due to lack of prior knowledge.

In these cases, the latter perform poorly or fall behind on homework (Goodwin & Miller, 2013). Additionally, the time boundaries of a class often prevent or discourage complete participation and thus, lead to students disengaging and not understanding the material properly, while the teacher receives almost no feedback from their audience and cannot help in any possible questions the students might have on the material (Warner, 2016).

Technological advancements, though, have deemed the concept of a conventional classroom obsolete. The main goal of a school classroom nowadays is to distribute knowledge to the students, each through their preferred medium. Therefore, the ability of an individual to adapt and learn in their respective way is now taken into account.

A study of 100 first-year medical students in India showcases this theory. Specifically, during the first year of the medical curriculum, various teaching-learning methods such as one-to-one instruction, collaborative instruction (tutorials), experiential learning methods (lab practice), and independent study methods (self-study) were used to impart and acquire knowledge of the basic sciences. The most favored teaching-learning method among all the students was laboratory practice (39%), followed by lectures (32%), self-study (18%), and tutorials (11%). The female students showed a tendency to prefer lectures as a learning medium, whereas the male students preferred self-study or laboratory practice (Jang et al., 2016).

This preference became more apparent all around the world due to COVID-19 restrictions that affected both teachers and students. Since online tutoring was the only solution available, many teachers had to turn to different methods other than the use of course books in a physical location (Daniel, 2020).

2.2 The Flipped Classroom Model

A concept that seems to fit into the new reality of education, which has the ability to utilize all new sources of information that are readily available due to the evolution of technology, is the Flipped Classroom concept (Mitra, 2013).

2.2.1 Definition

A flipped classroom is one where students are getting acquainted with the learning material off-site. Instead of completing traditional homework at home, they are using online mediums to study. In class, they are expected to implement their knowledge by taking part in teacher-guided practice or projects. What differentiates the flipped classroom as a method is that the primary delivery of new content and instruction is happening online and not in the classroom by the teacher. (Horn et al., 2014).

2.2.2 History

The name was pioneered by two high school chemistry teachers in Colorado named Bergmann and Sams (University of Waterloo, 2015). In 2007, they discovered that students who did not attend the lecture, had substantial issues keeping up with the material that had been delivered. Bergmann and Sams (University of Waterloo, 2015) with the use of basic screen recording software, they managed to prepare the lecture beforehand and make it available via YouTube to utilize and distribute among the class.

The two teachers immediately realized that the mood in the classroom had shifted. Students arrived to class with a greater knowledge of the content for the day. Students were no longer passively receiving lectures during class. Instead, they observed more student involvement and discussion of the specifics of each session, as well as how the topic of the day related to prior lessons in the course (Faria Education Group & ManageBac, 2021).

Lage et al.'s (2000), 'Inverting the Classroom' is credited by Bergman and Sams for identifying the potential for this method. Specifically, Lage et al. (2000) stated that "Inverting the classroom means that events that have traditionally taken place inside the classroom now take place outside the classroom and vice versa" (Lage et al.,2000). Although there were not enough resources, tools, or expertise associated with 'inverting' around the turn of the century for it to gain popularity, by the time Bergman and Sams used this strategy, the concept had taken off. Since then, the flipped classroom concept has gained popularity among numerous schools to aid student's needs (Faria Education Group & ManageBac, 2021).

Khan (2011), previously employed as a financial analyst, in order to help his nephew with mathematics, began creating short YouTube videos, which after gaining popularity caused Khan to quit his job to pursue the Khan Academy, whose role has been to create numerous video tutorials in all kinds of disciplines (University of Waterloo, 2015).He demonstrates the value of interactive activities and encourages teachers to try flipping the usual classroom script, providing students with video lectures to watch at home, and having students do homework inside the classroom, while the teacher is there to assist them (Khan, 2011).

2.2.3 The Four Pillars of FLIP

There are four pillars that a Flipped Classroom consists of: Flexible Environment, Learning culture, Intentional content, and a Professional Educator (Faria Education Group & ManageBac, 2021).

A multitude of learning opportunities are feasible with flipped learning, so students can select when and where they want to learn. When looking at the four pillars that formulate a Flipped classroom, we can see that they stand: F for Flexible environment, i.e a multitude of learning modes feasible with flipped learning, so students can select when and where they want to learn. L is for Learning culture: The flipped learning model switches from the traditional teacher-centered model of education to a learner-centered approach, with in-class time devoted to a deeper exploration of topics and the creation of rich learning environments. I is for Intentional content: In order to embrace student-centered, active learning methodologies, educators utilize intentional content to maximize classroom time. P is for Professional educator: In a flipped classroom, the work of a professional educator is considerably more crucial, and often more challenging, than in a traditional one (Faria Education Group, & ManageBac, 2021).

2.2.4 Benefits

The flipped model puts more of the learning responsibility on the students while giving them greater freedom to experiment together in the classroom, by turning class time into an active workshop where students are encouraged to question, reflect, and experiment (University of Massachusetts Boston, 2016). Reviewing lecture materials before class gives students more time to reflect and absorb the content and thus, allows them to engage more deeply during class time and pose more meaningful questions to the tutor (University of Massachusetts Boston, 2016). One of the most important benefits of a flipped classroom is the feeling of community it helps build. Collaborative projects empower students to interact socially, allowing them to learn from and assist one another. This trait has been proven to be one of the most important qualifications a candidate must obtain to procure any high-level position in the modern world (University of Massachusetts Boston, 2016).

For most aspects of learning and teaching, the participants of a Flipped Classroom do not have to engage in simultaneous communication. Asynchronous working allows teachers to prepare learning materials more quickly and allows pupils to study at their own pace. Teachers do not need to provide a lecture at a predetermined time: it can be made accessible online whereas students can engage whenever they find it suitable for their schedules. This way, teachers are able to monitor the student participation and upon need or request make online appointments for students with particular needs or questions. Asynchronous learning provides both students and teachers with the freedom to personalize the lessons and tailor them to their needs. (Daniel, 2020).

In Khan's (2011) view, there is no need for students to be divided into grades by age. Instead, students should learn at their own pace, progressing to the next lesson only after mastering the previous one. A flipped classroom accommodates this view, allowing for as many revisions of the teaching material as a student needs to become familiar and comfortable with any concept. It is important to point out that this number may differ among students, proving that the Flipped Classroom method can be quite beneficial.

Arnett (2019), when interviewed, described these new forms of classrooms as highly successful among students. According to Arnett (2019), Modern Classrooms are highly differentiated. While some students learn faster, other students need some different kind of support to succeed. In Modern Classrooms, where instructional videos replace lectures, students advance at their own pace, whilst teachers can spend class time providing targeted support to those in need. Because students must demonstrate proficiency in each subsequent skill before moving on to the next, both teachers and students are always aware of how far each student has advanced. The teacher can observe the students that are being left behind and intervene, providing them with additional guidance. On the same note, the teacher will also notice the students that are already ahead and need additional challenges and respond accordingly. Teachers in Modern Classrooms can determine their students' needs and make decisions based on their progress, and what each of them needs to learn next.

2.2.5 Flipped Learning Tools

One of the most significant elements of a Flipped Classroom is the potential of learning through each learner's preferred medium. That could include all sorts of tutoring methods. The easiest practice to turn to is videos or podcasts of lectures, created by the teacher or even already available online (University of Massachusetts Boston, 2016). Similarly, a teacher may provide online articles or electronic readings for students to review before class. This way, the student not only tutors themself in a way they

understand, but also has the opportunity for a revision before meeting with the teacher to address any occurring difficulties or issues they encountered while studying (University of Massachusetts Boston, 2016). During class is an excellent time to discuss collaboratively with the tutor and have them provide exercises that will surface any misunderstandings or shortcomings on the material. Automatically graded online quizzes as a knowledge check can also achieve that beforehand (University of Massachusetts Boston, 2016). All the above elements can contribute to a rather fulfilling learning experience, where any issues surrounding applying the taught material can be addressed in real time rather than leaving behind a very confused and frustrated student that guesses the answer to a problem instead of understanding the concepts in depth (Goodwin & Miller, 2013).

2.3 Flipped Classroom Models

Now that a general description of the term "Flipped Classroom" has been provided it is time to analyze the term even further. With the flipped classroom approach, students engage more deeply with their learning, and even get the chance to cooperate with their peers to understand the material they are taught. Teachers now mainly focus on monitoring the classroom time, which is reserved for the activities traditionally taking place outside the classroom.

2.3.1 Standard Inverted Flipped Classroom

When discussing about the flipped classroom, most people tend to think of the Standard inverted flipped classroom. Material, usually online, is distributed among the students to be studied and thought through before class. In this way, they get the chance to prepare before the lecture, where they can apply their knowledge of the material while the tutor is present to solve any problems the students may encounter. In this way, students get to enjoy the learning process more and teachers can ensure everyone has a solid understanding of each topic, at all times (Joyner, 2021).

2.3.2 Discussion-Focused Flipped Classroom

For a discussion-focused flipped classroom, most of the times educational content is disseminated to the students beforehand. When in class, they utilize lecture time to discuss the topic, receive a multitude of different opinions on the subject and thus, acquire a diversity of viewpoints. This occurs, however, in a less formal setting than what a formal debate would be like. Applications of this approach are especially useful in subjects like history, English, politics, and art, where context is important, and questions may not have a straightforward or proper response (Joyner, 2021).

