



**Teaching and learning approach: A comparison
between a traditional and a flipped classroom and
which flipped classroom methods will enhance
student behaviour, independent learning,
promote student engagement and significant
learning.**

RESEARCH REPORT

Lorinda Visagie

Mrs. Clodagh Mannion-Nash

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Title:

Teaching and learning approach: A comparison between a traditional and a flipped classroom and which flipped classroom methods will enhance student behaviour, independent learning, promote student engagement and significant learning.

Abstract:

Field research was completed on a traditional and a flipped classroom. The reason for conducting this research was to establish why the first-year students within the higher certificate fitness and coaching struggled to adapt to the new course as well as the new lecturing style implemented by the head lecturer. The new 2019 diploma sport and exercise second year students showcased negative student behaviour, low student learning motivation and low student engagement within both in and out of class learning. Further research was conducted within the following academic year of 2020 diploma sport and exercise science group. The 2020 group comes from the same learning background as that of the second-year sport and exercise science academic year 2019 group. Students provided signed consent and participated within a questionnaire at the end of the traditional classroom which was conducted first and the flipped classroom that followed a week later. A high number of students rated their experience within access to learning content, online learning guidance and module theme coherence within both the traditional and flipped classroom as positive. A higher number of students showcased lecture enjoyment and classroom experience within the flipped classroom than that of the traditional classroom. A close to equal number of students rated their participation within pre-study and pre-study motivation as positive and neutral. An equal number of students rated their ability for improved application of knowledge due to pre-study as positive within both the traditional and flipped classroom. A high number of students positively rated the flipped classroom as improving classroom experience due to cooperative learning activities incorporated within the flipped lecture type conducted. This interactive classroom lecture was also highly rated as positive due to improving the student's communication skills. A higher number of students rated their opportunity to ask questions within student feedback of both the traditional and flipped lecture as positive. As well as a higher number of students positively rating the lecturer feedback on questions and improved concept understanding within both the flipped and traditional classroom. The implications of the research showed that the

effective use of web-based learning can enhance learning content access, online content guidance and module concept coherence. A high number of students enjoyed the flipped classroom as an interactive learning space more over that of the traditional classroom which shows that an interactive learning space can enhance student behaviour and learning motivation. A close to equal number of students rated pre-study engagement and further pre-study motivation as positive and neutral for both the traditional and flipped classroom. Web based learning as part of their programme is imperative to cater for a diverse student body that is evident within modern day higher education. An equal number of students rated their ability for improved application of knowledge due to pre-study as positive and neutral within both the traditional and flipped classroom. This indicated that no matter the lecturer type, some students will direct their own learning regardless the lecture type. Therefore, web-based learning specific to learning resources and coherence is vital once again within ensuring that all students have the same opportunity to engage within pre-study before any lecture. A high number of students positively rated the flipped classroom with regards to this lecture type allowing for cooperative learning participation. Also, a high number of students positively rated the flipped classroom with regards to the cooperative learning via group work and dialogue improving their communication skills. A higher number of students indicated that the traditional classroom did not allow for cooperative learning participation and their experience within this classroom was viewed as only content delivery specific. The lecture type implemented will depend on what you would like to achieve within the classroom. The goal is to improve student behaviour, learning motivation and enhance student engagement. Therefore, it is important to change your teaching approach from teacher-centred to that of student-centred to achieve these goals within your students and the learning environment. A student-centred approach allows for greater learning flexibility where the lecturer implements an interactive classroom and cooperative learning strategies that will foster learning participation, improved student communication and knowledge construction. Students positively rated the flipped lecture because it provides them with the ability to apply theory into practice more than that of the traditional classroom. However, a misconception on applying theory into practice was identified where students commented that to apply theory into practice you should be in a practical setting outside of your classroom. Application of theory into practice can be included in both in and out of class activities. To relieve this misconception,

it is important to explain the difference between a traditional and a flipped classroom and to conduct a couple of traditional and flipped classroom lectures on the same concept but with different in or out of class activities within the flipped classroom in order for students to understand the notion behind interactive learning. A flipped classroom allows for freeing up time within the classroom with the goal of enhancing self-regulated and directed learning through pre-study and student engagement through cooperative learning strategies that assists the student within applying theory into practice. Finally, it was evident that students experienced more opportunities to provide feedback within a flipped classroom as well as to receive more lecturer feedback than that of a traditional classroom. An interactive classroom allows for the teacher to become the facilitator and the student to become more self-directed in applying themselves as an individual as well as within a group setting to enhance knowledge construction and critical thinking application within solving problems. Also, an interactive classroom allows for increased student engagement due to this classroom type creating the opportunity to be a part of the process of improving knowledge.

Introduction:

In order to improve student behaviour, motivation and engagement towards learning within my classroom specific to the second year sport and exercise diploma, research had to be conducted on two teaching and learning environments namely the traditional and the flipped classroom (Turan and Goktas, 2016). However, more specifically the flipped classroom approach due to it being my chosen research topic (Turan and Goktas, 2016). Brooks (2012, cited in Hyun, Ediger and Lee, 2017) stated there is a place for both traditional and active teaching and learning methods within the higher education space. The most important aspect within teaching and learning approaches is to recognize which approach is most suitable for content delivery and which approach is most suitable for student engagement and independent learning (Brooks, 2012, cited in Hyun *et al.*, 2017). According to Brooks (2012, cited in Hyun *et al.*, 2017) traditional classroom delivery will be specifically used for content delivery and an interactive classroom will be conducted to enhance student engagement and independent learning. Interactive learning classrooms shows a higher percentage of student satisfaction within both individual learning and group learning satisfaction than that of traditional learning (Brooks, 2012, cited in Hyun *et al.*,

2017). Traditional learning spaces is specific to content delivery as earlier stated and this might lead to a lower possibility of students achieving module outcomes and learning goals (Armbruster, *et al.*, 2009, cited in Hyun *et al.*, 2017). This is due to not being able to continuously construct knowledge on concepts because of the teaching approach being delivered in a one-sided manner (Armbruster, *et al.*, 2009, cited in Hyun *et al.*, 2017). It is important to establish the students view on both a traditional and flipped classroom environment (Limniou, Schermbrucker and Lyons, 2018). Virtual learning environments have been developed to enhance learning flexibility, however, in most cases it is not used to its full capacity and is mainly used in assisting traditional learning (Doreen and Yazrina, 2013, cited in Limniou *et al.*, 2018). The reason for this occurrence is due to learning still taking place via a traditional approach within the classroom where the lecturer presents the concept via power point or whiteboard and the notes are loaded as an online resource for further perusal by the student (Doreen and Yazrina, 2013, cited in Limniou *et al.*, 2018). Therefore, it is important to not only focus on the traditional or flipped classroom as a teaching approach but to investigate the relationship between the lecturers choice of teaching and learning approaches and how these approaches enhance student behaviour and engagement (Limniou *et al.*, 2018).

Specific to my chosen topic namely the flipped classroom it is evident through research that there are many definitions for the flipped classroom and many versions of this approach implemented within the classroom (Turan and Goktas, 2016). However, even though various methods and definitions might be allocated to this significant teaching and learning approach, the aim of this approach still remains the same across the board and that is to decrease homework and lecturing time and create interactive learning environments through this teaching approach that will improve student engagement, teacher facilitation and constructive alignment within the course design (Abdulrahman and Al-Zahrani, 2015; Turan and Goktas, 2016; Altemueller and Lindquist, 2017; Boevé *et al.*, 2017; McNally *et al.*, 2017; Chellapan *et al.*, 2018).

Background on choosing this topic weighs heavily on the direct experience and observation of students moving into their second-year diploma Sport and Exercise science (Bezuidenhout, Davis and du Plooy-Cilliers, 2014). Through direct experience and observation, it has come to my attention that the transition from first year Higher certificate

fitness and coaching has been very difficult for students from both streams (Boevé *et al.*, 2017). Difficulty arise within them not adjusting to the workload or finding a deeper understanding of prescribed content (Fry, Ketteridge and Marshall, 2014). Integration of knowledge, information and concepts are not evident, and it seems as though this might possibly be one of the biggest issues leading to the lack of making the connection between fitness and coaching, therefore not fully applying themselves within sport specific conditioning (Fry *et al.*, 2014). Inclusive learning is a very important characteristic of flipping a classroom for it allows the lecturer to become the facilitator within contact sessions and for students to inquire more about their subject and content via technology which is an option at my campus looking at the online learning platform created for the students (Altemueller and Lindquist, 2017). However, even though we have technology available for students to direct their own learning I was not competent enough in fully utilizing this tool to deliver instruction outside of my classroom due to lack of experience within web based teaching and learning approaches as well as half of my classroom not having access to the internet off campus (Altemueller and Lindquist, 2017). I also did not have the knowledge on how to integrate my course which forms part of inclusive learning and provide absolute assistance within flipping my classroom (Fink, 2013). Through using a backward design Wiggins and McTighe (2005, cited in Fink, 2013) explains that significant learning experiences occur through using the backward design, meaning that feedback and assessment should be considered first and then teaching and learning activities can be structured therefore following the same structure as inclusive learning. The challenges mentioned above seems to be the culprit that fostered negative behaviour towards studies and student engagement (Boevé *et al.*, 2017).

An additional observation was that even though I changed my approach from a traditional teacher-centred approach to that of an interactive student-centred approach, it still seemed as though I as was not getting the response and changes within student behaviour, motivation and engagement necessary for the flipped classroom approach to be deemed as successful (McNally *et al.*, 2017). Once I started to implement an active classroom within my contact sessions it mostly failed due to lack of student participation (McNally *et al.*, 2017). Within my research conducted I noticed that the failed attempt at using new teaching and learning approaches are normal because within my research conducted it

states that students may either embrace the flipped classroom approach completely, some elements of this approach or not at all (McNally *et al.*, 2017). As the academic year of 2019 progressed my experience and observation of a failed active classroom approach made me realise within student feedback surveys and one on one sessions that my implementation approach to teaching and learning was clearly the problem. The reason for this failed attempt towards my implementation of the flipped classroom was that it did not follow the guidelines of what ensures an effective flip within the teaching and learning environment I created (Boevé *et al.*, 2017). According to my research, the teaching and learning environment should include that I consider the following key aspects before changing my teaching and learning approach (Boevé *et al.*, 2017). The following therefore should be considered namely the students prior learning history, focussing on integrated course design instead of only focusing on the pre-designed or prescribed curriculum and ensuring continuous communication between student and lecturer regarding teaching and learning within a very diverse student group that does not always attend class on a daily and weekly basis (Boevé *et al.*, 2017). Within various discussions with the second-year group of 2019 as well as individual students within that group it became evident in my opinion that the students were not prepared for the transition from Higher certificate to Diploma. Vermunt and Vermetten (2004, cited in Boevé *et al.*, 2017) claims that students who move into a new phase of learning such as a new course or academic programme seems reluctant towards immediately conforming to this type of learning which fosters resistive behaviour within the student, towards learning concepts and approaches and what is expected of the student within this new learning environment (Boevé *et al.*, 2017). Therefore it makes more sense as to why my students were not accustomed to an active classroom environment because they were not use to this interactive teaching and learning environment that was provided within their Higher Certificate year and their previous year of study mostly entailed instruction that was more traditional and one sided (Boevé *et al.*, 2017). The lack of conforming to a new type of learning was one of the main reasons for my research on the flipped classroom topic as I would probably experience the same problem for the academic year of 2020 where the last higher certificate fitness and coaching student groups would move directly into the second year diploma sport and exercise science (Boevé *et al.*, 2017). The reason for the second-year group of 2020 being the last group to move from a higher certificate to diploma is due to the institution that my sample derives from not selling the

higher certificate programmes any longer. Therefore, it would be the last group that comes from two different streams as well as two different teaching and learning backgrounds that causes a resistance towards a different learning environment (Boevé *et al.*, 2017).

Within my research conducted I am confident that the above assumptions show truth and can be confirmed within my research by Prince (2004, cited in Boevé *et al.*, 2017) claiming that passive lectures result in limited information retention which results in surface learning. Also, I did not have enough knowledge or experience in terms of the flipped classroom approach and therefore my introduction strategy would not have made enough of an impact in settling students into this teaching approach (Boevé *et al.*, 2017). This can be confirmed by my research because in order for the flipped classroom approach to make a significant impact on student behaviour and engagement I had to follow a more thorough process of gaining more insight into how my students actually learn, how they perceive different learning plans and how my students prepare themselves for assessments where they will be applying the knowledge that they have constructed (Boevé *et al.*, 2017). This might be one of many reasons why some students react negatively towards a changed learning environment such as the active classroom and that the true value lies within an effective implementation design and strategy of the flipped classroom approach to ensure that student adjustment and support is always taken into consideration (Boevé *et al.*, 2017).

The research conducted on the flipped classroom has informed me on how this approach differs from a traditional teaching and learning approach and how an interactive teaching and learning approach affects the student's behaviour and cognitive load within their learning (Turan and Goktas, 2016). The research has also made it possible to identify various methods of instruction that can be implemented to improve both teaching and learning when using the flipped classroom approach (Turan and Goktas, 2016). Research also shows that technology (web-based learning) plays a big role in flipping your classroom (Chellapan, van der Meer, Pratt and Wass, 2018). Web-based learning has also shown to assist within the diverse classrooms and student numbers that institutions face within modern-day higher education and can be an asset in improving student engagement, self-directed learning and meeting student needs (Jordan, Carlile and Stack, 2008). Technology allows for out of class learning which is one of the greatest challenges within higher education and therefore this method of teaching and learning aligns with the flipped

classroom definition (Abdulrahman and Al-Zahrani, 2015). If out of class learning can be implemented through technology it will assist in fostering more valuable in-class sessions specific to the lecturer becoming the facilitator and learning becoming student-centred (Bergmann and Sams, 2012, cited in Altemueller and Lindquist, 2017). Therefore, moving away from a traditional system of learning by giving the students the opportunity to construct knowledge through critical thinking and problem-solving (Bergmann and Sams, 2012, cited in Altemueller and Lindquist, 2017). Student centred learning fosters a more effective form of cooperative learning where communication skills can be enhanced via dialogue and concept knowledge can be improved via student and lecturer feedback (Bergmann and Sams, 2012, cited in Altemueller and Lindquist, 2017). The flipped classroom also allows for student and lecturer to continuously work together on achieving learning goals which might improve student behaviour (Boevé *et al.*, 2017). Therefore, leading to improved student engagement and transforming the student into an independent learner that has the ability to integrate learning concepts, grow as an individual through interaction and experience and become a lifelong learner after completing their course (Altemueller and Lindquist, 2017).

This is the reason for my research methodology decision where I delivered two different lectures. The first lecture was conducted in a traditional teacher-centred fashion and the second lecture a week later conducted in a flipped student-centred fashion. The same concept was covered in both the traditional and flipped classroom lectures and the participants that provided consent completed an open ended questionnaire for each lecture based on three categories namely learning content access, teaching and learning experience and feedback opportunity and experience. The research conducted through a qualitative analysis on this topic of a traditional and a flipped classroom, will in hope allow for me to find the answer to my research question and to implement the appropriate teaching and learning strategies that will allow for student behaviour to shift from a negative learning to a positive learning experience (Altemueller and Lindquist, 2017).

Literature review:

Research justification, literature review and conceptualization:

My research was conducted to clarify student teaching and learning preference, therefore, how students come to learn and how their learning, behaviour and motivation can be

affected by a traditional classroom and a flipped classroom. Through direct observation and experience within the second year sport and exercise science diploma group for the academic year of 2019, it became apparent that a traditional methods of teaching lead to negative student behaviour and a lack of student engagement and therefore it is absolutely necessary to investigate various teaching and learning methods specifically the flipped classroom in order to answer the following question: Which teaching and learning approaches should be incorporated within the implementation design of the flipped classroom in order to provide enhanced student behaviour and promote independent learning, student engagement and foster significant learning within the student?

Before answering this question, research had to be conducted on the flipped classroom, the positives and negative aspects of this approach, the gaps that arise within this approach and how this approach will allow me to solve the problem that I experience within student behaviour, motivation and engagement within the second year sport and exercise diploma group of the academic year for 2019. This investigation continues into the academic year of 2020 with the new sport and exercise science diploma group that moves from higher certificate fitness and coaching into the second-year diploma sport and exercise science. This group will most likely showcase the same issues as identified within the second-year diploma sport and exercise science group of 2019. Therefore, I aim to use this research from both past and present experience and observation to guide myself as the lecturer to identify the issues that occur within the transition phase of students moving from higher certificate fitness or coaching into the second year diploma sport and exercise science. The research aim will in hope assist me to not make the same mistakes within my teaching and learning implementation plan.

The research that I conducted led to an improved understanding of what the flipped classroom entail, what influence the flipped classroom will have on student behaviour and motivation and how to implement a successful flipped classroom model through considering key factors such as instruction efficacy, cognitive load, creative learning, web based teaching and learning, collaboration through use of technology, integrated course design and student behaviour which makes a direct link to whether this approach can be successful or not (Jordan, Carlile and Stack, 2008; Fink, 2013; Fry, Ketteridge and Marshall, 2014; Abdulrahman and Al-Zahrani, 2015; Turan and Goktas, 2016; Altemueller and Lindquist,

2017; McNally *et al.*, 2017; Boevé *et al.*, 2017; Chellapan *et al.*, 2018). The questions and aims from research conducted on the Flipped Classroom approach are vast (Turan and Goktas, 2016). Through analysing and interpreting the information from various research articles I have a clearer picture of the Flipped Classroom Model and how it can be implemented in various ways based on various schools of thought (Turan and Goktas, 2016). However, the research also shows gaps within the structure of a flipped classroom approach and that further research should be conducted on certain aspects of the flipped classroom approach to be positively implemented (McNally *et al.*, 2017).

The need to understand why my attempt to flip my classroom failed has been confirmed by the following research. A key aspect that came up within my research on the flipped classroom derived from various articles that speaks on instructional efficacy and what vital role the flipped classroom as a teaching approach plays within student achievement and lower cognitive loads (Turan and Goktas, 2016). In this specific article a comparison was made between the traditional classroom and a flipped classroom as a teaching technique (Turan and Goktas, 2016). However, within this article it was also stated that other studies also found the flipped classroom to have no impact on student achievement and cognitive loads and therefore the different reactions towards this type of approach comes down to how this method is implemented and as well as student motivation (Turan and Goktas, 2016). This article also highlights traditional instruction and how this approach does not allow for content presentation and active participation within a contact session (Fautch, 2015, cited in Turan and Goktas, 2016). Higher education strives for a more active approach within the application of content and therefore the flipped classroom might be the solution for instructors to free up time within the classroom so that there will be more time for in class activities whether individual or cooperative and allow for practical application (Ash, 2012; Abeysekera and Dawson 2014; Chen *et al.*, 2014; Love *et al.*, 2014; Street *et al.*, 2015, cited in Turan and Goktas, 2016). Therefore, by establishing more free time for practical application within the classroom will allow for an increase in the learner's ability to study at their own pace and may also cause a decrease in student-learning stress (Marlowe, 2012; Davies, Dean and Ball, 2013, cited in Turan and Goktas, 2016).

My failed attempt at successfully flipping my classroom within the second year diploma sport and exercise science group for the academic year of 2019 led to the next article that

was relevant to my dilemma where it explains that the decision to flip or not to flip your classroom depends on an important factor namely the use of technology to extend and support learning outside of the classroom so that face to face learning is dedicated to students engaging within interactive learning activities both individual and cooperative (Chellapan *et al.*, 2018). The challenges of adopting this approach within the specific research article lead to various conclusions for example, does the flipped classroom approach via technology hold any benefits and if it should be adopted or not and why (Chellapan *et al.*, 2018). This is very relevant to my situation because I face various challenges not only within the choice of instruction but specifically within web-based teaching and learning where learning activities, content and assessments do not integrate or constructively align within my course (Chellapan *et al.*, 2018). This issue of course design not being integrated correctly, plays a major role in my failed attempt within flipping my classroom (Fink, 2013). This is due to the key concepts of integrated course design namely integration of feedback and assessment, learning goals and learning activities being absent within my approach (Fink, 2013). Therefore, this might possibly be one of the biggest reasons why my students could not actively reach and maintain good grades within their course and that this was one of the causes towards negative student perception and satisfaction (McNally *et al.*, 2017).

My failed attempt at improving learning and engagement led me to additional research that speaks on the use of technology as a teaching and learning tool (Abdulrahman and Al-Zahrani, 2015). The use of virtual learning as well as fully utilizing all its benefits is an important consideration within the process of deciding how to flip your classroom (Abdulrahman and Al-Zahrani, 2015). The decision on the flipped classroom approach and its strategies depends on student preference and how they would like to spend their academic time which will allow for the lecturer to correctly structure their classroom time in order to reap the most benefits out of the session and the time spent with the students throughout the course (Abdulrahman and Al-Zahrani, 2015). A stable relationship in the chosen approach and how the lecturer contributes to this approach is vital in order to ensure the successful use of virtual based learning that will go beyond that of content delivery and posted lecture notes currently found within the traditional classroom setting (Limniou *et al.*, 2018). Virtual learning does allow the delivery of content to become more

flexible, however if this interactive tool is not used to its full potential the classroom environment will remain a traditional learning space (Limniou *et al.*, 2018). This results in the lecturer not becoming the facilitator that challenges the student within the way they think about certain concepts and also debilitates the students critical thinking ability and application (Slavin, 2006, cited in Limniou *et al.*, 2018). Integration of technology within teaching and learning covers one of the attributes of a blended learning approach where it connects the student with the lecturer and learning content (Bliuc *et al.*, 2007, cited in Limniou *et al.*, 2018). However, further engagement from the students within their own process of learning is the only the way that active learning becomes a possibility (Carlile and Jordan, 2005, cited in Limniou *et al.*, 2018). Further student engagement allows for students to develop improved knowledge through their own learning experience and fosters self-directed and self-regulated learning (Carlile and Jordan, 2005, cited in Limniou *et al.*, 2018). Therefore, a flipped learning approach will allow for the student to construct their own knowledge and it also promotes different teaching approaches other than that of a traditional classroom (Jordan *et al.*, 2008; Laurilland, 2012, cited in Limniou *et al.*, 2018). To achieve a more interactive classroom, technology can be one of your biggest allies in shifting classroom experience and engagement from within the classroom to outside of the classroom (Lage *et al.*, 2000, cited in McNally *et al.*, 2017). Traditional methods is not an approach that should be completely shut down by myself as the lecturer because traditional learning methods can also be accommodating in promoting student engagement based on learning activities conducted within class time, however, the flipped classroom allows for a much wider variety when it comes to the approaches of efficient learning (Lo and Hew, 2017, cited in Chellapan *et al.*, 2018). Within this article it showed that an interactive learning environment fosters a more positive feeling towards technology within the flipped classroom approach by students (Abeysekera and Dawson, 2015, cited in Chellapan *et al.*, 2018). The reason for this is that the student becomes more self-directed within their learning through the use of technology because it replaces the in-class lecture with a video, PowerPoint presentation or online collaboration session which will provide students with the necessary time to reflect continuously on the work that is being covered and gives them more time in class to discuss and formulate understanding of the covered topics (Chellapan *et al.*, 2018).

Another question arises within whether a flipped classroom is the only approach that will accommodate active learning pedagogy and activities or can interactive learning activities within a traditional classroom also foster positive individual and group learning (Hyun *et al.*, 2017). This article was based on using active learning pedagogy within both a flipped and traditional classroom and how this approach would impact student satisfaction on individual and group learning within both settings (Hyun *et al.*, 2017). Brooks (2012, cited in Hyun *et al.*, 2017) conducted a study on active learning classrooms and this study delivered some interesting aspects with regards to the actual lecturer behaviour specific to instruction and student behaviour. Brooks (2012, cited in Hyun *et al.*, 2017) established that the lecture delivery and group activities can be delivered within a similar fashion within both the traditional and flipped classroom but that teaching and learning goals should be specifically allocated to each type of classroom to achieve the desired outcome. He then goes further in stating that student learning engagement does not depend on the type of lecture but on the learning space that is created by the lecturer, the lecturers behaviour as well as the students behaviour towards the created or used teaching and learning approach (Brooks, 2012, cited in Hyun *et al.*, 2017). In other words, if the lecturer does not embrace the type of teaching and learning approach whether traditional or flipped, it will in turn have a negative impact on the student which diminishes the students ability to significantly engage within their learning (Brooks, 2012, cited in Hyun *et al.*, 2017).

Due to many students not reacting well to the change within my teaching and learning strategy it was important to find information specific to student learning preferences and therefore this article speaks directly to students who might be neutral towards this teaching and learning approach and those that do not prefer this (McNally *et al.*, 2017). The findings within this study shows that even though students have a negative response towards the flipped classroom because of them finding it difficult to adapt to a new style of learning, student outcomes and engagement still improves with this approach when the correct implementation strategy and the integration of the course is executed (McNally *et al.*, 2017). Therefore, when making the shift or as they would say “making the flip”, changes should occur before and after the implementation process of a flipped classroom approach which was not evident within my implementation plan (Baits and Galloway, 2012; Warter-Perez and Dong, 2012; Marks *et al.*, 2014; Sarawagi, 2014; Vaughn, 2014, cited in McNally *et*

al., 2017). The flipped classroom approach places an emphasis on student perception and student satisfaction, this was not a priority made by myself as the lecturer and therefore one of the reasons why the flipping process failed (Critz and Knight, 2013; Butt, 2014; Kim *et al.*, 2014; Swartz, 2014, cited in McNally *et al.*, 2017).

This brings me to the negative student behaviour that was experienced within my classroom towards learning and therefore I had to conduct research on student behaviour within a flipped classroom environment and how the student behaviour and motivation might improve within a flipped classroom setting (Abdulrahman and Al-Zahrani, 2015). When analysing student behaviour, we can look at student-preparedness as an asset that derives from using the flipped classroom (DeGrazia *et al.*, 2012; McLaughlin *et al.*, 2013, cited in Abdulrahman and Al-Zahrani, 2015). If students are more open to collaborative learning the following behavioural characteristics occur such as elevated excitement, engagement and student-satisfaction which can be additional results of the flipped classroom approach (Stayer, 2012; Davies, *et al.*, 2013; Mason *et al.*, 2013; McLaughlin *et al.*, 2013 and Wagner *et al.*, 2013; Butt, 2014, cited in Abdulrahman and Al-Zahrani, 2015).

When a student is more motivated to engage within the classroom certain improvements occur such as a significant display of experience in problem solving techniques which will be showcased by students within a flipped classroom leading to greater exam scores (Mason *et al.*, 2013; Tune *et al.*, 2013, cited in Abdulrahman and Al-Zahrani, 2015). Improved individualised learning can be connected to increased learner engagement within the flipped classroom (Davies *et al.*, 2013, cited in Abdulrahman and Al-Zahrani, 2015). Current research suggests that a flipped classroom approach can potentially have a positive impact on students creative thinking in terms of fluency, flexibility and novelty which will foster increased preparation, thought processes, problem solving and relevant learning activities (Abdulrahman and Al-Zahrani, 2015). With this potential positive impact there are also studies that show that some students within the flipped classroom are less satisfied with how the classroom approach is structured through task orientation (Stayer, 2012, cited in Abdulrahman and Al-Zahrani, 2015). In some cases, no change in the outcomes set for the students within the flipped classroom were found (McLaughlin *et al.*, 2013; Findlay-Thompson and Mombourquette, 2014, cited in Abdulrahman and Al-Zahrani, 2015). Due to limited changes in student behaviour further research on student behaviour and

performance can be explored through using the flipped classroom approach and the search continues for increasing quality of higher education with the intention to improve student's ability to achieve their learning goals which in turn will improve student behaviour towards this approach and their learning (Boevé *et al.*, 2017). Research by various scholars provides evidence to prove how active learning can achieve student learning goals (Prince, 2004; Freeman *et al.*, 2014, cited in Boevé *et al.*, 2017). Therefore, when positive student attitude is shown towards a more active classroom it will result in increased motivation, engagement and learning within the classroom (Altemueller and Lindquist, 2017).

Various gaps arise within each of the research articles that I have used to inform me on the topic of the flipped classroom. The most significant gaps will be addressed as well as how existing theories on this topic contributes to guiding and assisting my research study. The starting point in truly understanding what the flipped classroom entails is to ensure that I find the correct definition that will guide me within my research and what exactly this teaching and learning approach means because previous studies show that the definition is not clear enough (Ash, 2012; Chen *et al.*, 2014, cited in Turan and Goktas, 2016). This might be a potential reason for the gap in scholarly research to prove its effectiveness (Pierce and Fox, 2012; Bishop and Verleger, 2013; Abeysekera and Dawson, 2015, cited in Turan and Goktas, 2016).