2.3.3 Debate-Focused Flipped Classroom

As the name suggests, a debate-focused flipped classroom includes learning the basics at home, in order for pupils to create a debate with their fellow classmates during class time. Debating has been shown to

increase student engagement while also enhancing learning outcomes. They can also strengthen the understanding of a topic by exposing some of the complexities and diverse points of view that exist within it. Furthermore, debates assist in the reinforcement of material learnt at home, resulting in increased knowledge retention (Joyner, 2021).

2.3.4 Micro-Flipped Classroom

A combination of a traditional and a flipped classroom create a micro-flipped classroom environment. This affords teachers more time to practice traditional lectures while also providing the benefits a flipped classroom offers. The benefits of the micro-flipped paradigm, according to a 2017 study (Borchardt & Bozer, 2017), include the fact that it is not subject-dependent and allows for more engaging classroom sessions. In this study, it was proven that in this sort of environment, students' grades improved by two points, with the benefits of its application increasing over time (Joyner, 2021).

2.3.5 Faux-Flipped Classroom

The issue of equal digital availability rose along with the flipped classroom's popularity. It is not necessarily safe to assume that all pupils have access to the required technology outside the class. Faux-flipped classroom is designed to address this. Although the core approach remains unaltered, the initial learning process takes place on school computers. Another variant includes student exposition to the course material during the start of the course for pupils to individually absorb the information. Students may also be required to use computers at school but must complete the work on their own time (Joyner, 2021).

2.3.6 Group-Based Flipped Classroom

Similar to a conventional flipped classroom, but with a greater emphasis on group activities, is the group based flipped classroom. This implies that students are divided into groups to work together to deepen their comprehension of the material. This way they can compete, while learning how to describe the material to someone else, improves their comprehension. Some teachers highlight the model's group dimension even more by incorporating teamwork components during the process of learning at home (Joyner, 2021).

2.3.7 Virtual Flipped Classroom

The virtual flipped classroom, as the name implies, follows the fundamental flipped classroom concept, with students first gathering material from online resources. The major difference is that any following lectures are conducted virtually. At times where attending a physical classroom is not viable, this can be very fruitful. Especially during the COVID-19 pandemic, teachers and students could utilize this model to benefit from the lack of physical presence (Daniel, 2020). This does not mean that hybrid

sessions cannot take place, but instead provides the opportunity to hold them on a regular basis or at agreed-upon intervals to allow teachers to monitor students' development more closely (Joyner, 2021).

2.3.8 Flipping the Teacher

A flipped classroom's material does not have to commence and conclude with the teacher. Students can use videos to apply their understanding as well. The tutor may assign practicing games to students to establish their competency or invite them to present a new topic as a way to "teach the teacher.", much like the debate and discussion based flipped classroom. This strategy has additional advantages, such as assisting in the development of technical skills and urging students to obtain academic experience, both of which can be beneficial to people interested in pursuing academic professions (Joyner, 2021).

The variety of model practices is truly astonishing. On occasion, tutors can choose to apply any model that would seem fit, whether it be more contextually focused, or more targeted to students with minimum access to technology, for whom the traditional model is not acquiring the desired results (Joyner, 2021).

"It is not a 'one size fits all' model", as Frydenberg states. He emphasizes that each classroom is unique, with varying degrees of technology access, student motivation, and instructor technological know-how. Teachers must also rediscover how to act as a "guide on the side" rather than a "sage on the stage", which takes time (Frydenberg, 2017).

Many experts agree that the flipped classroom is something worth trying, regardless of when the shift occurs. According to ASCD.org (Goodwin & Miller, 2013), 67 percent of 453 teachers who tried, noticed an increase in exam scores, with particular improvements for advanced placement and special needs students; 80 percent saw an improvement in student attitudes; and 99 percent said they would flip their classrooms again the following year.

2.4 Traditional Classroom versus Flipped Classroom

2.4.1 A Comparison between Traditional and Flipped Classroom

Although the corporate world has evolved, traditional learning transmission models continue to constrain pupils. If the flipped classroom can now convey the required concepts and information in a timely and high-quality manner, then perhaps we might reinvent our campuses as places of activity and experience directed by more participative experts arranged in more authentic ways (Reidsema et al., 2017).

Schell (2013) explains precisely what a flipped classroom is and how it differs from a traditional environment in its core. Specifically, in a traditional environment, students receive their first exposure to the content they are to learn inside the classroom, whereas a flipped classroom demands that the students are ready before the class. For example, in a traditional classroom, students are exposed to the Pythagorean Theorem inside the classroom, by the teacher. On the contrary, in a flipped classroom the students familiarize themselves with the material beforehand and practice applying the key concepts during class time, while also receiving feedback from their tutor. After class, students are free to further extend their learning and assess their understanding (Schell, 2013).

So contrary to the time management a traditional classroom entails, students absorb the content on their own time in a Flipped Classroom. They view video lectures and access their readings through a learning management system. The rest of the class time is spent interacting with one another and applying the concepts, either through question-and-answer formats or small group activities (University of Massachusetts Boston, 2016).

Traditional classrooms are mostly teacher-centered, which is in opposition to constructivist learning and teaching methodologies (Brooks, 2002). The Flipped classroom is based on the ideas of personalized-differentiated learning and student-centered instruction.: Each student learns at their own pace and all students can participate in interesting activities throughout class time, where the teacher's role shifts from facilitator to observer, allowing students to be more active. Its approach to learning is rather constructivist, since students are responsible for their own studying; class time is free of didactic lectures, allowing for a range of activities, group work, and interactive debate (Basal, 2015). In other words, students have a great variety of hands-on activities and thus a more meaningful learning is promoted (Rajesh, 2015).

2.5 New Roles in Flipped Classroom Model

The Flipped Classroom model requires that the teacher-student dynamic shifts in a way that better serves the students' needs regarding their understanding of the material they are to learn. In a traditional classroom, the teacher's role is not only to provide a consistent learning experience but also to involve all learners equally. Commitment is an interesting errand that requires a delicate balance, with a proportion of one facilitator to somewhere around 20 students (Solli et al., 2020). In a flipped classroom that is not the case, since every learner is free to choose the method in which they wish to learn the material beforehand, and thus, a more in-depth understanding is achieved.

2.5.1 New Teacher Role

The most crucial factor in flipped classroom approach is the role of teacher (Bergmann & Sams, 2012). The educator's role now includes creating an environment where the learning experience heavily relies on a line of questioning, to discover where pupils' insecurities about the understanding of the material lie and correct any potential misunderstandings (Bergmann & Sams, 2012). Instead of being the ones who carry the responsibility for the transferring of knowledge among the class members, teachers now become a guide to ease the learning experience (Johnson & Renner, 2012). Once the necessity arises, they are available for a one-on-one chat with every student, to address any issue they may encounter while practicing on the curricula (Cohen & Brugar, 2013). When experimenting with the Flipped Classroom model, teachers may find out that not the same method of tutoring is fruitful for every student. It is crucial then, that they individualize the material that a student is provided with, so as to achieve the best understanding for every single member of their classroom (Schmidt & Ralph, 2016).

The technological evolution that has taken place in the last decades is a priceless tool to support this effort. The software and equipment that may be provided for a teacher definitely add to the possible teaching methods that would suit a student and therefore, make the application of the new concepts that much easier. Additionally, this equipment may aid in the testing effort during class time, when students have the chance to apply what they have learnt and discover their weaknesses in the material (Fulton,

2012). In some of the models described earlier, the active participation of students during the lecture is the key element of their knowledge acquisition. Intriguing their interest and sparking any discussion and/or debate inside the classroom space is a responsibility of the respective teacher. Their role is now also creating interactive discussion conditions and increasing student participation (Halili & Zainuddin, 2015).

Finally, a role most teachers have already acquired even in traditional classrooms is the one of circulating the important material for a class. In a Flipped Classroom model, the material should of course be more extended to allow for students to self-teach, but the entire process is something familiar (Bishop & Verleger, 2013). Since they are the ones to judge whether the class is comfortable with it and have reached a clear understanding, they are to provide feedback by using pedagogical strategies (Nolan & Washington, 2013).

2.5.2 New Student Role

Albeit not as crucial, the role of the student changes even more drastically in a Flipped Classroom. They transform from passive receivers to active promoters of knowledge (Ozdamli & Asiksoy, 2016). The first change a student must integrate is being the one that tutors. Simply put, students are now in charge of taking their own learning responsibilities (Bergmann & Sams, 2012). This includes watching the tutoring videos or reading about the concepts included in the curricula and preparing for testing this material during the next day's testing period (Halili & Zainuddin, 2015). Clearly, their new role does not call for them to fathom what they are taught in the time specified by the school lecture duration, but they can learn at a pace that they are most comfortable with (Ozdamli & Asiksoy, 2016).

In the Flipped Classroom models that require conversation among peers, students are responsible for managing the discussion, giving, and receiving feedback, and interacting with the teacher to ensure that the conversation is not steering off topic or procuring inaccurate information to the crowd (Tucker, 2012). It becomes apparent that there are several shifts that need to take place for a classroom to be considered flipped. These shifts are a team effort, since the real absorbency of information happens inside the classroom, with the students in charge of the learning process and the teacher as a guide, a coordinator of sorts to advise and provide feedback.

2.6. Challenges of a Flipped Classroom

According to Warner (2016), there are two basic potential challenges in flipping a classroom. The first would be planning the class's architecture, or how it could be organized to allow for the breadth and depth of inquiry the tutor considers adequate. The second issue would be making the debates taking place interesting and in-depth (Warner, 2016).