Instructional strategies can also affect students' cognitive loads which should be something to consider when planning the curriculum for a course or discipline (Turan and Goktas, 2016). Findings on studies of a flipped classroom approach for inclusive learning shows significant improvement in achieving learning and student motivation (Altemueller and Lindquist, 2017). When positive student attitude is shown towards a more active classroom it will result in increased motivation, engagement and learning within the classroom (Altemueller and Lindquist, 2017). When applying the flipped classroom effectively by using technology in the form of video's, recordings, collaborations etc, it can lower the cognitive load of the student (Abesekera and Dawson, 2014, cited in Turan and Goktas, 2016). This shows that the flipped classroom provides a flexible classroom setup which shows a bigger improvement to that of the traditional setup and enhances self-paced learning (Tucker, 2012, cited in Altemueller and Lindquist, 2017). Scholar research is still very limited on how to foster student creativity through a flipped classroom approach (Abdulrahman and Al-

Zahrani, 2015). However, when looking at the main characteristics of creative thinking it can be concluded that creative thinking can be elevated by flexibility and fluency of thought processes within an active learning environment (Abdulrahman and Al-Zahrani, 2015).

The theory on the flipped classroom therefore has provided me with the following information which contributes to my study. The flipped classroom approach provides flexibility by enabling the lecturer and student to move from a lecture-based classroom model to that of a more learner-centred, problem-based, enquiry-driven environment (Bergman and Sams, 2012, cited in Altemeuller and Lindquist, 2017). The real benefit of a flipped classroom is instilled within the active, collaborative learning that occurs with the classroom (Schaffhauser, 2013, cited in Altemueller and Lindquist, 2017). When educators have the flexibility in choice because of using the flipped classroom approach, it will allow opportunity for students to apply critical thinking within their classrooms (Fulton, 2012, cited in Altemeuller and Lindquist, 2017). By having the freedom to ask questions related to content covered within group discussions, the lecturer and student peers can facilitate the activity which provides immediate feedback on their learning (James *et al.*, 2014, cited in Altemeuller and Lindquist, 2017). Thus, by efficiently maintaining in class activities that emphasises discussions, problem solving, student cooperation and effective communication will ignite creative thought patters within the student specific to novelty, flexibility and fluency (Edwards, 2001; Martin and Schwartz, 2014, cited in Abdulrahman and Al-Zharani, 2015). Accountability can thus be instilled within the student where they are not only accountable for their own personal learning but also responsible for the learning between peers (Ray and Powell, 2014, cited in Fry *et al.*, 2014).

Student preparation should be implemented before the implementation of the flipped classroom approach (Abdulrahman and Al-Zahrani, 2015). Preparation should be applied with caution to allow for initiation of creative thinking and problem solving (Abdulrahman and Al-Zahrani, 2015). Avoid overload of information (Abdulrahman and Al-Zahrani, 2015). It is imperative to have a pre-existing implementation plan that can be executed to gradually introduce a new classroom environment to your students (McNally *et al.*, 2017). To ensure that a flipped classroom is accepted by the student and to increase the level of successful implementation an induction process can be performed at the beginning of each semester or academic year to help the student find their feet in all that is new which will lead to

students engaging more through active participation within induction and thus become more active learners (McNally *et al.*, 2017). Within induction and throughout the course the main objectives of in class activities should emphasise discussion, problem solving, and suitable feedback from the lecturer as facilitator (Abdulrahman and Al-Zahrani, 2015). Assessments should be diverse by evaluating student achievement, creativity, critical thinking skills through formative and summative assessment methods (Abdulrahman and Al-Zahrani, 2015). Student behaviour in the form of feeling obligated to improve their understanding of learning material should be of high importance before increasing the difficulty level of content and assessments (Seigel, 2013, cited in Altemueller and Lindquist, 2017).

When deciding to flip a classroom, two key elements must be continuously considered which will be time and perseverance (Herold *et al.*, 2012; Xin *et al.*, 2013, Vaugh, 2014, cited in McNally *et al.*, 2017). Feedback surveys in the form of questionnaires on student experience within the flipped classroom can be used as a strategy for implementation (McNally *et al.*, 2017). Student feedback should be required within research to obtain information in the form of feedback on activities administered within the flipped classroom approach (McNally *et al.*, 2017). Questions can be structured on classroom experience based on the clarity of learning content with regards to pre-study, learning pace and study achievement, student's practical application ability and student communication skills (McNally *et al.*, 2017). Study behaviour is expected to change within a new approach of instruction such as using the flipped classroom, and this is evident within some students as they show a form of resistance to an active classroom approach (Boevé *et al.*, 2017). To identify why students resist the interactive learning approach such as the flipped classroom, it is recommended that the lecturer therefore myself investigate the history between prior learning, the effects of a broad curriculum and how to effectively communicate within a large and diverse group of students during lecture attendance (Boevé *et al.*, 2017). When the feedback is analysed myself as the lecturer can use the information to create a more supportive learning environment by analysing students study methods and how they construct understanding at the beginning of the course to ensure that course planning caters for the student's needs which will hopefully improve student behaviour and motivation (Tomes *et al.*, 2015, cited in Boevé *et al.*, 2017). Student background and study

ability makes a big contribution to positive or negative student behaviour and their level of motivation that determines engagement (Boevé *et al.*, 2017). Therefore, this should always be considered especially when choosing your instruction tool (Boevé *et al.*, 2017). It is important to cater to the students' needs through my implementation process which should focus on how to prepare the student for change within their learning environment so that the transition can be as smooth as possible (Boevé *et al.*, 2017). Strategy tools such as study diaries, attendance registers, exams, student, and course evaluation can be used to improve the flipped classroom approach (Boevé *et al.*, 2017). If the appropriate steps are followed within the implementation of the flipped classroom, it will make a difference from that of a traditional classroom with regards to student preparedness within assessments and exams because the interactive classroom, content and learning activities provides them with the luxury of not spending so many hours on studying due to knowledge continuously being constructed and applied (Boevé *et al.*, 2017).

I believe that the above research has provided me with the ability to conceptualize the flipped classroom concept and how this approach differs from traditional instruction. The research conducted on this approach also provided me with methods of how to plan and implement this approach in order to achieve improved student behaviour towards learning and to transform learning by fostering an independent student through significant teaching and learning experiences.

Problem statement:

My chosen research tradition is Interpretivism (Bezuidenhout, Davis and du Plooy-Cilliers, 2014). When formulating my problem statement, it is important to identify the problems from direct experience and observation which will act as my method of collecting information (Bezuidenhout *et al.*, 2014). My problem statement formulation is also specific to my research topic, the issues experienced within my topic and to find a clear understanding of negative student behaviour towards new learning environments specific to the flipped classroom as well as limited student engagement and low self-efficacy towards their own learning (Bezuidenhout *et al.*, 2014). Within my problem statement I have to consider the criteria for formulating a research problem which will guide me within valid research so that I will be able to answer my research questions and achieve my research goals within my study (Bezuidenhout *et al.*, 2014). The ideal for conducting

research on the topic of the flipped classroom approach within higher education would possibly assist me in answering my research question. My topic and research goal will aim to find appropriate and academically sound information on approaches that will guide me within my implementation design of the flipped classroom in order to enhance student behaviour towards learning and promote independent learning, student engagement and significant learning (Bezuidenhout *et al.*, 2014). As previously mentioned, my research was conducted to clarify student teaching and learning preference, therefore, how students come to learn and how their learning, behaviour and motivation can be affected by a traditional classroom and a flipped classroom. Through direct observation and experience within the second year sport and exercise science diploma group for the academic year of 2019, it became apparent that a traditional methods of teaching lead to negative student behaviour and a lack of student engagement and therefore it is absolutely necessary to investigate various teaching and learning methods specifically the flipped classroom in order to answer the following question: Which teaching and learning approaches should be incorporated within the implementation design of the flipped classroom in order to provide enhanced student behaviour and promote independent learning, student engagement and foster significant learning within the student? Therefore, I chose to conduct research on the second year diploma group of sport and exercise science for the year of 2020 based on the problems experienced within the 2019 second year diploma group of sport and exercise science (Bezuidenhout *et al.*, 2014). The decision to use the diploma sport and exercise science group of 2020 is based on enhancing the diversity factor of the chosen sample (Bezuidenhout *et al.*, 2014). Also, to obtain richer data due to similar student characteristics being experienced and observed within the new 2020 diploma sport and exercise science diploma group (Bezuidenhout *et al.*, 2014). Negative student behaviour and lack of student engagement is evident within both the 2019 and 2020 diploma sport and exercise group which needs to be investigated in order to find out why some of the sample population do not endorse different classroom environments other than that of a traditional classroom, why some are neutral when it comes to learning preferences and environments and why some students endorse an interactive classroom environment and how these learning environments affect student engagement and performance (Turan and Goktas, 2016). The sample population will therefore be based on the second ever diploma of sport and exercise

science second year group and therefore have a direct connection to answering my research question (Bezuidenhout *et al.*, 2014).

Research approach & Methodology:

Research Paradigm and Tradition:

The paradigm chosen for my research was Interpretivism (Bezuidenhout, Davis and Du Plooy-Cilliers, 2014). Interpretivism as a paradigm shows that people are basically different from objectives (Bezuidenhout *et al.*, 2014). Unlike objects, humans change all the time in their environment, belief systems, education, and social standings (Bezuidenhout *et al.*, 2014). Thus, in social sciences it is the researcher's job to study and describe meaningful social actions (Bezuidenhout *et al.*, 2014). Interpretivists believe that common sense guide people from day to day (Bezuidenhout *et al.*, 2014). That the truth is dependent on people's interpretation of what reality is (Bezuidenhout *et al.*, 2014). Peoples experiences and interactions within the real world will assist them in constructing their own social reality (Bezuidenhout *et al.*, 2014). It is a person's perceptions that will create their social world (Bezuidenhout *et al.*, 2014). Therefore, instead of using statistics the interpretivist tells a story of detailed experiences from people themselves (Bezuidenhout *et al.*, 2014). Also, instead of formulating theories to be tested by hypothesis, interpretivists will collect information and analyse this information and then only compile a theory based on information and analysis (Bezuidenhout *et al.*, 2014). Qualitative research will be used as a method or strategy for it will highlight and capture words more than numbers (Bezuidenhout *et al.*, 2014). Interpretivists discuss the important factors that shape their research (Bezuidenhout *et al.*, 2014).

From an epistemological position my research should aim to clarify the uncertainty within the definition of a flipped classroom because there are numerous definitions and versions of this flipped classroom design and I would like to choose the most suited methods of this specific approach for implementation within my classroom (Turan and Goktas, 2016). Even though various methods and definitions might be allocated to this significant teaching and learning approach, the aim of this approach still remains the same across the board and that is to decrease homework and lecturing time and create interactive learning environments through this teaching approach that will improve student engagement, teacher facilitation and constructive alignment within the course design (Abdulrahman and Al-Zahrani, 2015;

Turan and Goktas, 2016; Altemueller and Lindquist, 2017; Boevé *et al.*, 2017; Chellapan *et al.*, 2018).

From an ontological position I believe that my research can be conducted best through real life scenarios that occur within my classroom which can be created through interaction, experience and change, therefore knowledge in terms of learning is not fixed but occurs through personal experience via social interaction (Jacobson, 2003). Interaction relates to the induction process, establishing how students learn which will assist me within guiding and supporting a diverse student group to ensure that they are prepared for what exactly will be happening within the introduction period of one week following the five weeks of term one, semester one within the module of SESC 203 Training methods and programme design second year diploma of sport and exercise science (Boevé *et al.*, 2017). By exploring study behaviour and student performance I can establish if students are adapting to the second year diploma from first year higher certificate fitness and coaching as well as my lecturing style and the teaching and learning methods within this course from a flipped classroom approach (Vermunt and Vermetten, 2004, cited in Boevé *et al.*, 2017). I will conduct research via a consent form to be completed by the second year diploma sport and exercise science 2020 students within the induction period of one week, and then I will also conduct research via a questionnaire where I will launch two different classroom experiences, one traditional contact session and one flipped contact session a week apart to establish how they perceive both of these types of teaching and learning strategies (Boevé *et al.*, 2017). The reason for establishing student history and learning styles will be to establish how my student learning preference and perceive subject matter (Hattie *et al.*, 1996, cited in Boevé *et al.*, 2017). If I do not consider this key aspect of how to flip my classroom, learning efficiency and improved student behaviour will not be the result as this is one of the attributes provided by an interactive classroom environment (Hattie *et al.*, 1996, cited in Boevé *et al.*, 2017). The goal is to continuously provide student support within the implementation of a flipped classroom because if the student is not appropriately guided within learning strategy it will most likely show within their level of preparedness when assessments are completed (Tomes *et al.*, 2011, cited in Boevé *et al.*, 2017). Student support will be established through student feedback in the form of a questionnaire on student experience within a traditional classroom and within the flipped classroom (McNally

et al., 2017). Student feedback should be required within research to obtain information in the form of feedback on activities administered within the traditional classroom approach as well as within the flipped classroom approach (McNally *et al.*, 2017). Questions can be structured on classroom experience based on the clarity and access of learning content with regards to pre-study, learning pace and study achievement, student's practical application ability and student communication skills (McNally *et al.*, 2017).

Sample method:

My sampling method included my approach and the chosen population parameters. My approach towards conducting research within my sampling method is that of qualitative research as indicated within my research paradigm and tradition because the student's opinion captures more than numbers via quantitative research (Bezuidenhout *et al.*, 2014). Qualitative data collection methods allow for me as the researcher to gain substantial and relevant data from a diverse student sample (Bezuidenhout *et al.*, 2014). Qualitative research will therefore allow me as the researcher to gain understanding within the subjective experiences within this sample (Neuman, 2011, cited in Bezuidenhout *et al.*, 2014).

Population Parameters involved two student groups specific to the first-year higher certificate fitness students and the first-year higher certificate coaching students moving into the second year Diploma Sport and Exercise Science at ETA College Pretoria. The reason for the sample selected was to ensure that my data saturation level was reached (Bezuidenhout *et al.*, 2014). My initial sample would have derived from the second year diploma sport and exercise science group of 2019 moving into the third diploma year 2020, however, the sample group was changed to that of the first year higher certificate fitness and higher certificate coaching groups of 2019 moving into the second year diploma sport and exercise science 2020. My sample size projection for the second-year student group of 2020 was between 30 and 40 students, however, 37 students enrolled for the second-year diploma sport and exercise science programme for 2020.