For a flipped-classroom lecture, the instructor must create or locate video tutorials for students to watch outside of class. In addition, the instructor must create in-class learning activities. While the preparations for the first time a flipped course will take place will require time and effort, a tutor will most likely be able to reuse these resources when they teach the course again. In short, it will be a large time investment at first, but it will most likely be recovered through subsequent offerings of the course (University of Waterloo, 2015).

The amount of content a teacher can cover in a Flipped Classroom is definitely less than in a traditional classroom. This, however, is a tradeoff; the content that is indeed taught is understood more in depth by the students, even if less material is covered. Their solid understanding of what they have been taught provides them later on with the ability to independently tutor themselves the rest of the material. A larger classroom, also, limits a teacher more than a small, interactive group of people, regarding the in-class learning they can implement. Nonetheless, there are numerous ways to engage students in a Flipped Classroom concept, even when the number of students is quite large.

Finally, students' attitudes play a key role in making a change towards a Flipped Classroom. That could either imply they will not study the material before the lecture, or disagree with the change entirely, since passively listening to a lecture is less intimidating than being actively involved in a class. In the first case, tutors should not teach the material again. Once the students realize they can no longer follow the flow of information, they will start to come to class more prepared. Students disregarding the idea of a Flipped Classroom entirely would be a major issue, but teachers state that after students have experienced it, students tend to prefer it over traditional lectures (University of Waterloo, 2015).

A flipped classroom can be difficult at times, but it's nothing compared to what we assume it's like to be suddenly confronted with a room full of students who are ready for intellectual combat, Reidsema et al. (2017) state "We can be confident that many of our students will arrive with clear expectations that their efforts will be rewarded, as we have urged that they take responsibility for their learning" (Reidsema et al., 2017).

2.7 Flipped classroom in the Greek setting

Plota and Karalis (2019) state that pedagogy is a relatively new and developing scientific topic in Greece (pp.54). As of today, most instructors in Greek state schools presently employ conventional teaching, which is defined by the teacher's passive transfer of theory, little or no peer interaction, and textbook instruction (Rigoutsou, 2018). Methods like the flipped classroom approach have not been yet thoroughly examined in the Greek school setting.

Nonetheless, Gariou-Papalexiou et al. (2017) researched the flipped classroom as a supplement to school-based remote learning in the Greek high school setting. Their conclusions referred to the advantages and disadvantages of flipped classroom implementation in Greece. According to their findings, the flipped classroom had a significant impact on in-class time management, and the pupils' cognitive demands were efficiently detected and addressed. Furthermore, the approach enabled students who wanted to learn more about a given subject and raised the level of student engagement and active participation in the educational process. Moreover, the students with learning difficulties showed a particular interest in the use of digital technologies and were adequately engaged in both remote learning and in-class activities. On the last note, however, the study underlines the issues that could emerge and possibly overburden the teachers in their attempt to implement a flipped classroom session such as the additional time and effort required to prepare a flipped learning environment.

Likewise to the previous study, Plota and Karalis (2019) researched the implementation of the flipped classroom and its benefits to the students but this time, in the Greek University setting. They concluded that even though most students were not required to attend lectures, the use of a flipped classroom methodology increased the participation rate three times higher than those seen in previous years when the course was presented in the traditional manner instead. In addition, the FC approach rose the overall satisfaction ratings of the students as indicated by the questionnaires. Overall, they concluded that this

technique helped students understand the course subject better, increased their active engagement, and improved their critical thinking skills.

3. Theoretical Framework

It has always been necessary to evaluate teacher practices and show appreciation for teaching in order to provide better activities and pedagogy that promote students' learning and educational successes (Matar, 2017). The use of flipped classroom as a teaching methodology in Greece is overall limited and as result, research studies have paid less attention to evaluating the amount of use and perceptions of flipped classroom practices and activities among Greek faculty members. Thus, it was necessary to research faculty members' concerns in order to have a better knowledge of their existing attitudes and practices regarding flipped classroom. In order to examine the use of flipped classroom methods, several techniques and methodologies are accessible; nevertheless, “Concern Based Adoption Model (CBAM) has been referred to in many research works as a framework capable of offering diverse instruments for assessing the use of educational tools and their effect and influence on teaching practices (Matar, 2017). In this chapter the Concern Based Adoption Model will be described. Specifically, the stages of Concern, Levels of Use and Innovation Configurations. Then the research design and rational will be presented which contain the research questions and the conceptual framework for this study.

3.1. Concerns Based Adoption Model (CBAM)

The Concerns Based Adoption Model (CBAM) is the most solid and empirically-based theoretical model for creating academic innovations that emerge from educational research and describes the process of change that instructors go through while trying to incorporate new curriculum materials and instructional techniques and the concerns that arise during this procedure (Anderson, 1997).
CBAM originated in the early 1970s when Fuller's model was expanded into the concerns-based adoption model, or CBAM, which has since been widely used to implement educational advances in general (Newhouse, 2001). CBAM arose during the golden era of what was referred to as "the innovation-focused" approach to educational change, when only discrete innovations or technological advancements were accepted modifications to school curricula and teaching techniques, with the ultimate goal being the teaching and student learning in the affected curriculum areas and classrooms improvement (Fullan, 1985).
CBAM is founded upon several hypotheses about curriculum and instruction change in the classroom: (1) Change takes time, it is not a single event, (2) change involves separate individuals that simultaneously commit to it, (3) change involves skill development and personal growth; and (4) change can be aided by interventions targeted for the individuals, technological innovations, and settings involved. These hypotheses are merged into CBAM’s basic stage pillars; Concern, Levels of Use, and Innovation Configurations (Anderson, 1997). These distinct techniques (SoC, LoU, IC) can be used separately or sequentially for measuring the application of innovation in educational contexts (Matar, 2017).

3.1.1 Stages of Concern (SoC)

The Stages of Concern framework highlights a teacher's sentiments and motives concerning a change in curriculum and/or instructional practices at various stages of implementation (Anderson, 1997) as illustrated in Table 1.

Table 1: Stages of Concern (Anderson, 1997)

Stages	Category	Description
Stage 0	Awareness	The teacher is either unaware of or uninterested in the change.
Stage 1	Informational	The instructor wants to understand more about the innovation and the ramifications of putting the innovation into practice
Stage 2	Personal	The teacher displays significant concerns about their competence to make the change, the change's appropriateness, and the personal costs of participating
Stage 3	Management	The teacher begins to experiment with implementation; at this step, the instructor's concerns about the logistics and new behaviors related to implementing the change become more intense
Stage 4	Consequence	Concerns among teachers are mostly focused on the impact of the shift on pupils in their classes, as well as the potential for altering the innovation or their usage of it to better its impacts for modifying the innovation or their use of it to improve its effects.
Stage 5	Collaboration	Reflects a teacher's desire to collaborate with other teachers in the school to increase the advantages of change implementation for kids by working together
Stage 6	Refocusing	The teacher is considering making significant changes to the innovation's use or even replacing it with something else

The stages of concern are idealized in CBAM theory as a developmental continuum in which instructors exhibit diverse levels of concern throughout all seven stages at various moments in the change process. A teacher who is just learning about a change but has not started implementing it is more likely to be concerned about Awareness, Information, and Personal issues than Management and Consequence issues (Anderson,2017). The Stages of Concern model depicts a possible, but not required, the evolution of teacher worries regarding a change. Not all instructors adapt to new techniques in response to Consequences, Collaboration, or Refocusing issues (Anderson,2017).

3.1.2 Levels of Use (LoU)

The CBAM Levels of Use framework focuses on a generalization of instructional behaviors, before and during a classroom shift and the expertise acquired from this shift. Key decision points and accompanying behaviors in numerous areas characterize progression from one level to the next: obtaining information, assessing, sharing, planning, status reporting, performance, and knowledge (Anderson, 1997), which is shown in Table 2.

Table 2: Levels of Use (Anderson, 1997)

Levels	User Behavior	Description
Level 0	Nonuse	Reflects a situation in which the instructor is unaware of the change and has no intentions to apply it
Level 1	Orientation	The instructor decides to learn more about the change before deciding whether or not to apply it
Level 2	Preparation	The teacher is actively planning to make the change in the classroom but has not yet started doing so.
Level 3	Mechanical	The teacher begins to alter his or her approach. The instructor is now dealing with the practicalities of implementation (for example, lesson preparation, classroom management, and record-keeping) as well as the development of new teaching abilities
Level 4	Routine	The teacher creates a pattern of regular usage and makes minimal alterations and adaptations in the application of the invention.
Level 5	Refinement	Changes in innovation usage are driven by students
Level 6	Integration	Teachers in this state work together with other teachers to improve implementation for the benefit of their pupils
Level 7	Renewal	They feel the need to make a major change in the innovation and/or to explore alternative practices

The CBAM Levels of Use schema, like Stages of Concern, illustrates a conceivable, but not required, developmental phase in teacher behaviors centered on the implementation of a specific change in practice. Teachers frequently participate in Orientation activities in order to learn about potential approaches, but they do not endeavor to put everything they read or hear into practice (Anderson, 1997). For a variety of reasons (e.g., poor curriculum fit, difficulty to cope with disturbance of established routines, lack of adequate help, conflicting priorities), teachers may opt to quit new practices while they are still at the Mechanical level of usage. Teachers who reach a routine level of usage in establishing new practices are more likely to stick with such practices rather than actively explore improvements for the kids' benefit (Anderson, 1997).
The degree of use to which a teacher goes in implementing a change is determined by the interplay of several factors, for example. Teacher norms, innovative features, implementation aid, time and experience with implementation, and administrative pressure and support are all examples of factors to consider. Two tests were created by the initial CBAM researchers to assess a teacher's level of usage in implementing a classroom reform. (Anderson, 1997).