The decision to change my sample was to enhance the diversity factor of the chosen sample and to obtain richer data out of the two groups that have experienced similar teaching environments, possess a similar learning history within the higher certificate, possess different learning styles and have different personalities (Bezuidenhout *et al.*, 2014). Also,

the characteristics of the sample population entails a certain number of students that do not endorse a different classroom environment other than that of a traditional classroom and students that endorse an interactive classroom environment (Turan and Goktas, 2016). This specific group will be the second group for the diploma of sport and exercise science second year at our campus and therefore have a direct connection to answering my research question (Bezuidenhout *et al.*, 2014). My sample method consisted of a combination of convenience and purposive sampling through using two questionnaires where each questionnaire was specific to the type of lecture conducted (Bezuidenhout *et al.*, 2014). Two lectures namely a traditional and a flipped classroom were conducted on the same concept (Bezuidenhout *et al.*, 2014). The questionnaire for both the traditional and the flipped classroom were specific to learning content access, teaching, and learning experience within that type of classroom as well as feedback opportunities from both student and lecture (Bezuidenhout *et al.*, 2014). The chosen sample method and scenarios were conducted with the purpose of answering my research question by the students that formed part of my research purpose and problem (Bezuidenhout *et al.*, 2014). Even though I know that convenience sampling poses a threat to being biased towards the social or professional context of the researcher it is still the best option for me as the researcher in answering my research question through exploring how students react to different classroom environments and which approaches will assist me in flipping my classroom successfully for future diploma groups within the discipline of sport and exercise science (McNally *et al.*, 2017).

Data collection method:

The aim of my data collection method was to explore the flipped classroom, its methods, how it differs from a traditional classroom and how an interactive classroom will enhance student behaviour towards learning and promote independent learning, student engagement and significant learning (Fink, 2013; Fry, Ketteridge and Marshall, 2014; Abdulrahman and Al-Zahrani, 2015; Turan and Goktas, 2016; Altemueller and Lindquist, 2017; Boevé *et al.*, 2017; Chellapan *et al.*, 2018; Mandernash, Donnelly-Sallee and Dailey-Herbert, 2019). Field research forms part of my research design because I assume that negative student behaviour and lack of engagement within my classroom directly links to my teaching approach (McNally *et al.*, 2017). Therefore, field research was chosen due to the setting I found myself in on a regular basis which is the second-year diploma sport and

exercise science group (Bezuidenhout *et al.*, 2014). The case study approach derives from field research and will be appropriate for my data collection method (Bezuidenhout *et al.*, 2014). Through creating two real life classroom environments namely a traditional classroom and a flipped classroom I will be able to create an explanatory case study where student behaviour and engagement as a phenomenon will be the key elements of how students perceive and experience these two different teaching and learning environments (Bezuidenhout *et al.*, 2014). My implementation design has allow me to be an active participant within the research field because I will be designing each classroom experience with regards to a traditional classroom and a flipped classroom and the student will then fill out a questionnaire after each session to express how they experienced the type of classroom (Bezuidenhout *et al.*, 2014). The advantages of fully participating in my data collection method are the following. Being actively involved within the group chosen allows me to experience and better understand my students reality with regards to the type of teaching and learning environment created, to identify discrepancies within the participant group from an early stage, to immediately rectify any potential issue that might derail my data collection and being completely involved will provide me with a more in-depth picture of why student behaviour changes towards specific types of teaching and learning approaches used (Bezuidenhout *et al.*, 2014). The limitations of being fully involved within my data collection is that through full involvement within the participant group that I am studying I might lose objectivity that is imperative for validity of my research findings and therefore I should constantly reflect on my research approach and purpose (Bezuidenhout *et al.*, 2014).

This brings me to my data collection. I created the opportunity within our 2020 academic induction week to discuss my research with my students and to also ask them if they would like to participate within my research study.

Initially the plan was to conduct one traditional and one flipped classroom over a period of five weeks, however, I decided to changed my approach to ensure that my research does not loose validity due to possible fluctuations within class attendance.

As earlier discussed, a traditional classroom with a specific planned concept relevant to the learning module was conducted first and after the class the traditional classroom questionnaire was completed. The second class that was conducted a week later was based

on the same learning concept, only the classroom environment was changed to that of a flipped classroom and after this session a flipped classroom questionnaire was completed. Figure 1 provides information with regards to how many students completed the consent form, how many students that provided consent completed one of the two questionnaires or both questionnaires. Therefore, a total number of students that completed the consent form was 29. The reason for having less than 37 completing the consent form within the second-year diploma of sport and exercise science was due to not all students attending the induction week before the academic year started in February 2020. Also, the same students where not present on various occasions where opportunity to complete the consent form was provided. Out of the 29 students that provided consent, only 22 students attended and completed the traditional classroom questionnaire. The reason for all 29 students not completing the questionnaire was due to not attending the class on that specific day. Out of the 29 students that provided consent, 32 students attended and completed the flipped classroom questionnaire. The reason for this is due to more students attending the class on that day. The real sample number of 22 students derived from organizing the students that completed the participant consent form, attended both the traditional and flipped classroom session and also completed both the traditional and flipped classroom questionnaire on the day that the type of classroom was conducted.

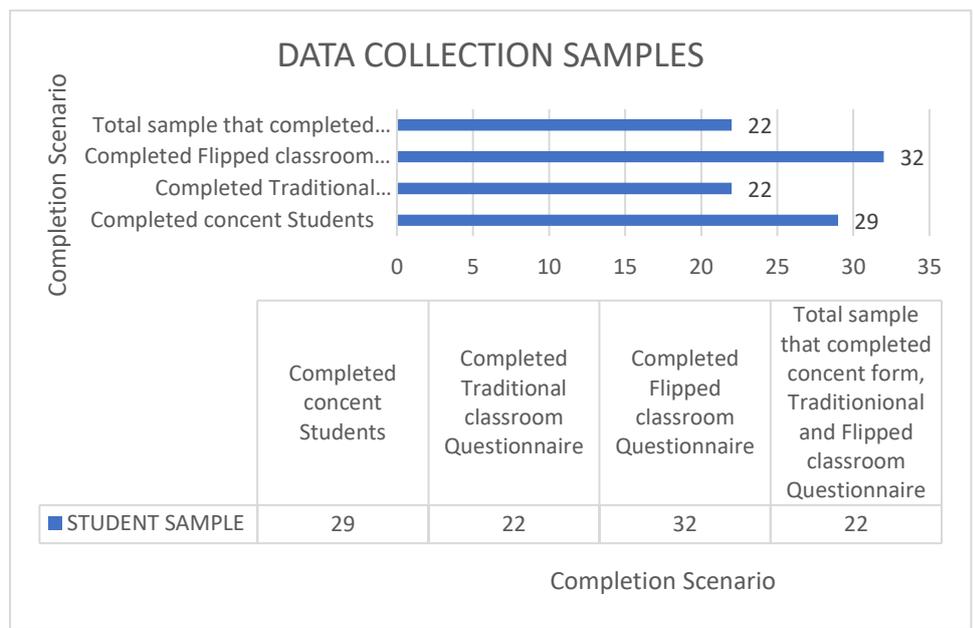


Figure 1: Data collection sample

Analysis of data and findings:

Data analysis method:

The key aspects of what will be analysed within the data collection methods was described and justified. When evaluating instructional efficacy, the traditional guidelines relates to course outcomes and content, student satisfaction and knowledge retention (Mandernash, Donnelly-Sallee and Dailey-Herbert, 2019). However, a more specific approach should be taken to establish what impact instructional activities will have on student engagement through the teaching and learning strategy implemented by the lecturer (Mandernash *et al.*, 2019). If I want my result to showcase meaningful learning through a flipped classroom approach, I must focus on the quality of how my students learn (Fink, 2013). Therefore, if I want to promote student engagement and improve negative student behaviour towards teaching and learning, I have to go beyond foundational knowledge, application of learning concepts and focus more on developing integration of knowledge, human dimension and caring as well as an independent student within the learning environment which will foster a lifelong learner (Mandernash *et al.*, 2019). Assessing student engagement was conducted via questionnaires as indicated within my data collection method which assisted me in monitoring student engagement (Mandernash *et al.*, 2019). Therefore, the data analysed was specific to the access of learning content, teaching and learning experience within the traditional and flipped classroom environment and feedback where the student have the opportunity to ask questions within that learning environment as well as the lecturer providing relevant and constant feedback to improve understanding of the covered concept (Mandernash *et al.*, 2019). The data analysed was also specific to student behaviour within the traditional and flipped classroom environment, how frequently the learner engages within online learning resources, self-regulated learning through pre-study, learning content engagement motivation, cooperative classroom discussions and activities, can they apply the knowledge within practice, student feedback opportunity and lecturer (Mandernash *et al.*, 2019).

My data collection method was based on qualitative content analysis that involves an inductive approach in order for myself as the researcher to develop new theories on the topic of the flipped classroom approach or to specifically test the theories within research that relates to the implementation of a flipped classroom approach and which methods will

ensure that the participant sample's behaviour, motivation and engagement will be improved by this approach (Mckee, 2001, cited in Bezuidenhout *et al.*, 2014). Qualitative content analysis allowed me to identify themes within the outline of what can be found within the answers of the questions through careful analysis and constantly comparing the themes within the traditional classroom and the flipped classroom session (Zhang and Wildemuth, 2009, cited in Bezuidenhout *et al.*, 2014). Qualitative Coding has assisted me as the researcher in making data more manageable for analysis and the coding process allowed me to group the data which relates to fractured data (Strauss, 1987, cited in Bezuidenhout *et al.*, 2014). Fracture data means that myself as the researcher has broken down the concepts into categories within my questionnaire, each category has a set of codes or themes that provided meaningful information and guided me within the analysis of how my students perceive a traditional and flipped classroom and how this affects their behaviour towards learning and engagement (Bezuidenhout *et al.*, 2014). Therefore, a structural coding process was developed to ensure that unnecessary data was eliminated and that my scope narrows down to what I need answered within my research question (Saldaña, 2009, cited in Belotto, 2018). Finally, a combination of descriptive and explanatory method will be used to assist within the coding process of themes to ensure that the codes or themes I have identified captures the essence of my research question and aim (Belotto, 2018).

The first category within both the traditional and flipped classroom was specific to learning content access within figure 2, 3 and 4.