3.1.3 Innovation Configurations

The CBAM concept of Innovation Configurations (IC) evolved from the observation that teachers rarely apply the same concept in the same way. The activities the teachers described have sparked debates over the years on whether they were accurate representations of the desired advances. Thus, the concept of ICs came to describe all different versions of these particular advances in practice for different teachers (Anderson, 1997).

An Innovation Configuration Component Checklist is the key to measuring an IC. An IC Component Checklist identifies key behavioral components of a change (e.g., questioning techniques, material use, grouping, teacher role, and evaluation procedures) as well as possible variations in how teachers implement the behaviors associated with each component (e.g., using teacher-developed materials, uses commercially developed materials, or uses a combination of teacher and commercially developed materials) (Anderson, 1997). Different teachers implementing the same innovation will commonly have different configurations of use (Anderson, 1997).

3.2 Research Design and Rationale

3.2.1 Research Aim and Questions

This study aims to examine the reflections Greek teachers have towards the flipped classroom methodology and explore the extent of its use in the Greek classrooms.
The following questions are used to address these aims:

RQ 1. What are teachers' perceptions and concerns regarding the Flipped Classroom methodology in Greek High Schools?
RQ 2. What is the current Level of Use[2] of Flipped Classroom methodology in Greece?
RQ 3. What are teachers' reflections about implementing and managing a flipped classroom in a Greek High School?

Teachers' perspectives on adopting the flipped classroom at the high school level in Greece were the major phenomena of this qualitative research study. The goal of qualitative research is to answer questions in order to reveal the subjective meanings, behaviors, and social circumstances of study participants (Fossey et al., 2002).

3.2.2 Conceptual Framework

At this point of the study, we are going to use the Stages of Concern (SoC), Levels of Use (LoU), and Innovation Configurations (IC) tools to form interview questions in order to bridge them through a conceptual framework with the research questions and provide a description of the alignment, illustrated in Table 3.

[2] As referred to the second pillar of the CBAM theory, known as "Levels of Use".

Table 3: Phases 1-3 of the Conceptual Framework

Phase	**Interview Questions**	**Tools**	**Research Questions**
1	Describe your knowledge of the flipped classroom	SoC	RQ 1. What are teachers' perceptions and concerns regarding the flipped classroom methodology in Greek High Schools?
	Do you have any concerns regarding this method?	SoC	
	Explain your perceptions about the flipped classroom methodology?	SoC	
2	Have you made any changes in regards to your teaching methods in order to incorporate a student-centered approach?	LoU	RQ 2. What are the current Levels of Use of Flipped Classroom methodology in Greek High Schools?
	What do you see as the strengths and weaknesses of this method?	LoU	
	Have you attempted to use it in your classrooms?	LoU	
	What are the effects of a flipped classroom, in your opinion? How did you come to this conclusion?	LoU	
	What intentions do you have for the utilization of FC as we get closer to the end of the year?	LoU	
	Are you considering making substantial changes to replace traditional teaching?	LoU	
	During social distancing, have you implemented it, and if yes how often? How was the experience?	LoU	
3	Explain how you perceive the flipped classroom's implementation as a teacher alternative.	IC	RQ 3. What are teachers' reflections about implementing and managing a flipped classroom in a Greek High School?
	What are your thoughts on managing a flipped classroom?	IC	
	Would you identify it as a sustainable method of teaching?	IC	

4. Methodology

This chapter gives an outline of the research methods used. To begin, a brief explanation of the aim of the study will be presented. Then the argument for using a phenomenological methodology, namely Interpretative Phenomenological Analysis (IPA), will be provided. After that the sampling strategy used, the study instrument utilised, the interview procedure, ethical issues, sustainability, and lastly data analysis will all be discussed.

4.1 Aim of Study

The goal of this research was to develop a phenomenological knowledge of how Greek instructors perceive the flipped classroom methodology. This was accomplished through gaining a detailed description of individual experiences, as well as an examination of their degree of utilisation and thoughts on the flipped classroom.

4.2 Phenomenology Research

In his famous work, Critique of Pure Reason, the philosopher Kant (2020) developed the term phenomenology to distinguish between mental representations of objects understood as things in themselves and objects understood on the basis of experience (empirical knowledge) (Parodi, 2008). The word phenomenology is Greek in origin, and one of its definitions is “apparition or manifestation”.

The mathematician Husserl is regarded as the "father" or "chief figure" of the phenomenology approach (Padilla-Díaz, 2015). He disagreed with the notion that things in the external world exist freely and that knowledge about them is reliable. Anything outside of present experience must be neglected in order to arrive at certainty, and the external universe is therefore limited to the contents of personal consciousness. As a result, realities are viewed as pure "phenomena" and the sole absolute facts with which to start. Husserl invented the term "phenomenology" to describe his philosophical technique, which he defined as "the study of pure "phenomena." (Eagleton, 1983).

For this study, the phenomenological approach is used which is the best strategy to fully describe a person's lived experience of an event or experience in detail (Mapp, 2008). Lastly, it is important to state that the Phenomenology approach is in fact a qualitative educational research design (Creswell, 2013).

4.3 Sampling

4.3.1 Recruitment procedures

After receiving consent from my thesis supervisor, I began recruiting volunteers. I contacted the Pedagogical Institute through the Ministry of Education, explaining the study's goal while stating the research subject and the participation criteria. As a means of communication, I provided an email address and a phone number. The Pedagogical Institute provided me with a list of potential high school teachers who have some form of experience in the flipped classroom methodology. Then a recruitment email was sent to them stating the research subject, the participation criteria, the estimated interview time commitment, and the confidentiality mechanisms. To those who replied, a time and place for the interview were supplied and the participant consent form (Appendix A) in order for them to sign it beforehand.

4.3.2 Participants Selection Criteria & Sample Size

In this study, non-probabilistic purposive sampling was used. Individuals were chosen based on specified criteria relevant to a certain study goal (Guest et al., 2006) so participants were required to meet all the following conditions in order to be considered:

1. In-service teachers (of any discipline) who teach in the Attica area in Greece.

2. Teachers who have used the flipped classroom methodology at some point in their career.

3. Teachers working in areas of Attica with different socioeconomic levels.

The size of purposive samples is often dictated by the concept of "saturation" (Guest et al., 2006). Even though the idea of saturation is very valuable on a theoretical level it provides little guidance for researchers to establish the correct sample size before they emerge with the data collection, which is very critical for high-quality research (Guest et al., 2006). Guest et al (2006) concluded while researching that to reach the point of saturation twelve interviews are needed (p. 79). As a result, to explore teachers' perceptions of flipped classrooms in Greece, twelve people will be interviewed via semi-structured interviews.

4.4 Data Collection Instrument: Semi-structured Interviews

The semi-structured interview (SSI) includes a mix of closed- and open-ended questions, frequently supported by follow-up why or how inquiries, and is conducted in a conversational manner with one responder at a time. Rather than following slavishly to verbatim questions as in a structured poll, the conversation might wonder about the agenda's subjects and dig into completely unexpected issues. They are more relaxed and engaging and seldom last more than an hour to avoid exhaustion for both the interviewer and the respondent (Newcomer et al., 2015).

For the purpose of this research, the semi-structured interview method was selected in order to build rapport with the subjects and to delve into secondary topic areas from the teachers' lives that may inform their pre-reflective understandings of the phenomena (Lauterbach, 2018). Semi-structured interviews are ideal if you need to ask probing, open-ended inquiries and want to know each person's particular ideas on issues that your respondents may not be open about if they are in a focus group with their colleagues (Newcomer et al., 2015).

4.4.1 Procedure

I decided to proceed with the interviews at the teachers' individual workplaces. My goal was to incorporate a familiar setting into the interview process that would make them less stressed and more open to my questions. In the beginning, I thanked all the teachers for their participation in my research before I asked them to tell me a few things about themselves. Then I described the study's goal and addressed any questions the interviewer had, as well as received the completed written consent form (Appendix A). In total twelve interviews took place in various high schools in Attica, Greece in areas with different socio-economic levels. On average, the interviews lasted 56 Minutes. All Interviews were completed in one attempt and were conducted in Greek for the sake of effective communication with the participants, while I, later, translated all the transcripts in English.

4.4.2 Ethics

In order to maintain ethical integrity, each of the ethical principles (Beneficence and non-maleficence, Informed consent, confidentiality and anonymity, Authenticity of data, gaining permission to proceed) were addressed at each and every stage of the study process (Walker, 2007). All participants were given a letter that defined the purpose of the experiment and indicated options they may take if they felt harmed during the procedure, which they signed. The agreement stated that a participant might opt out of the study at any time. As the researcher, I followed the rules of confidentiality and kept all data in a secure encrypted location. Regarding anonymity from the start of the project, participant information was coded with a pre-selected pseudonym, and I made sure that no other identifiers were used after that.

4.5 Sustainability

Many scholars agree that how cultures educate the next generation is critical to long-term sustainability (Samuelsson & Park, 2017). Sustainability in education necessitates the development of responsibility in educational systems, institutions, and educators — that is, the ability to face the challenge and opportunities that sustainability brings (Sterling & Orr, 2001). Sterling and Orr (2001) argue that a paradigm shift in education is needed which is a cultural transformation in the way we view education and learning, not just a simple 'add-on' of sustainability concepts to the curriculum.