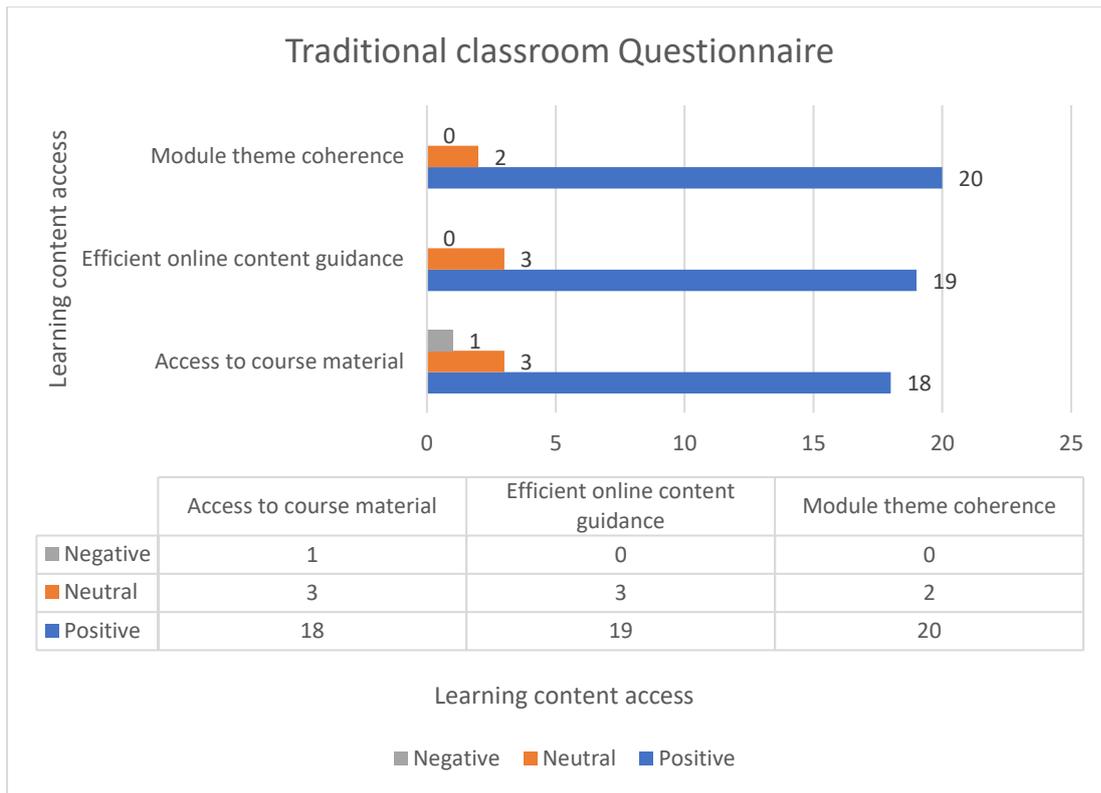


Figure 2: Traditional classroom Questionnaire – Learning content access

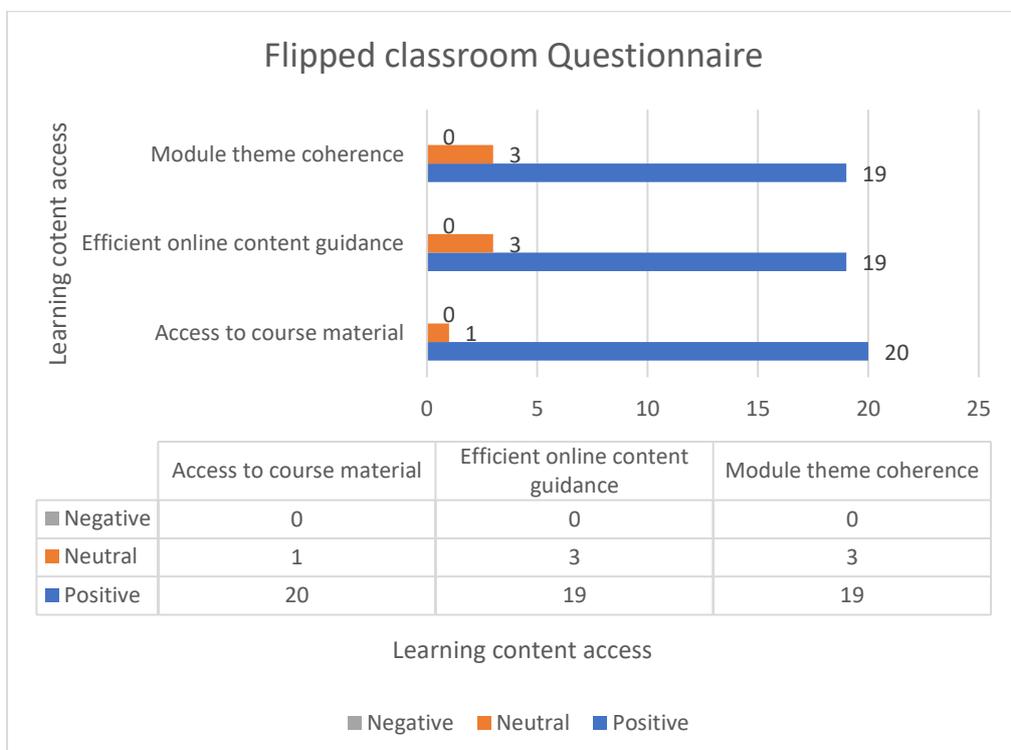


Figure 3: Flipped classroom Questionnaire – Learning content access

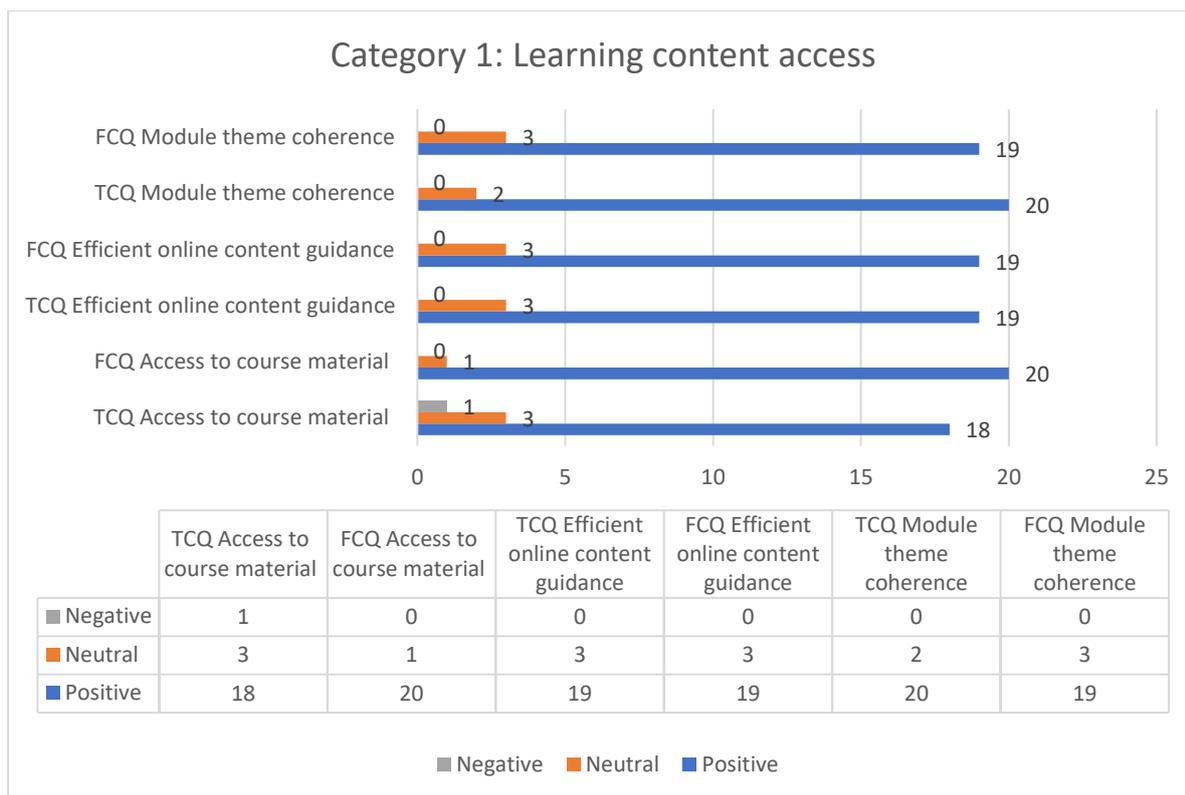


Figure 4: Comparison of positive, neutral, and negative responses to the three themes specific to category 1: Learning content access.

The first category specific to learning content access within both the traditional classroom questionnaire (TCQ) and flipped classroom questionnaire (FCQ) had three themes that relates to this category namely access to course material, efficient online content guidance and module theme coherence. The results towards the first theme within both the traditional and flipped classroom questionnaire namely accessibility to course material showcased a high number of students being satisfied with their ability to access the module content, topics, and resources online. A small number of students rated the access to course material theme as neutral or negative within both the traditional and flipped classroom. The reason for this rating specific to access of course material was due to the student not attending the full induction week prior to the start of the academic year of 2020. An issue of not possessing enough data to access online learning also surfaced in the written comments of the questionnaire as well as students preferring hard copy textbooks above that of online resources. The results towards the second theme within the traditional and flipped classroom questionnaire namely efficient online content guidance showcased a high number of students being satisfied with the online module content that guides them

within module outcomes, learning objectives, resources and assessments. A small number of students rated the efficient online content guidance theme as neutral within both the traditional and flipped classroom. No reasoning was provided by the students who rated this theme as neutral. The results towards the third theme within the traditional and flipped classroom questionnaire namely module theme coherence showcased a high number of students being satisfied with the coherence within the module topics and learning outcomes. A small number of students rated the coherence of module themes as neutral within both the traditional and flipped classroom. No reasoning for a neutral rating specific to this theme was provided. My research finds coherence with the higher positive response to students having access to learning content (Chellapan *et al.*, 2018). Technology is a vital teaching and learning tool that offers student learning and self-directed learning support (Chellapan *et al.*, 2018). The process of integrating technology within teaching and learning approaches allows for blended learning as well as inclusive learning that will be able to link the student with that of the lecturer and the learning content (Bliuc *et al.*, 2007, cited in Limniou *et al.*, 2018).

The second category within both the traditional and flipped classroom was specific to teaching and learning experience within figure 5, 6, 7a and 7b.

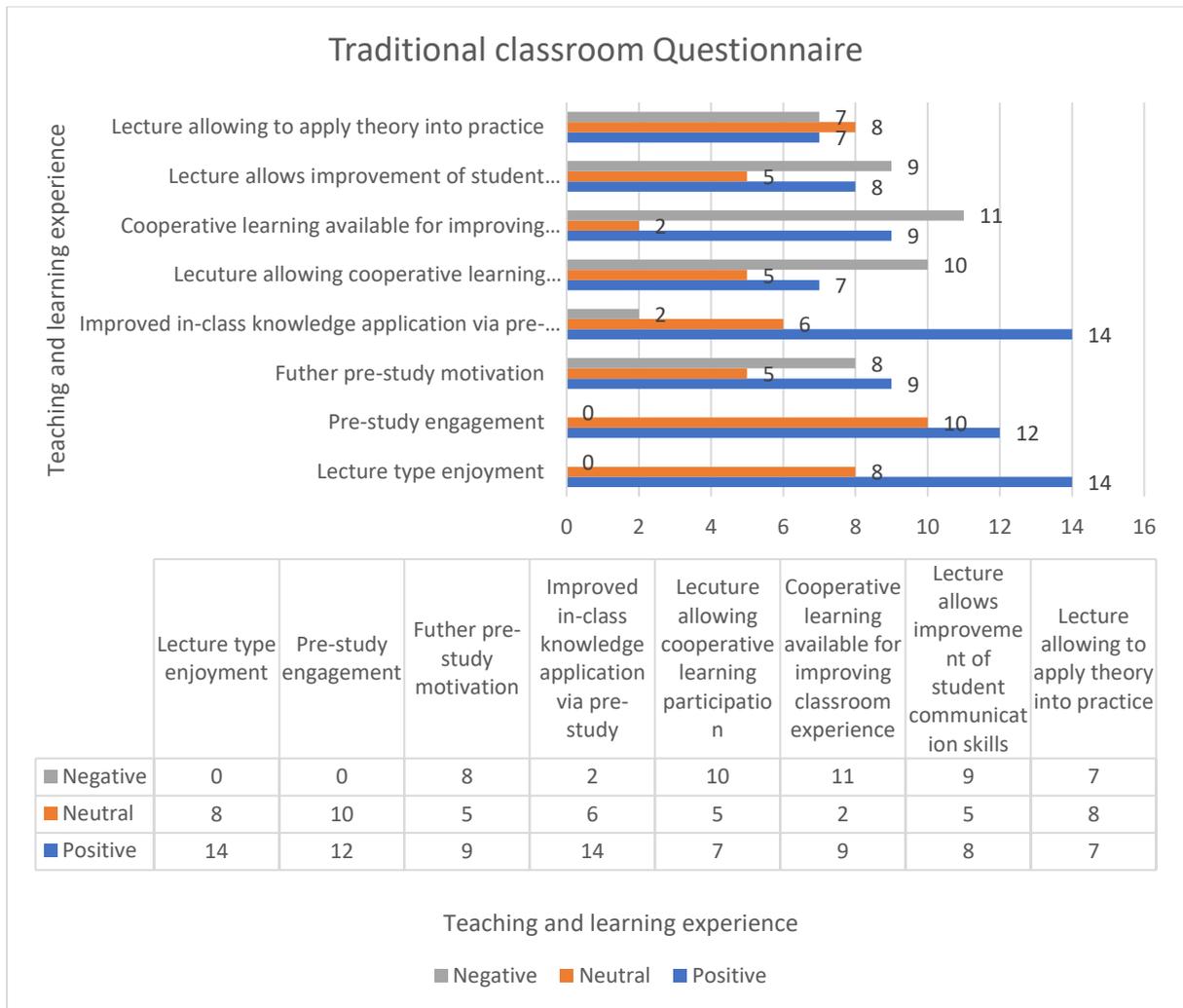


Figure 5: Traditional classroom Questionnaire – Teaching and learning experience

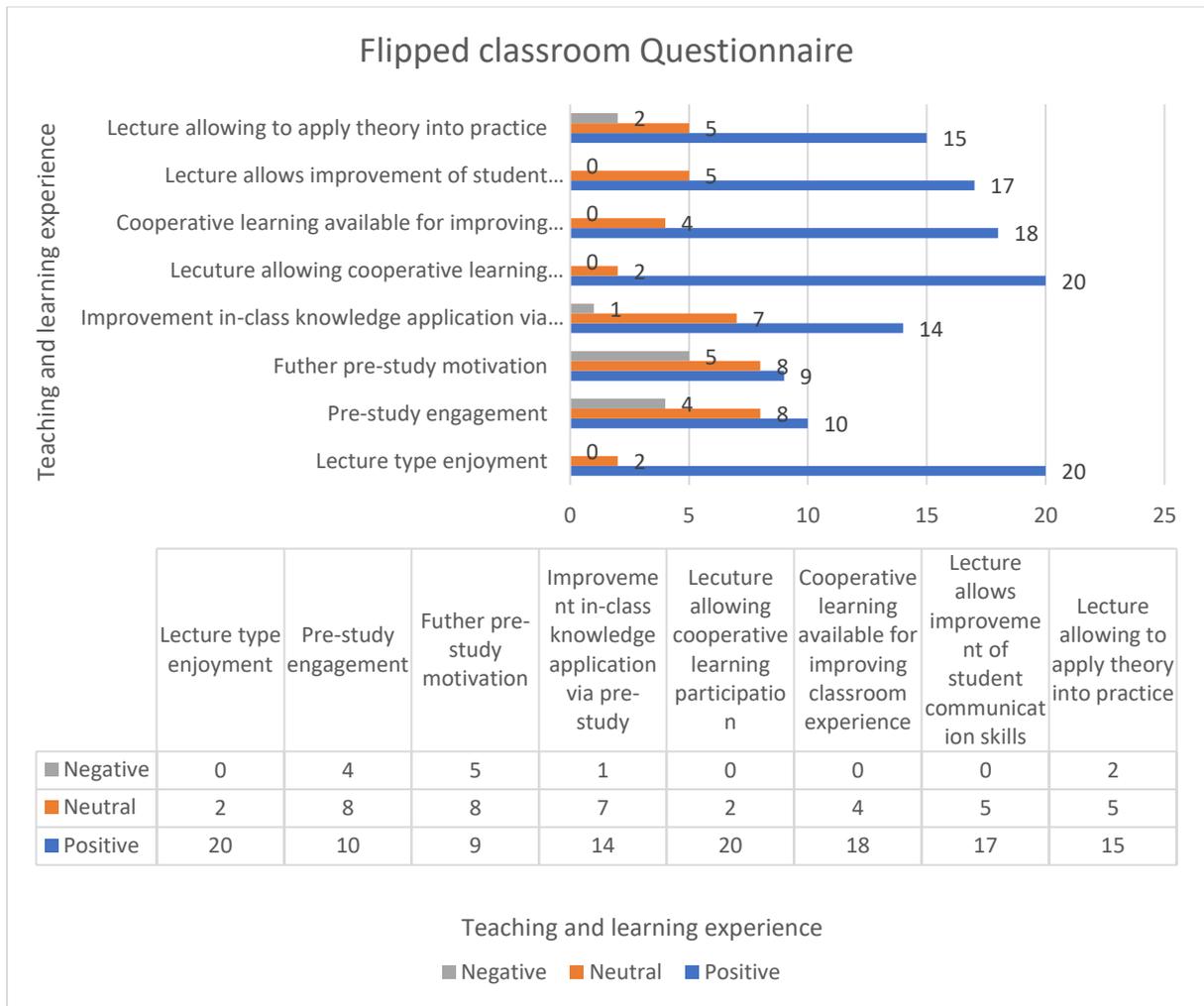


Figure 6: Flipped classroom Questionnaires – Teaching and learning experience.