According to Sterling and Orr (2001), for education to be sustainable implies the use of four descriptors:

- Sustaining: It contributes to the long-term survival of individuals, communities, and ecosystems.
- Tenable: Working with integrity, fairness, respect, and inclusivity, is morally defensible.
- Healthy: It is a viable system in and of itself, embodying and nourishing healthy interactions and emergence at many system levels.
- Durable: it works well enough in practice to be able to keep doing it.

Chen (2021) paraphrasing Hays and Reinders (2020) defines sustainable education as "formal and informal education and professional development that is constantly renewed, including concepts and goals of sustainability into design and delivery, and educating in ways that encourage sustainable learning" (p. 3). It is less regimented and "fixed" than traditional schooling, and it is more spontaneous and responsive.

Sustainable learning in education (SLE) is a teaching and learning doctrine that can be achieved through the concept of "learning to learn," which is similar to lifelong learning (Chen, 2021). In the flipped or inverted classroom (FC), students are in charge of their learning (Bergmann & Sams, 2012). They conduct various tasks at home with the professor's assistance, which substitutes for typical lectures by the professor (Akçayır & Akçayır, 2018). An important aspect of flipped classrooms is their use of sustainable educational technology such as e-learning which is an excellent, long-term learning solution for teachers under present and future conditions (Ionescu et al., 2020). E-learning made a significant impact in education when due to COVID-19 many schools around the world had to close temporarily to prevent new epidemics (Chen, 2021). According to the United Nations' 2030 Agenda for Sustainable Development's core sustainability goals (Goal 4) equal access to high-quality education is paramount (UNESCO, 2020). As Chen (2001) stated:

Teachers are crucial in this regard, since teacher engagement and authorization, motivation, and support in a system with appropriate resources are required for long-term educational sustainability" (p. 13).

4.6 Research Validity

I chose data analysis procedures that were in line with Robson and McCartan (2016) descriptions of researcher activities in order to pursue validity in my studies. These were peer debriefing and support and member checking. Peer Debriefing and support: My thesis advisor provided me with balanced perspectives through our weekly sessions and discussions. These sessions helped me evaluate the study in a more objective and critical light, as well as recognize and resolve its flaws. As a result, it assisted me in reducing researcher bias. Members checking: When I was unsure what a participant meant, to confirm my interpretation I contacted them in order to ask for feedback. Also, I provided the subjects with material such as narratives, interpretations, and themes that emerged from the data analysis in order to assert the validity and reduce further the research bias.

4.7 Data Analysis

The phenomenological data analysis model proposed by Colazzi (1978) reveals conceptual patterns and summarizes the method I used to prepare for my study. My data analysis plan was guided by the stages below:

1. Transcribing all of the subjects' descriptions: In this phase of the analytic process, all participant's records are transcribed from the audio-taped interviews (Colaizzi, 1978).

2. Any assertions made by participants in their narratives that are directly related to the topic under inquiry are deemed significant: Significant statements are collected and numbered from each of the statements.

3. Creating pre-determined meanings: At this level of analysis, Colaizzi (1978) recommends that the researcher strive to generate more broad interpretations for each major remark extracted from the participant's narratives.

4. Theme clusters are formed by combining stated meanings: According to Colaizzi (1978), the researcher allocates formed meanings into similar-type categories.

5. Creating an extensive description: A comprehensive description is created by combining all of the researcher's theme clusters and related defined meanings (Colaizzi, 1978).

6. Identifying the phenomenon's fundamental structure: The basic structure refers to a careful investigation of the full description of the occurrence that reveals "the substance of the experienced phenomenon as disclosed by explanation."

7. Participants will be contacted for confirmation: A follow-up appointment is organized between the researcher and the participants to validate the content of the phenomenon.

5. Data Analysis & Results

The purpose of this study was to find out how teachers perceive the flipped classroom methodology in Greece. The lack of existing studies and literature addressing this occurrence piqued my attention, so I decided to look at this further. The study was designed using a qualitative approach. Data collection and analysis were guided by phenomenological research methods and the end product is a synthesis of teachers' viewpoints that offers a profound insight into their experiences. Furthermore, I devised a research framework based on three key questions to investigate how teachers perceive and interpret the flipped classroom methodology:

1. What are the teachers' perceptions and concerns regarding the flipped classroom methodology in Greek High Schools?
2. What are the current Levels of Use of Flipped Classroom methodology in Greek High Schools?
3. What are teachers' reflections about implementing and managing a flipped classroom in a Greek High School?

In this chapter, the data analysis framework and results will be presented which are based on information gathered through a total of 12 interviews with teachers at various schools in the Attica area.

5.1 Summary of Participants

The results of this study were developed through data collected from 12 face-to-face, semi-structured interviews with teachers from local schools, in the Attica region. As a criterion for the sampling, All the teachers had previous experience with the flipped classroom method.

The group of **6** males and **6** females, all between the ages of 20 and 62, proved to be a good mix of demographics. Five of the individuals taught STEM sciences, six Linguistics (Philology, literature, History, etc.), and one taught Sociology. Three out of four participants' highest academic qualifications achieved was a bachelor's degree and one out of four had a master's degree. Figure 3 shows the sample's frequency statistics and demographics of the participants.

Figure 3: Sample's frequency statistics and demographics

Sex	
Male	**6**
Female	**6**
Age	
20-30	**1**
31-41	**3**
42-52	**5**
52-62	**3**
Teacher Specialty	
STEM Sciences	**5**
Linguistics	**6**
Sociology	**1**
Highest academic qualification achieved	
Bachelor	**9**
Master of Science	**3**

5.2 Participant Narratives

Participant A is a 44-year-old, male, Mathematics teacher, in the Kifissia area, one of the wealthiest areas of Attica. He holds a Bachelor's and a Master of Mathematics and has been well acquainted with the Flipped Classroom, since the last four years he has been using FC frequently in all of his classrooms. He believes that the prolonged quarantine during the COVID-19 outbreak, that brought learning to an online environment, has been a great opportunity to focus on different teaching mediums and methods. He believes in the democratisation of education, in which all students express their voices, and considers the flipped method the medium to achieve that. He asserts, *"In a flipped learning environment, the students can learn at their own pace, familiarise and experiment with the learning material and become more confident about their own learning. It really helps the quiet ones, to give it a go and participate more in the class discussions.*[3]*"*

Participant B is a 62-year-old, male, teacher of Greek Philology (Linguistics), in the area of Perama, which is known as a low-income district. He admits that his exposure to FC has been minimal. He has only attempted to use it once and has been very sceptical about it since then. According to him, the teachers are better equipped to navigate the classroom and thus the traditional classroom model prevails over the FC. In regards to the latter's limitations, he states that in a flipped classroom environment, the students can easily lose focus, which will reflect negatively on their scores. In addition, planning a flipped session will require a disproportionate amount of time and effort from teachers (especially for those with limited knowledge of technology), whilst being unsustainable to use in the long run.

Participant C is a 34-year-old female, Literature teacher, in the quiet affluent Nea Smyrni area. Although she has tried to implement a flipped approach occasionally, she did not find the results as successful as she wanted them to be. She believes the problem lies in her lack of training in managing a flipped classroom. She is, however, positive about it, as she states that "*it provides my students with agency in regards to their learning* [3]". She is prone to use it again, and experiment with the method in the future, provided by the right guidance.

Participant D is 28 years old, female, Biology teacher (with a Master's in Pedagogy), working in the area of Metaxourgeio, teaching students with multicultural backgrounds. She became acquainted with student-centred teaching approaches, during her studies, she has tried to accumulate a flipped method of teaching and so far, deems it successful. In her opinion, through the FC, the students can be given additional motives to finish their work at home, as it includes them extensively in their own learning. However, one of her greatest struggles with the method has been her students' difficulty of access to a personal computer at home since most of them belong to lower-income households. Due to COVID-19 restrictions and the current usage of distance learning, the Ministry of Education has issued computers to students with a lack of financial means, however, she states that this is a *"temporary solution to a permanent problem*[3]*".*

Participant E is 55 years old, a female Sociology teacher, in the Zografou area, where most of the students belong to middle-class backgrounds. Although she admits that she has some basic knowledge regarding flipped learning, she rarely used it. Most of her arguments against it are in regards to FC's limitations against the traditional model. As she affirms, "*when you leave the management to the student little work is done. They get disoriented and unruly, and then what about their scores? What about their National Exams? No…a classroom needs discipline*[3]". Furthermore, she includes the immense amount

[3] As translated from Greek

of time, effort, and money a flipped session as further obstacles against it. As a result, she has not been using it, even during quarantine, and prefers instead the traditional model.

Participant F is 47 years old, male, Mathematics teacher, in Galatsi -a middle-class area. He became familiarised with the Flipped Classroom Model, through a Pedagogical Institute's optional training and has been using it occasionally but not in each of his classrooms. He advocates that there are both advantages and disadvantages to the FC model that should be taken into consideration before a teacher transitions fully to a student-centred type of teaching. According to him, factors such as the age and maturity of the students, are crucial to the success of the FC and should be examined before an attempt. As a result, he states that "*although it cannot be used as the main method to teach our students, it can really enhance the classroom, by using it every now and then. It is not exactly an alternative method- and I wouldn't use it as one, more like a tool we can use to make learning more accessible and student-friendly, to assist our lectures, when it's needed*[4]*"*

Participant G is 56 years old, female Philology (Linguistics) teacher, holder of a Master in Greek Literature, in Agios Dimitrios -a middle-income area. She shares that she has used FC in the past but is still sceptical about it. She asserts that "*it was certainly a very refreshing approach in the beginning. The students were thrilled and participated more in the discussions but in the long run, it created problems. When the time for the test scores came, it was disappointing*.[4]" She believes that the FC is not a natural test preparation method, which can negatively affect their results and lead to further student dismay and loss of interest. On the other hand, its occasional use, will enhance the classroom and assist students to participate.