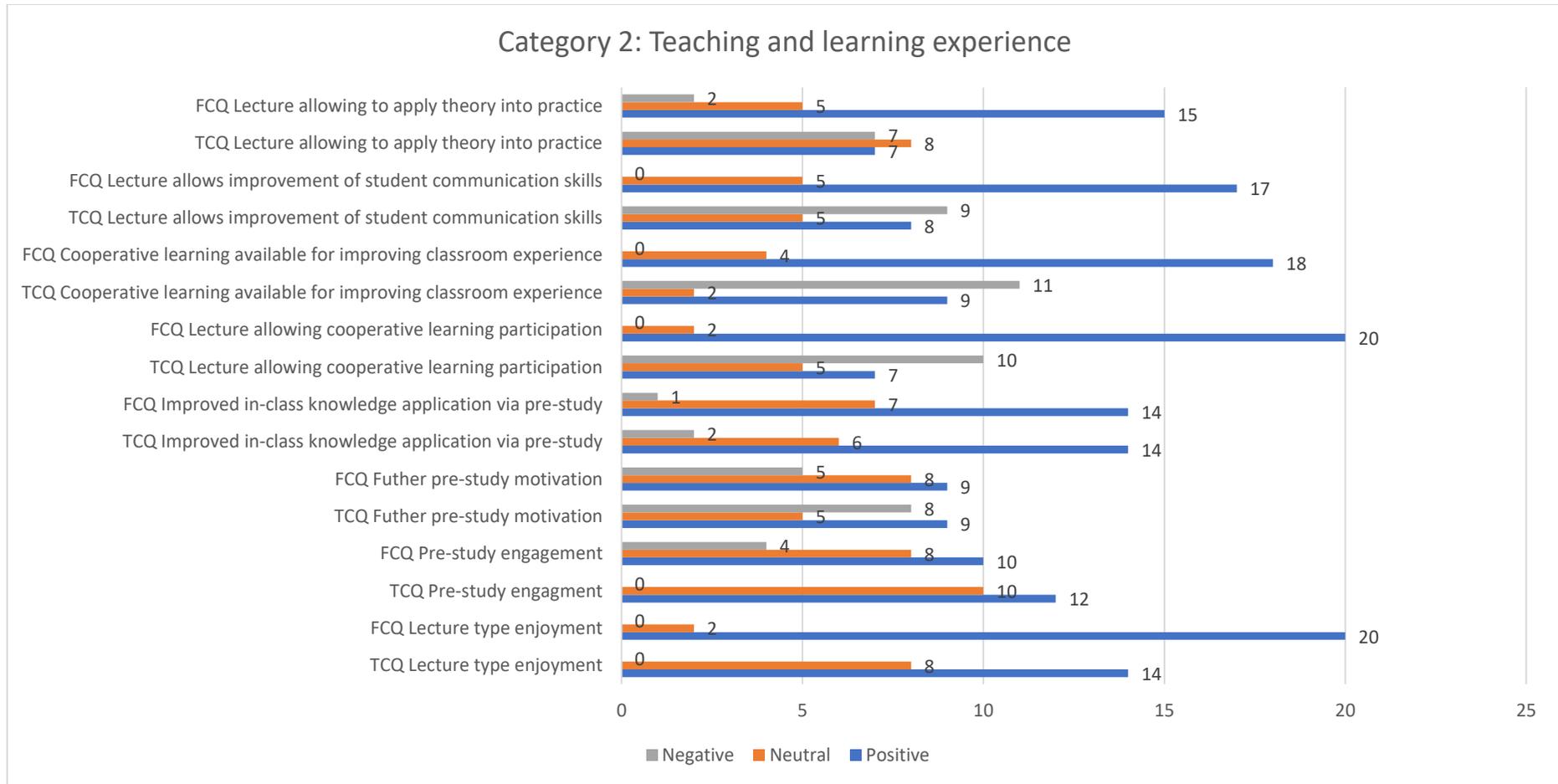


Figure 7a: Comparison of positive, neutral, and negative responses to the eight themes specific to category 2: Teaching and learning experiences.

	TCQ Lecture type enjoyment	FCQ Lecture type enjoyment	TCQ Pre-study engagement	FCQ Pre-study engagement	TCQ Further pre-study motivation	FCQ Further pre-study motivation	TCQ Improved in-class knowledge application via pre-study	FCQ Improved in-class knowledge application via pre-study	TCQ Lecture allowing cooperative learning participation	FCQ Lecture allowing cooperative learning participation	TCQ Cooperative learning available for improving classroom experience	FCQ Cooperative learning available for improving classroom experience	TCQ Lecture allows improvement of student communication skills	FCQ Lecture allows improvement of student communication skills	TCQ Lecture allowing to apply theory into practice	FCQ Lecture allowing to apply theory into practice
■ Negative	0	0	0	4	8	5	2	1	10	0	11	0	9	0	7	2
■ Neutral	8	2	10	8	5	8	6	7	5	2	2	4	5	5	8	5
■ Positive	14	20	12	10	9	9	14	14	7	20	9	18	8	17	7	15

■ Negative ■ Neutral ■ Positive

Figure 7b: Comparison of positive, neutral, and negative responses to the three themes specific to category 2: Teaching and learning experiences.

The second category specific to teaching and learning experience within both the traditional classroom questionnaire (TCQ) and flipped classroom questionnaire (FCQ) had eight themes that relates to this category namely lecture type enjoyment, pre-study engagement, further pre-study motivation, improved in-class knowledge application via pre-study, lecture allowing cooperative learning participation, cooperative learning available for improving classroom experience, lecture allows improvement of student communication skills and the lecture allowing to apply theory into practice.

The results towards the first theme within both the traditional and flipped classroom questionnaire namely lecture type enjoyment showcased a higher number of students being satisfied with the flipped classroom environment than that of the traditional classroom. The reason for a higher positive rating within the flipped classroom derived from the written comment section where students stated that the flipped classroom was more eventful which increased interest and the reason for low engagement towards the traditional classroom was due to it feeling too long and therefore resulting in a loss of concentration and engagement due to the one-side learning experience of only the lecturer communicating. A higher number of students responded as neutral within the traditional classroom than that of the flipped classroom. No reasoning was provided for this rating. The results within the first theme specific to the category teaching and learning experience agrees to that of my research where it states that a flipped classroom may or may not provide increased student engagement, however, the deciding factor for its effectiveness rests in the implementation of this method (Turan and Goktas, 2016). The research also states that a traditional classroom does not allow for interactive participation and therefore this could be the reason for the students enjoying the flipped classroom approach more (Fautch, 2015, cited in Turan and Goktas, 2016).

The results towards the second theme within both the traditional and flipped classroom questionnaire namely pre-study engagement showcased that there were slightly more students that engaged within pre-study before the lecture of the traditional classroom than that of the flipped classroom. There was also a slightly higher number of students that rated their pre-study application as neutral before the traditional classroom than that of the flipped classroom. A higher number of students did not engage in pre-study before the flipped classroom than that of the traditional classroom. The reason for higher pre-study

engagement within the traditional classroom than that of the flipped classroom might be due to a lowered motivation for pre-study as the students moved on from the traditional classroom that was conducted first. The flipped classroom was conducted the following week where students had more work and assignments in other course related modules to be completed, therefore stating within the comment section that they did not find the time to fully engage within pre-study prior to the flipped classroom. The results of the second theme within the category teaching and learning experiences shows that learning support using the students online learning platform should be fully established before flipping the classroom (Chellapan *et al.*, 2018).

The results towards the third theme within both the traditional and flipped classroom questionnaire namely further pre-study motivation showcased that there were a lower but similar amount of students that positively rated their motivation towards additional pre-study before both the traditional classroom and flipped classroom. A slightly higher number of students rated their motivation towards additional pre-study as neutral within the flipped classroom than that of the traditional classroom the previous week. Also, a slightly higher number of students rated their motivation towards additional pre-study as negative within the traditional classroom than that of the flipped classroom. Within the comment section of the theme specific to additional pre-study motivation it was stated by some students that they had a lack of experience within finding additional resources specific to the concept that was covered within both the traditional and flipped classroom. This might also be the reason for lack of motivation and negative behaviour towards further pre-study motivation. Also, some students commented that if the lecturer covers the work, there is no need to perform additional pre-study. Once again, the results agree with my research where online learning support and navigation is of vital importance before deciding to completely flip my classroom (Chellapan *et al.*, 2018).

The results towards the fourth theme within both the traditional and flipped classroom questionnaire namely improved in-class knowledge application via pre-study showcased that there was a lower but similar amount of students that positively rated their ability to apply knowledge within class due to pre-study participation. A slightly higher difference was found in students rating their ability to apply knowledge within class due to pre-study as neutral. The reason for this derives from the comment section below this theme where

some students felt that there was no in-class activity performed within the traditional classroom and therefore pre-study had not purpose. A low number of students negatively rated their ability to apply knowledge within class due to pre-study participation. To improve in-class knowledge application according to that of theme four, it is vital to make the shift from a teacher-centred to a student-centred learning environment where technology for pre-study is available and in turn will foster self-directed learning (Chellapan *et al.*, 2018). An interactive classroom provides more room for activities and discussion that will enhance knowledge construction (Chellapan *et al.*, 2018).

The results towards the fifth theme within both the traditional and flipped classroom questionnaire namely the lecture allowing cooperative learning participation showcased that there was a high amount of students that positively rated the flipped classroom lecture enabling them to participate in cooperative learning. A higher neutral and negative rating was visible within the traditional classroom as this lecture type did not allow for group work or group discussions that resembles cooperative learning. My research once again supports my results where the flipped classroom allows for a more interactive learning environment that allows for in class activities that enhances student engagement, improve knowledge construction and problem solving through cooperative learning (Turan and Goktas, 2016).

The results towards the sixth theme within both the traditional and flipped classroom questionnaire namely the lecture allowing cooperative learning as an approach to improve classroom experience showcased that there was a high amount of students that positively rated the flipped classroom due to this lecture enabling the student to participate in cooperative learning via group work, in-class activities and dialogue. A higher negative rating was visible within the traditional classroom as this lecture type did not allow for group work, in-class activities or dialogue that can improve classroom experience. Within my research it states that an interactive classroom fosters more positive student behaviour towards their learning via participation and therefore supports the positive results of improve classroom behaviour through using a flipped classroom approach (Chellapan *et al.*, 2018).

The results towards the seventh theme within both the traditional and flipped classroom questionnaire namely the lecture type improving student communication skills showcased that there was a higher amount of students that positively rated the flipped classroom due

to this lecture enabling the student to participate in dialogue which improves their communication skills. A smaller but even number in students rated the lecture type of both the traditional and flipped classroom as neutral. This notion derived from the comment section where students that rated this theme as neutral felt that both the flipped and traditional classroom equally provided them with the ability to ask questions and improve their communication skills. A higher negative rating was awarded by the student to the traditional classroom due to them not asking questions but only retaining the knowledge from the concept that was covered in the traditional classroom. My research supports my results due to cooperative learning enhancing positive student behaviour that in turn will improve student engagement with regards to dialogue and concept understanding (Abdulrahman and Al-Zahrani, 2015).

The results towards the eight theme within both the traditional and flipped classroom questionnaire namely the lecture allowing to apply theory into practice showcased that there was a higher amount of students that positively rated the flipped classroom due to this lecture enabling them to apply the knowledge within class activities. A few students rated this specific theme as neutral within the rating scale as well as the comment section due to the notion that applying theory into practice can only be done outside of the classroom. A higher number of students also negatively rated their ability to apply theory into practice within the traditional classroom due to no in-class activities, group work or discussions. A higher positive response to that of a flipped classroom allowing for students to apply theory into practice is in coherence with my research stating that a flipped classroom can have a positive impact on the students creative thinking application that allows for increased learning participation, enhanced thought processes and problem solving within in-class or out of class learning activities (Abdulrahman and Al-Zahrani, 2015).

The third category specific to teaching and learning experience within both the traditional classroom questionnaire (TCQ) and flipped classroom questionnaire (FCQ) had two themes that relates to this category namely student feedback opportunity and the lecture providing feedback on student questions.

The third category within both the traditional and flipped classroom was specific to feedback within figure 8, 9 and 10.

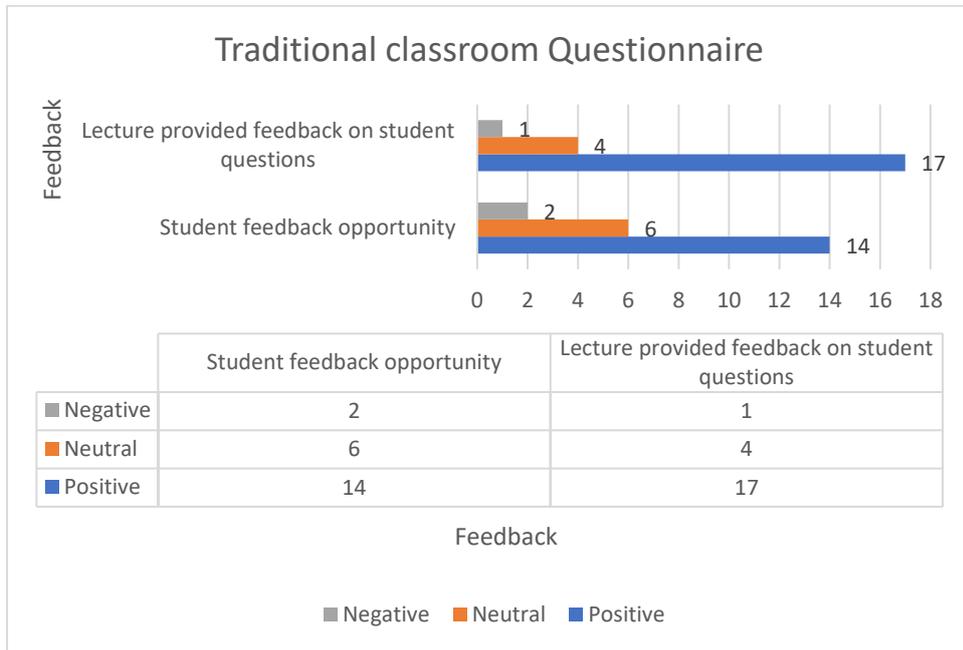


Figure 8: Traditional classroom Questionnaire – Feedback.