Participant H is a 37-year-old, male, Physics teacher (with a Master's in Pedagogy) in Maroussi, one of the higher socioeconomic neighbourhoods of Attica. He learned about the Flipped classroom, through teacher forums. He later searched for more information about the methodology and ways to manage a flipped classroom, so as to apply it to his own. Currently, and especially during the COVID quarantine, he has been using it on a weekly basis in every one of his classrooms and is very satisfied with the outcomes. He states that even the students that struggled previously with their scores have managed to perform better after he initiated the FC model. His reasoning is that with the FC, they had the chance to revisit the learning material, as much as they needed to and thus study at their own pace. Furthermore, he advocates that "*the flipped classroom gives me and my students the freedom to navigate the curriculum and personalise it to their needs and that's why I plan to use it more frequently*[4]".

Participant I is 42 years old, female History teacher, in the Haidari area, a lower-income district. She came to know about FC, during a training at the Pedagogical Institute and used it extensively during the COVID quarantine. She has, so far, very positive experiences from applying the method, as she shares that it made the lessons more appealing and interesting for her students, which led to them being more eager to participate. As she states, "*History classes are greatly complemented by a student-centred teaching method. It was such a welcoming surprise when the curriculum was brought to life. It motivated even my most reluctant students to engage in the discussions*.[4]" Moreover, she believes that with the right guidance and training, teachers will be able to transition to a more student-centred way of teaching, which could only benefit the students.

Participant J is a 46-year-old, male, Philology (Linguistics) teacher, in the upper-class area of Halandri. He was acquainted with the FC, through seminars he attended years ago. Since, he has experimented with it occasionally, in some of his classrooms. Through his experience, he concluded that older students tend to respond better to it, as they are more mature, adjust better to new requirements of the class, and are more disciplined. He advocates that "*it could be a sustainable method to adopt for the future since*

[4] As translated from Greek

today most of the students already have the means to access their learning material from the comfort of their homes, which will save significant classroom times [5]"

Participant K is a 34-year-old, male, Mathematics teacher in the Sepolia area, which is generally on the low-income spectrum. He came to know more about flipped teaching, through his colleagues. However, he has rarely used it, since he believes that *"the nature of Mathematics requires a more traditional approach, in order to be understood*.[5]" With the traditional approach, he shares, he is able to monitor and manage each classroom, in a more successful way. He also adds as a disadvantage the amount of time and effort that are required to organise a flipped session, with no guarantee that the outcome will always be positive. When asked, he added that his unsuccessful attempts were those that shaped his negative opinions, over flipped learning.

Participant L is a 49-year-old, female, Philology (Literature) teacher, in the lower-income Menidi area. She was acquainted with flipped teaching, during a teachers' conference and has tried to use it regularly ever since. Although she found difficulties in the beginning of her experimenting with the FC (such as the great amount of time and effort it required to manage such a classroom), she asserts that it was nothing that could not be surpassed. In addition, she observed that although the change of teaching method did not extensively affect the high score students, it benefited greatly the ones that faced difficulties as it helped them study at their own pace and be immersed in the classroom. As a result, she plans to increase the times she will be using it and try to have weekly flipped sessions.

5.3 Emerging Themes

During the investigation, I discovered 262 statements that were relevant to the research. I went through the first meaning categories several times in the context of the participant's response to my study questions. Originally, these categories were divided into 18 coded clusters: *trust, familiarity, immersion, effort, FC training, sustainability, maturity, democratisation, interest, engagement, time management, inclusivity, test score performance, classroom management, discipline, student background, motivation, participation*.

With each successive cycle of coding, response frequency charts were updated and cross-referenced as concepts and later themes formed. The data was enhanced further by several first and second-cycle coding operations. As data was filtered via a variety of strategic lenses, the evolving code clusters continued to evolve. The basic 18 coded clusters were then divided into 9 data clusters, each reflecting a different layer of meaning: T*eacher Trust in Students, Student discipline, student engagement, immersion, Teacher familiarity and training, Inclusivity, F.C Sustainability, Test-scores, Student Motivation* were among them. As a result of the investigation, three basic themes characterising the phenomena of interest emerged. The following were the three themes that emerged from the data about how teachers perceive and comprehend F.C:

- Teachers' concerns against FC lie in terms of student discipline, immersion, and test score performance.
- Teachers who use F.C more frequently perceive it as a way to facilitate an inclusive learning environment that motivates students and increases engagement.
- Training in flipped learning management leads teachers to adapt FC as an alternative and more sustainable teaching method.

[5] As translated from Greek

The first theme *"Teachers' concerns against FC lie in terms of student discipline, immersion, and test score performance"* describes some teachers' need to be in control of the classroom (a theme more common in older teachers). Their distrust towards their students is mostly due to their fear of classroom disengagement and students' loss of focus at home, which is an environment that could not be monitored easily by the educators. In order to prevent their pupils from losing track, which will result in low test score performance, they become reluctant to use a flipped method on a regular basis. Their skepticism is also being affected by the prospect that students' low scores could affect their own yearly reviews, which is another reason that they grow dubious of experimenting and altering completely their teaching approaches. Furthermore, a vast amount of skeptics perceive that flipped learning could be more fruitful to older and more mature students, who will benefit from it, whilst maintaining their concentration. Participant J seemed to agree with the above, stating "*I saw a great difference between older and younger students. The older ones were so excited when we tried it, it led to very interesting discussions, which, honestly, would not have happened otherwise. They, very consciously, wanted it to work. The younger ones are a different story. For some of them, it was an excuse to avoid homework*[6]".

The second theme *"Teachers who use F.C more frequently perceive it as a way to facilitate an inclusive learning environment that motivates students and increases engagement"*, sets participants to perceive FC as a form of democracy in the classroom where all students are able to learn at their own pace and express their opinions. This enables them to get familiar with the teaching material and find their "voice" in the traditional classroom. As Participant A reveals "*In the end, it was worth every hour I've spent planning the material. For me, it was such an unprecedented experience to watch all of my students voicing their opinions so eagerly, while watching them take the initiative of their education*[6]*".* Another factor is accessibility. After COVID-19, most families have at least one electronic device (a personal computer, a smartphone, etc.) and students are able to access the learning material easily. This promotes flipped classrooms as an inclusive teaching environment. In addition, students find it fun and appealing and are motivated to participate more, which could lead to improved results for students with lower test scores.

The third theme *"Training in flipped learning management leads teachers to adapt FC as an alternative and sustainable teaching method"* demonstrates that teachers with limited training in the flipped classroom are experiencing barriers in the implementation of this methodology. This is due to the lack of skills needed (time management, flipped classroom management, IT skills) that are needed in order for them to be more efficient. Untrained educators need more effort to transition to a more student-centered way of teaching. In accordance with this, those with limited knowledge of technology deem the flipped classroom as unappealing and unsustainable as a way of teaching. As Participant C added, "*It would be a totally different experience both for me and my students if I had some guidance, some training to count on*[6]*"*. On the opposite participants who have been trained in FC are more able to manage a flipped classroom with ease. This leads to positive responses from the students which reinforces their positive attitude towards FC and therefore continue to use it in the future. Hence, for FC to be sustainable in the Greek context, further training of teachers is needed.

6 As translated from Greek

5.4 Disagreements between participants

Common patterns and disagreements have emerged between the participants through the interviews, as to how they view the Flipped Classroom as a teaching method.

These could be categorised into the following points:

5.4.1 Flipped classroom vs Traditional Classroom, as a means to achieve better scores.

One of the most common disagreements between the participants was the issue of successful test scores and how the FC can affect the results in a positive or negative way. The skepticists, identified the risk of students' loss of focus, as a crucial disadvantage, the use of FC could entail. According to them, students navigating the narrative of the classroom could easily turn them disoriented and unruly, which would translate into low test score success, especially during the National Exams. Some of the participants, even though expressed similar concerns to the points above, were not entirely unconvinced by the benefits a flipped classroom could bring to their teaching but were eager to use it only in certain classrooms or on certain occasions, as well as to older students to avoid the latters' loss of focus and unsuitable behavior. On the other hand, the FC enthusiasts seem to advocate the benefits of student-centered learning as a "cure" to students' lack of interest by stating that adapting flipped elements in their lessons, enhanced the pupils' participation and involvement, which led to higher test scores. At this point, it is worth noting that several teachers noticed more progress in the test results of slow learners compared to the progress of high score students

5.4.2 Flipped Classroom: Sustainable or not?

The issue of FC's sustainability created an additional dichotomy between the teachers. Some characterised the flipped classroom as "the teaching of the future" and noted that the usage of technological means that are accessible to the average student (laptops, smartphones, etc.), in the classroom, makes learning up to date, creating a new form of literacy that aligns with future societal needs. Others tend to disagree with the previous statement: a method that requires that amount of effort and time on behalf of the teachers and students and the difficulties that lie in the transition from traditional to flipped, make the FC an experiment that will not last the course of time. Finally, some of the participants note that neither all students nor the schools have the financial means to support such a method in the long term and thus it makes the FC unsustainable.

5.4.3. Easy to implement vs Difficult to implement

Various opinions were expressed regarding the FC's ability to be adapted easily as a method by the average teacher. Here, however, many participants voiced similar concerns. There were many that expressed their doubt about how friendly the flipped classroom is, to the teacher/user, as a teaching medium. A lot of this research sample referred to the difficulties they faced when they tried to implement

the method as well as the strains that occurred while managing a flipped classroom. Although there have been participants, who managed to implement it easily to their weekly schedule, they all seem to have one thing in common: training. In addition to this statement, many skepticists noted that their perceptions of FC could be different, had they had further training and assistance.

5.4.4 Time-saving or Time-consuming?

This notion appears to share great polarity between the participants. A percentage of them used time as an important factor that they grew sceptical towards flipped teaching. They advocate that the time that is required in order to organise a flipped classroom, is disproportionate to the benefits it will bring. On a different aspect, many note that because during FC sessions, much of the work is being completed at home by the students, they as teachers manage to save extra time during the class, to focus on different aspects of their lessons, which could not have happened if they used the traditional model instead.

6. Discussion & Conclusions

The aim of this study was to get insight into how Greek educators viewed the flipped classroom method. This was accomplished by obtaining a detailed description of every individual's experiences, as well as an analysis of the common themes that emerge from them. A phenomenological approach was selected to better reflect on the educators' experiences. The Concerns Based Adoption Model or CBAM was used as a framework to bridge the research questions with the interview questions that were directed to the participants involved. In this chapter, a critical assessment of the thesis will be provided, as well as a set of recommendations for further research.

6.1 Research Questions and connection to findings

In the following section, we are going to examine how this study's findings have provided us with responses to our main three research objectives.

6.1.1 What are teachers' perceptions and concerns regarding the flipped classroom methodology in Greek High Schools?

During the interviews, many polarized opinions were expressed about the flipped classroom's ability to successfully replace traditional lectures as the main teaching method. Many have welcomed such a possibility and view the FC in a positive light, addressing all the benefits such a transition could offer to their students. The pupils have the chance to navigate their own learning, keeping a pace that assists them to absorb the material properly, in a more engaging way. On the other hand, many have expressed concerns about such a method. The research indicated that the concerns regarding FC lie in terms of student discipline, immersion, and test score performance (theme 1). Their distrust towards their students is mostly due to their fear of classroom disengagement and students' loss of focus at home, which is an environment that could not be monitored easily by the educators. During traditional teaching, they have more control over the flow of the lesson and the material used. Furthermore, they observe if students are falling behind or have problems understanding the class and are able to assist them on the spot. The traditional method is a system they have been using for years so it is familiar, and it bears results.

The flipped classroom may be a method that motivates students and increases engagement (theme 2) but in order to prevent their pupils from losing track, which will result in low test score performance, they become reluctant to use a flipped method on a regular basis. The prospect of potential low scores concerns teachers because it could affect their own yearly reviews, which is another reason that they grow dubious of experimenting and altering completely their teaching approaches. Furthermore, a vast amount of skeptics perceive that flipped learning could be more fruitful for older and more mature students. The logic behind this is that there is a high possibility these students' feeling of responsibility will motivate them to do their part at home exactly as requested by the educator, whilst maintaining their concentration.

6.1.2 What is the current Level of Use of Flipped Classroom methodology in Greece?

Currently, in Greece, the main teaching method in use is traditional lecturing. This was confirmed by this research since none of the participants seemed to use the flipped classroom as their sole teaching technique and all of them had to result in using traditional teaching at some point. However, teachers in schools situated in high socioeconomic neighborhoods were more prone to use it extensively, than those teaching in schools found on the lower socioeconomic side of the spectrum.

Between the participants, there was a variety in their levels of use. The majority of the avid users were between levels 4 and 5 (Routine and Refinement). They have managed to use it regularly, adapting it to their classrooms, while making changes if required, keeping the student-centered nature of the classroom. Those teachers expressed their plans to continue using the FC in the future, increasing their flipped lectures, and were positive about a future transition from traditional to flipped.

These teachers perceive Flipped Learning as a way to facilitate an inclusive learning environment that motivates students and increases engagement (theme 2). For them, teaching is a mutual process between their students and themselves and shouldn't be something that relies solely on the educator. Because of F.C, all students are able to learn at their own pace and express their opinion on the subject. Accessibility is another factor: the COVID-19 pandemic accelerated the admission of electronic devices in the common household. Most families have at least one electronic device at home, allowing them to conveniently access educational materials. Furthermore, kids find it enjoyable and appealing, which motivates them to participate more, eventually improving exam results for children with lower test scores.

On the other hand, the participants that expressed doubts regarding flipped teaching seemed to be at Level 3 (Mechanical) of Levels of Use. Although they have implemented it, their struggles with the logistics such as the application required, along with their difficulties to adapt to the new teacher role and all it entails, made them more susceptible to return to the more familiar traditional teaching, dismissing FC.

6.1.3. What are teachers' reflections about implementing and managing a flipped classroom in a Greek High School?

As previously stated, there has been some division between the participants on how they reflect on implementing and managing a flipped classroom. Having a background in student-centered teaching methods seemed to influence positively the teachers' opinions of implementing flipped learning, while also serving as guidance on managing flipped sessions. Participants with no relevant background seemed to struggle to cope with the new dynamics created in the classroom. They were discouraged by the FC's slower pace of teaching the required material and had difficulties in adapting to their new role of observer/coordinator than the head of the narrative. Compared to lectures, group activities or discussions could seem to lead to a more chaotic atmosphere than the teachers are used to. This was labeled as a strain for some teachers when they tried to assert themselves and manage such classrooms.

The key to surpass these barriers is continuous training for teachers. This research has demonstrated that training in flipped learning management could lead teachers to adapt FC as an alternative and sustainable teaching method (theme 3). Teachers that became more and more accustomed to flipped classes and have surpassed the initial difficulties, were more susceptible to use the method on a frequent basis. They

found that their new role as an observer helped them distinguish easily the students who were left behind, and promptly intervene to put them back on track. They also added that using FC, created an atmosphere of collaboration inside the class, which helped them manage their students efficiently.

6.2 Connection to the Literature

Previously, in chapter two, we presented a foundation of literature for positioning this research within the existing publications involving the formation of new roles for teachers and students.

This study appears to share similarities with the observations made respectively by Gariou-Papalexiou et al. (2017) and Plota and Karalis (2019). Both studies had Greece as a setting. Although the Greek school system seems to currently use the traditional model as the predominant teaching method (Plota and Karalis, 2019), many of the benefits could be obtained by adopting a student-centered, flipped version of teaching. Most of the students seem to be more eager to actively participate in a flipped environment (Gariou-Papalexiou et al. 2017). During Plota and Karalis (2019) the level of participation of the student sample increased thrice when educators used a flipped method instead of a traditional lecture. This was validated by our study as well, with participants commenting about how during their flipped sessions, their students were more eager to participate in class. Increased student engagement was also a common concept found in the literature mentioned above and in our study. Furthermore, both the aforementioned studies, as well as this current research, tend to coincide with the benefits a flipped classroom offers regarding students' learning comprehension and efficacy. As previously mentioned, the FC allows students to keep their own pace during learning, a quality that students (and thus their teachers) with learning difficulties appear to favor as it allows them to properly comprehend the learning material without being left behind. Gariou-Papalexiou et al. (2017) research underlines the issues teachers face when they try to apply a flipped classroom. As the participants in our study pointed out, time and effort are the main strains an educator has to deal with when preparing a flipped session.

In retrospect, many connections can be found between these research findings and the mentioned literature in terms of the new role the teachers have to adapt to, in order to successfully flip their classrooms. As Schmidt and Ralph (2014) mention, teachers may discover that not every student benefits from the same tutoring strategy when experimenting with the Flipped Classroom concept. It is critical, then, that teachers personalize the material that a student receives in order to ensure that each member of their classroom absorbs the required knowledge in the best possible way. It was confirmed by this study's participants that, during flipped sessions, they had to personalize and adapt the material to their students' needs , in order to aid them to keep up with the classroom's pace. This seemed to require time and effort on behalf of the educators, which had a great impact on their perceptions of the flipped model and its potential sustainability as a long-term teaching method. Current literature, though, seems to point out that while preparing a flipped classroom session requires from the instructors to design the videos as well as the in -classroom activities and projects (and thus, being a great investment of time and effort in the beginning), these "investments" could be reused later for further objectives (University of Waterloo, 2015). This study's participants seem to validate this point: the teachers who used flipped sessions on a frequent spectrum, were able to reuse videos and activities for later purposes or different classrooms, eventually saving time.

Furthermore, according to Millard (2012), during a flipped session, students' active engagement in the lecture is a critical component of their knowledge acquisition. The role of the respective teacher is to pique their attention and stimulate any conversation and/or argument within the classroom environment. Their function has expanded to include facilitating engaging discussions and boosting student

participation (Millard, 2012). To this statement, Nolan and Washington (2013), add that in an FC, the teachers are the ones to judge whether or not the class is comfortable with the learning material and if the students have equally reached a clear understanding. If not, they are to provide feedback by using pedagogical strategies (Nolan & Washington, 2013). During this research, many educators observed that it was easier for them to be able to spot the students with difficulties and clear misunderstandings.