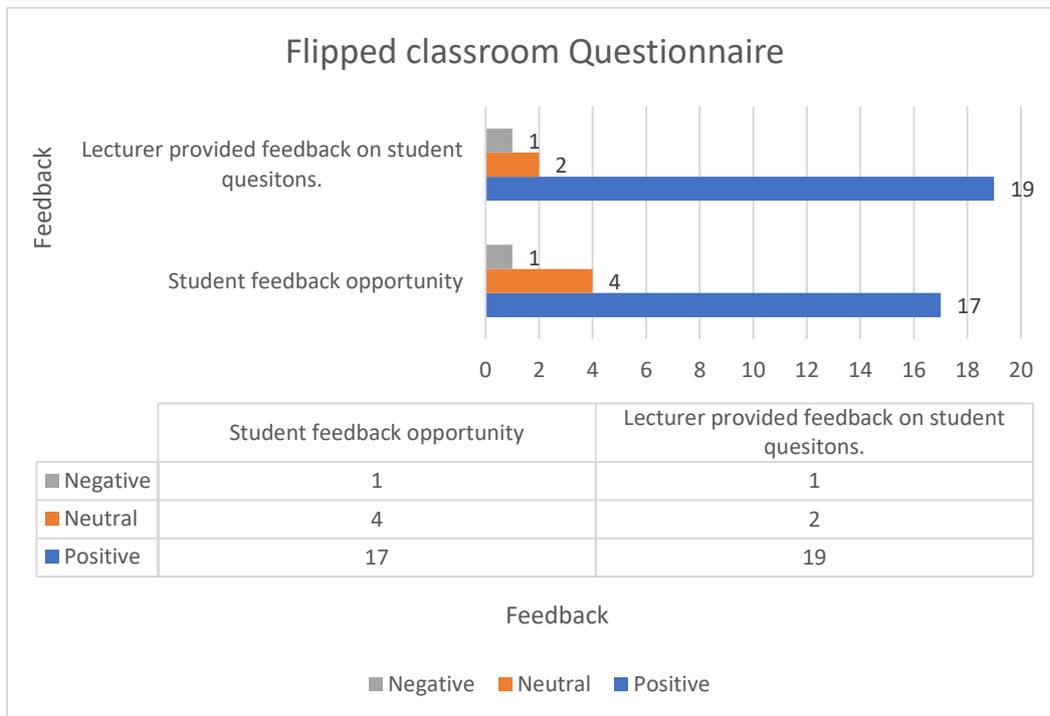


Figure 9: Flipped classroom Questionnaire – Feedback.

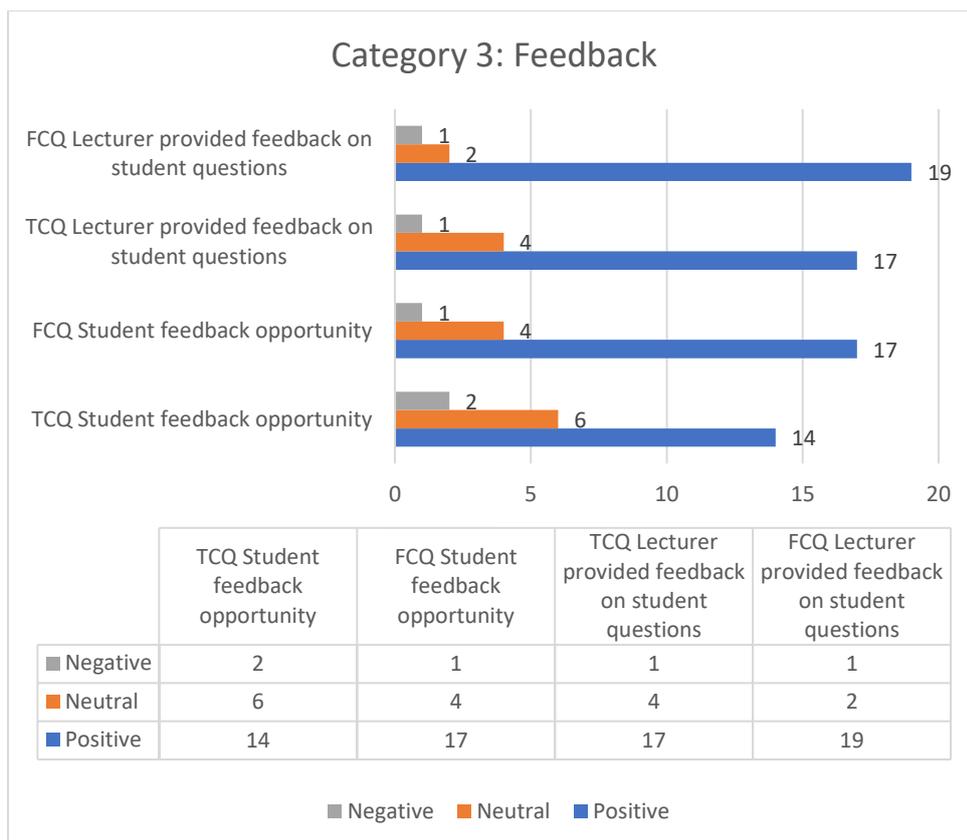


Figure 10: Comparison of positive, neutral, and negative responses to the three themes specific to category 3: Feedback.

The results towards the first theme within both the traditional and flipped classroom questionnaire namely student feedback opportunity showcased that there was a higher amount of students that positively rated both the traditional and flipped classroom due to this lecture enabling them to ask questions to improve understanding. A low but similar neutral response. A low negative rating specific to student’s ability to ask questions within each of the classroom types was visible. The reason for a relatively small difference within student’s communication within the classroom might be due to them feeling that no matter the classroom environment they always have the freedom to ask questions which will improve their understanding. The high positive results of the first theme regarding the category of student feedback opportunity within both the traditional and flipped classroom only makes it clearer that traditional classrooms will not be the reason for decreased student engagement if correct implemented activities are planned within the traditional contact session (Lo and Hew, 2017, cited in Chellapan *et al.*, 2018). However, the flipped classroom just provides more learning flexibility and variety when it comes to student

feedback as well as specific to the lecturer becoming the facilitator (Lo and Hew, 2017, cited in Chellapan *et al.*, 2018).

The results towards the second theme within both the traditional and flipped classroom questionnaire namely lecturer feedback showcased that there was a high amount of students that positively rated both the traditional and flipped classroom due to each lecture improving the students understanding via lecturer feedback. A low negative score was visible for each of the traditional and flipped classroom with regards to lecture feedback.

The reason for the high positive lecturer feedback rating and the low negative lecturer feedback rating derived from the comment section of this theme where students explained no matter the classroom type, the lecturer always answered questions and assisted in clarifying concepts that improved their understanding. My research supports the high positive results regarding lecturer feedback where it is evident that if the teaching and learning goals are similar regardless the type of classroom that learning will occur and student satisfaction will also be the result (Brooks, 2012, cited in Hyun *et al.*, 2017)

Ethical considerations:

The institution that I work for as well as the participant sample was informed individually on what my research topic entails as well as the research methods that will be used to conduct my study, how the results will be used and concluded and that they have the option to leave the study as a participant at any given time within the period of the research study conducted (Bezuidenhout *et al.*, 2014). When collecting data from my participants, I will ensure that nothing within the research process makes them feel inadequate for example how they come to learn or study as well as how they experienced the two different classrooms administered for my research purpose (Bezuidenhout *et al.*, 2014). Also, I will ensure that the data collection process of filling out questionnaires after each traditional and flipped classroom is short and does not consume too much of their time (Bezuidenhout *et al.*, 2014). Dealing with sensitive information will not change my perspective or personal feelings towards my student participant sample (Bezuidenhout *et al.*, 2014). It is imperative that they answer questions as honest as possible to establish a coherence of trustworthiness within the data collection and analysis process which will ensure consistency within my research process (Bezuidenhout *et al.*, 2014). My research will not

cause any harm towards the student and the questionnaire is based on study skills learning and their perception on different learning environments (Bezuidenhout *et al.*, 2014). Confidentiality is of high importance and will once again be addressed within the induction week as well as within the week before the two week study commences, where a separate planned session will address confidentiality and that even though the student provides personal information on the questionnaire that this will not be disclosed within the results (Bezuidenhout *et al.*, 2014). Deception is not part of my study because within my informed consent session I explained the entire participant consent document, the purpose of providing such a document to the participant and exactly how this research process will be conducted (Bezuidenhout *et al.*, 2014). Ethical issues must be avoided at all cost by myself as the researcher and therefore I will not falsify any data collected, I will remain unbiased at all times and will not use any information with regards to data collected for anything else, other than my research (Bezuidenhout *et al.*, 2014). Within qualitative research validity and reliability will be described by the term called trustworthiness (Lincoln and Guba, 1985, cited in Bezuidenhout *et al.*, 2014). The terms trustworthiness can be subdivided by the following terms namely credibility, transferability, dependability, and confirmability (Lincoln and Guba, 1985, cited in Bezuidenhout *et al.*, 2014). Credibility as a form of reliability and validity is evident within my research study because of the entire year spent with the participant sample in which I have had the opportunity to experience and observe on a first hand basis the issues that arise within my classroom and student group and the relationship I have established with the student participant sample (Lincoln and Guba, 1985, cited in Bezuidenhout *et al.*, 2014). Transferability will be evident within my research study because of the extent to which my results and analysis can be applied beyond that of the study itself (Lincoln and Guba, 1985; Collins and Hussey, 2003; Shenton, 2004, cited in Bezuidenhout *et al.*, 2014). Transferability therefore forms part of my research aims and research question and will allow for me to find and implement the appropriate teaching and learning strategies that will allow for student behaviour to shift from negative learning to a positive learning experience and lead to improved student engagement and transform the student into an independent learner that has the ability to integrate learning concepts, grow as an individual through interaction and experience and become a lifelong learner after completing their course (Fink, 2013; Fry, Ketteridge and Marshall, 2014; Abdulrahman and Al-Zahrani, 2015; Turan and Goktas, 2016; Altemueller and Lindquist, 2017; Boevé *et al.*,

2017; Chellapan *et al.*, 2018; Mandernash, Donnelly-Sallee and Dailey-Herbert, 2019). Dependability will be evident within the research methodology process that I am following, where the research theories conducted and stated as well as the data collection and analysis method will integrate and showcase coherence across the board within my research process (Lincoln and Guba, 1985; Collins and Hussey, 2003; Shenton, 2004, cited in Bezuidenhout *et al.*, 2014). Lastly, confirmability is evident within my research methodology where interpretivism as chosen research paradigm is continuously evident within my research tradition, sample method, data collection method as well as the data analysis method and will ensure that the data collected supports my research results and how I interpret these results within my conclusion (Lincoln and Guba, 1985; Collins and Hussey, 2003; Shenton, 2004, cited in Bezuidenhout *et al.*, 2014).

Limitations of the study:

It is important that my research design is consistent with my research purpose (McNally *et al.*, 2017). My research study has provided enough theoretical evidence to ensure that I have the appropriate perspective and knowledge within a flipped classroom approach as well as that of a traditional classroom approach in order to create two environments that exactly display the real life scenario and experience (McNally *et al.*, 2017). If sufficient research with regards to theory is not evident my research purpose will not answer my research question, my research problem cannot be solved and the intended improvement of my classroom and student outcomes will not be the result (McNally *et al.*, 2017). Additional concern arises with regards to students past learning experience and how they come to learn which may be embedded in such way that I will not be able to persuade student behaviour from negative to positive within a flipped classroom environment (McNally *et al.*, 2017). Therefore, the effectiveness of a flipped classroom through teaching and learning strategies was a topic that needed more scholarly research due to my own knowledge not serving as sufficient within ensuring a successful flip (McNally *et al.*, 2017). I had to ensure that my research questions could specifically answer my research question because if it was not specific enough within my questionnaires, does not speak to the context in which the research was conducted and also does not fully provide the classroom scenario, the research will lose its level of trustworthiness (Boevé *et al.*, 2017). More research must be conducted on how to specifically address student behaviour within

research methods to avoid low participation and dropout within research studies (Boevé *et al.*, 2017). This is very important since my student participant sample will be completing the same questionnaire however, the classroom setup will change from that of a traditional classroom to that of a flipped classroom the following week and therefore more research should be conducted on how to maintain student engagement within my research project (Boevé *et al.*, 2017). Limitation with regards to technology use is an existing problem due to low student online and pre-study participation (Chellapan *et al.*, 2018). Online and pre-study participation plays a big role within both the traditional and flipped classroom being conducted as case studies for my qualitative research (Chellapan *et al.*, 2018). Additional research should be conducted on the introduction to the new diploma sport and exercise science academic year which will act as a guide in familiarising the students on what to expect within this new course, their modules outcomes, learning concepts, resources and assessments that can be found on their online learning platform (Chellapan *et al.*, 2018). A sufficient induction before the academic year starts will assist the student in their application specific to in and out of class activities and how to allocate all the resources specific to the learning concepts within the modules I am teaching (Chellapan *et al.*, 2018). However, access to technology outside of campus still poses a problem no matter the academic induction process which might hinder pre-study, engagement of content and student peer engagement within learning activities and assessments (Child Trends, 2013, cited in Altemueller and Lindquist, 2017). Therefore if any outside class activities are planned for the flipped classroom session the option of student laptops and free Wi-Fi should be communicated and made available for the student participant sample that does not have access to technology or internet outside of campus (Altemueller and Lindquist, 2017). Limitations with regards to conducting a flipped classroom environment can involve the following problems such as limited preparation for this strategy, inadequate course tools and materials available due to the implementer being ill prepared for this approach and inadequate feedback on online and in class activities within an interactive learning environment (Abdulrahman and Al-Zahrani, 2015). To maintain trustworthiness of my research study and methodology, I must already have my strategy in place prior to induction which involves preparation, technology setup and timetable (Abdulrahman and Al-Zahrani, 2015). This was the case, however due to changes in time table and up and coming assignments within other modules, I decided to decrease my initial research time frame and

data collection method which initially was based on conducting two lessons per week, one traditional and one flipped classroom over a period of five weeks, to that of two weeks where the first weeks lesson was based on a traditional classroom and the second on that of the flipped classroom (Abdulrahman and Al-Zahrani, 2015). The same concept was covered in both these teaching and learning approaches (Abdulrahman and Al-Zahrani, 2015).