Moreover, one of the main concerns the participants expressed was the slow pace the flipped classroom entailed and how it could have an impact to the learning material taught and thus to students' performance at tests. These points have been thoroughly discussed through the literature, regarding flipped classroom. It has however been stated that even though the content of the material that can be presented from the teacher to the students, during a flipped session, is significantly less in quantity opposed to traditional teaching, students understand the topic that is taught in greater depth. Their strong knowledge of what they've been taught gives them the capacity to teach themselves for the rest of the content later on (University of Waterloo, 2015). This provides the students with agency in terms of their learning and makes them engage more during class, as many of the participants seem to confirm.

6.3 Connection to Theory and Method.

6.3.1. CBAM Theory

This study's aim was to examine the reflections Greek teachers, in the Attica region, had on the FC and the extent of its use in their classrooms. However, since reflections is a vague notion that is hard to measure and evaluate, it was important to analyse the factors that could have an impact on both how teachers perceive the change when incorporating something new and the level of this change's application. Such factors could be the concerns that emerge when applying a change in class, the degree, and extent of its utilisation, and the various ways they have incorporated the innovation in their everyday teachings.

Our findings were guided by the theoretical framework, described in chapter 3. CBAM describes the process the educators undergo when implementing a change in the classroom (Anderson, 1997). In terms of concern, those stages include Awareness, Informational, Personal, Management, Consequence, Collaboration and Refocusing. This research's participants were scattered among the various stages. At the awareness stage, the participants showed no interest in experimenting more with the FC method. Participants in the Informational stage pointed out that they were interested in learning more about the method and although concerned about its adaptation, they were willing to experiment more with it. The participants in the Personal stage, were more sceptical about their own abilities to implement the method, while also pointing out that in case of failure, this would reflect poorly on their yearly reviews. Many of the participants involved were at the Management stage: although they were already experimenting with the FC, strains such as material preparation and classroom management, were strong issues for them. Teachers at the stage of Consequence were interested in modifying the method slightly, in order to comply with their students' needs. Finally, although in this study, there weren't any participants found in the stages of Collaboration and Refocusing, many expressed interest in collaborating with fellow teachers, whilst also making drastic alterations to the method, in the following future.

The Levels of Use consist of various stages as well: Nonuse, Orientation, Preparation, Mechanical, Routine, Refinement, Integration, and Renewal. The participants in Nonuse pointed out that due to their lack of computer skills, they were not interested in applying the flipped classroom in the future. Since

all the participants have already implemented the methodology at least once, none of them were in the Orientation and Preparation stages, while this study took place. Many teachers were found to be in the Mechanical stage. They were already implementing it for some time but were still struggling to conform to it and were trying to acquire new skills to do so. The ones in the Routine stage, have managed to surpass these issues and were already making some minor changes to the FC model, in order to apply it better to their students' needs. None of the participants have reached yet the stages of Refinement, Integration, and Renewal. However, many of the ones currently in Routine showed interest in making major changes in their flipped sessions in the future.

In view of the Innovation Configurations some of the participants, reached the point of making modifications to their flipped classroom sessions. The teachers have already formed a routine of using the method and felt comfortable creating alterations in order to adjust it to their students' needs. Some of these changes had to do with the variations of the learning material used (e.g. self -made videos instead of third-party created ones) and the different types of classroom activities (e.g. classroom debates instead of group activities).

6.3.2. A Phenomenological Approach

Along the same line, a phenomenological approach was used as the most appropriate method to use in this study. Since this research dealt with the participants' experiences with the flipped classroom and the perceptions created through this process, our findings were in accordance with Phenomenology's examination of peoples' experiences. Such an approach assisted us to understand the subjective experiences of the teachers included in our sample and to gain insight into their assumptions and concerns (Mapp, 2008). Using a phenomenology perspective, allowed us to understand better our findings and thus, we were able to investigate the themes that emerged.

6.4 Study Significance and Implications of the Findings for Research and Practice

As stated in Chapter 1, Greece is a country with a school system that uses traditional lectures as the predominant teaching method. However, in the wake of COVID-19 and the new conditions it created, many teachers in Greece started to experiment with various teaching methods, with some of them being student-centred. This research's significance lies in the fact that it provides a different aspect of teaching by setting the students in charge of the classroom narrative, while also contributing to the dialogue of alternative methods of learning. Moreover, the studies in FC methodology in Greece are rather minimal. Our results display the need for further FC studies set in Greece, especially about the teacher perspective. This could suggest how important new theories in education are and highlight the need for further research in the area of student-centred methodologies applied to Greek classrooms.

In terms of practice, through this study, the reflections of Greek High school teachers have been presented along with their suggestions for further practice. One of their main points in regards to the sustainability of a future transition from a traditional model to a flipped one, was the required training the educators need so as to be able to adapt a student-centered classroom. The majority of them advocated that in order for them to be able to adjust to a new way of teaching, it is required to be able to be provided with further guidance from the Pedagogical Institute and the Ministry of Education.

Moreover, schools should provide initiatives to their teachers, in order to be acquainted with the method, helping them to implement it occasionally to their classrooms. This could benefit the students and it would also provide the educators with the opportunity to experiment and enrich their teaching and in this case, with a sustainable alternative.

6.5 Limitations

Through this study, certain limitations should be considered. The first main limitation was the fact that the prior studies in this setting were minimal. As a result, there were difficulties when laying a foundation in order to understand the research problem properly. In addition, a second limitation would be that the participants' sample consisted of various teachers with different subjects, teaching in different schools in various socioeconomic areas of the Attica region. Although it gave us a generalized idea of the experiences of teachers in Attica, it also made comparisons among participants, difficult to implement. Finally, we should also consider the restricted time in which this research took place, as a limitation. In order to be able to get more in-depth findings, more time should be devoted to researching how teachers' perceptions towards the FC, evolve.

6.6 Future Research

This research was a qualitative approach in order to examine teachers' perceptions and reflections towards the flipped classroom method in Attica, Greece. However, there is more to be examined in order to be able to explore the flipped classroom as a method. To be able to study the FC on a larger scale, quantitative research should take place, so as to examine how the rest of the Greek teachers' population respond to it. In the same way, students' response, and ability to reach successful results during their tests, should also be quantitatively measured, in order to provide a starker image of what a flipped class could result in. It is certain that research regarding Flipped classroom in Greece is far from reaching the point of saturation. Since the traditional method is so widely used as a form of teaching in Greek schools, it is fascinating to explore a different alternative.

6.7 Conclusions

During COVID-19, flipped classroom seemed to gain popularity again among researchers and practitioners, as it provided a compelling alternative to the traditional way of teaching, promoting a more engaging, more inclusive, student-centered classroom. As we discovered during Chapter 2 (Literature Review) many studies have uncovered the benefits flipped learning has to offer to students and have underlined the new roles-dynamics that are being created between the students and their teachers.

Through this study, we examined the ways Greek teachers in the Attica region perceive flipped classroom and how they reflect on their merits and limitations. A sample of 12 teachers was interviewed through semi-structured interviews and CBAM was used as a framework in order to organize our findings.

During their interviews, we observed the formation of certain themes and patterns created, which aided us to come closer to the answers to the research questions set in Chapter 3. Firstly, teachers tend to have concerns towards the application of the FC and how it could affect the students' discipline, immersion and test score performance. From our findings, we could assume that perhaps a positive outcome and student response, during a flipped session could possibly result in more positive perceptions of the method. Secondly, the more teachers use FC as a method, the more they perceive it as a way to facilitate an inclusive learning environment that motivates students and increases engagement. It is apparent that once they surpass the initial difficulties, they tend to appreciate the benefits it offers their students and the ways FC makes them more immersed, motivated, and included. Thirdly, what makes the teachers dismiss their initial concerns and adopt FC more frequently as a method is training and guidance. Many expressed that their skepticism and negative predispositions could be altered had they had the proper training in managing such a class.

In this thesis, the Flipped classroom methodology was presented as a suggestion for an alternate form of teaching, while also exhibiting the possible benefits it holds. It should be, however, pointed out that the Flipped classroom neither is a panacea nor is the most appropriate method for every teacher. Every teacher is different and thus they should be able to decide upon which method is more suitable for them and their classrooms.

So, to flip or not to flip? Whatever the answer might be, it is definite that the flipped classroom is going to preoccupy both teachers and researchers in the following future.

Appendices

Appendix A

Participant Consent Form

Subject: Greek Teachers' Perceptions Towards Flipped Classroom Methodology

Study Background

In this particular study, we will be focusing on the experiences Greek teachers have with the Flipped Classroom methodology. All the data will be collected through semi-structured interviews.

Consent to take part in research

I…… voluntarily agree to participate in this research study.

- I understand that even if I agree to participate now, I can withdraw at any time or refuse to answer any question without any consequences of any kind.
- I understand that I can withdraw permission to use data from my interview within two weeks after the interview, in which case the material will be deleted.
- I have had the purpose and nature of the study explained to me in writing and I have had the opportunity to ask questions about the study.
- I understand that participation involves a semi structured interview procedure in which my answers will be recorded.
- I understand that I will not benefit directly from participating in this research.
- I agree to my interview being audio-recorded.
- I understand that all information I provide for this study will be treated confidentially.
- I understand that in any report on the results of this research my identity will remain anonymous. This will be done by changing my name and disguising any details of my interview which may reveal my identity or the identity of people I speak about.
- I understand that disguised extracts from my interview may be quoted in the aforementioned dissertation.
- I understand that under freedom of information legalization I am entitled to access the information I have provided at any time while it is in storage as specified above.
- I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

I believe the participant is giving informed consent to participate in this study.

Signature of research participant	**Signature of researcher**
…….	…….

Date : …/../….

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