Anticipated contributions of study:

I would like to establish whether the extensive research within the flipped classroom approach was enough to equip me as the lecturer in choosing appropriate teaching and learning strategies that derive from this approach and successfully implemented this if possible (Turan and Goktas, 2016). Enough research has been conducted necessary to establish a definition for the flipped classroom, how it can be implemented through various strategies which in hope will provide me as the lecturer with successful teaching and learning outcomes within the participant sample Turan and Goktas, 2016). The flipped classroom as a teaching and learning approach was chosen as my research topic due to the challenges, I faced within the second-year diploma sport and exercise science 2019 group (Fry *et al.*, 2014). This specific year group was the first of their kind to move from higher certificate courses into the second-year diploma sport and exercise science (Fry *et al.*, 2014). It was evident that the new 2019 second year students developed negative behaviour within their new course due to lack of learning engagement and the inability to integrate the knowledge gained and applied within their first year to that of the second year diploma modules (Fry *et al.*, 2014). Through observation and direct experience, it was evident that the 2019 sport and exercise science diploma group was not accustomed to self-regulated learning which can be one of the most dominant factors in failing within a flipped classroom approach (Altemueller and Lindquist, 2017). If the student is not properly introduced to their academic programme, modules, assessment, and resources it will lead to negative student behaviour and lack of student engagement (Altemueller and Lindquist, 2017).

Due to similar characteristics observed and experienced within the 2020 diploma sport and exercise science second year group it was decided to use this year group as my participant sample (Bezuidenhout *et al.*, 2014). I conducted qualitative research via two questionnaires on the student's ability to access learning content successfully, on their learning experience specific to the teaching methods of a traditional and flipped classroom and learning through

feedback (Boevé *et al.*, 2017). The two questionnaires contained the same set of questions for a traditional and a flipped classroom and were specific to three distinctive categories (Boevé *et al.*, 2017). By obtaining knowledge through the student participant samples ability to access learning content, to showcase teaching and learning preferences between the traditional and flipped classroom and how feedback assist their learning will in turn guide my teaching and learning approaches specific to the flipped classroom to increase student experience, behaviour, engagement and ultimately student achievement (Boevé *et al.*, 2017). The results from my participant sample, data collection and analysis will allow me to efficiently integrate the diploma of sport and exercise science as a whole and not only within the modules I teach (Boevé *et al.*, 2017). Course integration will allow for significant learning to occur which in turn will also improve student behaviour towards their studies, improve student engagement and hopefully foster independent learners (Boevé *et al.*, 2017). Through my research I would like to establish whether out of class learning can be implemented through technology, and if interactive learning strategies can allow for in class sessions to be more valuable where me as the lecturer move away from lecturing and become the facilitator that plays an active and supportive role within student learning (Bergmann and Sams, 2012, cited in Altemueller and Lindquist, 2017). I would also like to establish whether the flipped classroom can create the flexibility needed for the student to improve student engagement and foster meaningful learning through cooperative learning activities, discussions, problem solving and prompt feedback which will improve student learning achievement and in return foster improved student behaviour towards their learning (Abdulrahman and Al-Zahrani, 2015). When feedback is analysed within the data analysis process I can use the information to create a more supportive learning environment by analysing students study methods and how they construct understanding at the beginning of the course to ensure that my course planning caters for the student's needs which will hopefully improve student behaviour and motivation (Tomes *et al.*, 2015, cited in Boevé *et al.*, 2017). With all the research conducted on the flipped classroom approach the main aim of this approach still remains the same across the board and that is to decrease homework and lecturing time and create interactive learning environments through this chosen teaching approach that will improve student engagement, teacher facilitation and constructive alignment within the course design (Abdulrahman and Al-Zahrani, 2015; Turan and Goktas, 2016; Altemueller and Lindquist, 2017; Boevé *et al.*, 2017; McNally *et al.*, 2017;

Chellapan *et al.*, 2018; Mandernash, Donnelly-Sallee and Dailey-Herbert, 2019). Therefore, my research not only focuses on this group but for future groups to come and will hopefully assist lecturers with the necessary information to successfully flip their classrooms so that daily challenges within higher education may be limited by this significant teaching and learning approach.

Conclusion and recommendation:

The implications of my research findings specific to the topic of the flipped classroom supports my research question and led me to the following conclusions and recommendations. The learning content access category and the three themes allocated to this category namely access to course material, efficient online content guidance and module theme coherence within a traditional and flipped classroom showcased a high number of students being satisfied with learning content accessibility as a whole, experiencing the online module content as a guidance tool towards learning outcomes and objectives specific to learning topics and assessments as well as learning content possessing concept coherence and a scaffolding effect of building knowledge. A small number of students rated the learning content access category and its subthemes as neutral or negative within both the traditional and flipped classroom. Within the written comment section underneath the category learning content access and the three themes specific to this category it was evident that the neutral and negative rating towards these themes was specific to the student not attending the full induction week prior to the start of the academic year of 2020. The goal of the induction week prior to the official start of the academic year for 2020 was to allow for a smoother transition of the students moving from the two different groups within first year higher certificate fitness and coaching into the second year diploma sport and exercise science 2020 (Boevé *et al.*, 2017). The induction process for any new academic year is vital to showcase student support and enhance student experience which will foster positive student behaviour towards their new academic year and programme (Boevé *et al.*, 2017). The learning content access category and its subthemes were specific to ensuring that students have access to their online learning content, that the content provides student support in module outcomes, learning objectives, resources, and assessments (Fry *et al.*, 2014). Also, to ensure that the learning themes within the module shows coherence which will assist the student within the process

of scaffold learning and significant knowledge integration (Fry *et al.*, 2014). Learning content and assessment structure should follow a backward design to ensure that teaching and learning approaches equips the student with all the relevant knowledge to successfully complete formative and summative assessments (Wiggins and McTighe, 2005, cited in Fink, 2013). In order to achieve a successful flipped classroom, inclusive learning via an online learning platform is vital to assist the lecturer in becoming the facilitator and enhance the students self-regulated and self-directed behaviour towards their learning (Altemueller and Lindquist, 2017). Some students within the sample stated within the written comments section that they experienced learning content access issues due to running out of data, not having the finances to buy data as well as students preferring hard copy textbooks above that of online resources. To relieve the above issues, students should be encouraged to download their work from campus where the whole institution is fully equipped with wi-fi (Altemueller and Lindquist, 2017). This will foster a self-regulated and self-directed student that takes the necessary responsibility to obtain resources to prepare for their classes in advance (Altemueller and Lindquist, 2017).

The teaching and learning experience category had eight themes allocated to this category namely lecture type enjoyment, pre-study engagement, further pre-study motivation, improved in-class knowledge application via pre-study, lecture allowing cooperative learning participation, cooperative learning available for improving classroom experience, lecture allows improvement of student communication skills and the lecture allowing to apply theory into practice. The teaching and learning experience category specific to the first theme was to establish student preference on content delivery satisfaction within a traditional or flipped classroom. A higher number of students showed enjoyment with regards to the flipped classroom than that of a traditional classroom. The reason for a higher positive rating within the flipped classroom derived from the written comment section where students stated that the flipped classroom was more eventful which increased interest whereas the traditional classroom felt long and concentration and engagement was lost due to the one-sided learning experience of only the lecturer communicating. A higher number of students responded as neutral within the traditional classroom than that of the flipped classroom. No reasoning was provided for this rating. However, the higher neutral rating number from the students might showcase that some

students within the sample do not prefer this teaching approach. This can be a normal occurrence and can be confirmed by Vermunt and Vermetten (2004, cited in Boevé *et al.*, 2017) claiming that students who move into a new phase of learning such as a new course or academic programme might show reluctance towards immediately conforming to an interactive learning environment. This leads to resistive behaviour within the student, towards learning concepts and approaches (Vermunt and Vermetten, 2004, cited in Boevé *et al.*, 2017).

No negative rating with regards to lecture type enjoyment was visible for either of the classroom types. Therefore, it is important to establish the students view on both a traditional and flipped classroom environment which will assist the lecturer to establish the correct teaching approach that works for the specific student group and enhances student behaviour and engagement (Limniou, Schermbrucker and Lyons, 2018). Keep in mind that student behaviour towards the lecture type may result as positive, neutral or negative, however, the most important aspect within considering a teaching and learning approach is to recognize which approach is most suitable for content delivery and which approach is most suitable for student engagement and independent learning (Brooks, 2012, cited in Hyun *et al.*, 2017). Also, it is important to recognize that students may either embrace the flipped classroom approach completely, some elements of this approach or not at all (McNally *et al.*, 2017).

The teaching and learning experience category specific to the second, third and fourth theme was to establish self-regulation and self-directed learning through pre-study and student motivation to engage within pre-study for both the traditional and flipped classroom. A higher number of students rated all three themes namely pre-study engagement, further pre-study motivation and improved knowledge construction and application as positive however a fair number of students rated their participation within pre-study as neutral or negative. Out of the three themes, students found that they did have a more positive experience within improved knowledge of in-class activities due to engaging within pre-study. Also, a higher pre-study engagement within the traditional classroom than that of the flipped classroom might be due to a lowered motivation for pre-study as the students moved on from the traditional classroom that was conducted first. The flipped classroom was conducted the following week where students had more work

and assignments in other course related modules to be completed, therefore stating within the comment section that they did not find the time to fully engage within pre-study prior to the flipped classroom. Research shows that technology (web-based learning) plays a vital role within successfully flipping your classroom (Chellapan, van der Meer, Pratt and Wass, 2018). Since all module concept content, resources, and assessments were already in place at the beginning of the academic year there should not be an excuse as to not finding the time to participate in pre-study (Chellapan *et al.*, 2018). The goal of web-based learning is to assist within modern day challenges such as diverse classroom with many students that come from different learning backgrounds (Jordan, Carlile and Stack, 2008). If introduced correctly, web-based learning can be an asset in improving student engagement, self-directed learning, and meeting student needs (Jordan *et al.*, 2008).

The teaching and learning experience category specific to the fifth, six and seventh theme was to establish whether the lecture allowed for cooperative learning, communication via dialogue and groupwork which fosters an improved classroom experience. Within the traditional classroom that was conducted first, no cooperative learning was implemented. A higher negative rating was awarded by the student to the traditional classroom due to them not asking questions but only retaining the knowledge from the concept that was covered in the traditional classroom. Whereas a high number of students rated all three themes as positive within the flipped classroom. Within the flipped classroom, group-work included dialogue and an online learning activity that had to be completed by the group where concepts were assigned to each group member and an overall feedback presentation to present their findings. A low number of students rated cooperative learning within both the traditional and flipped classroom lecture as neutral. By changing the teaching approach from teacher-centred to student-centred will create a more efficient form of learning (Bergmann and Sams, 2012, cited in Altemueller and Lindquist, 2017). A student-centred approach links to that of the flipped classroom where this classroom becomes an interactive space (Altemueller and Lindquist, 2017). Cooperative learning through groupwork and dialogue should be implemented within the flipped classroom to not only enhance student communication skills but to also foster improved knowledge construction via student and lecturer feedback within the classroom (Bergmann and Sams, 2012, cited in Altemueller and Lindquist, 2017).

The teaching and learning experience category specific to the eighth theme was to establish whether the lecture allowed the student to apply theory into practice within both the traditional and flipped classroom. A higher number of students gave a negative rating towards their ability to apply theory within the traditional classroom lecture and a higher number of students rated their ability to apply theory into practice within the flipped classroom lecture. The written comments specific to this theme question provided an indication of why the positive rating was not higher within the flipped classroom lecture. The students written comments showed that many students thought that the ability to apply theory into practice is linked to the notion that to apply theory you must be outside of the classroom. To relieve this misconception, it is important to explain the difference between a traditional and a flipped classroom and to conduct a couple of traditional and flipped classroom lectures on the same concept but with different in or out of class activities within the flipped classroom in order for students to understand the notion behind interactive learning (Ash, 2012; Abeysekera and Dawson 2014; Chen *et al.*, 2014; Love *et al.*, 2014; Street *et al.*, 2015, cited in Turan and Goktas, 2016). A flipped classroom allows for freeing up time within the classroom with the goal of enhancing student engagement through cooperative learning strategies that assists the student within applying theory into practice (Ash, 2012; Abeysekera and Dawson 2014; Chen *et al.*, 2014; Love *et al.*, 2014; Street *et al.*, 2015, cited in Turan and Goktas, 2016). This is the reason why pre-study and web based learning as out of class activities is so vital because it increases the learners ability to study at their own pace, therefore relieving learning stress and allow for a more engaged student within class (Marlowe, 2012; Davies, Dean and Ball, 2013, cited in Turan and Goktas, 2016). A flipped classroom created as more flexible learning environment which can potentially improve student participation, thought processes and problem-solving skills relevant to the learning activities conducted inside and outside of the classroom (Abdulrahman and Al-Zahrani, 2015). However, it should always be considered that there might potentially be students who find an interactive classroom less satisfying than that of a traditional classroom due to the type of structured task orientation related to the flipped classroom (Stayer, 2012, cited in Abdulrahman and Al-Zahrani, 2015).

The last category within the questionnaire was specific to feedback. The two themes allocated to this category namely student feedback opportunity and lecturer feedback was

to establish if the traditional and flipped classroom allows for students to ask questions in order to improve concept understanding and whether the lecturer provided feedback to strengthen concept knowledge and eliminate any misconceptions on the topic covered within the lecture. A higher positive rating was visible for student feedback ability and lecture feedback. The written comments within both theme questions showed that students had the opportunity to ask questions and that the lecturer provided feedback within both classroom scenarios. Student and lecturer feedback are imperative to the success of any classroom however, an interactive classroom automatically allows for improved concept understanding and construction due to dialogue and cooperative learning strategies evident within such a learning environment (Bergmann and Sams, 2012, cited in Altemueller and Lindquist, 2017). An interactive classroom allows for the student and lecturer to continuously work within achieving learning goals due to more time being allocated towards feedback opportunity (Boevé *et al.*, 2017). More classroom time to improve understanding through interaction will most likely improve student behaviour (Boevé *et al.*, 2017). Therefore, leading to improved student engagement and transforming the student into an independent learner that has the ability to integrate learning concepts, grow as an individual through interaction and experience and become a lifelong learner after completing their course (Altemueller and Lindquist, 2017).

Further research to be conducted based on my research finding and recommendations is based on key aspects vital to the success of a flipped classroom. The flipped classroom has various definitions (Ash, 2012; Chen *et al.*, 2014, cited in Turan and Goktas, 2016).

Therefore, more research is necessary to establish the most appropriate definition in order to effectively implement such a teaching and learning approach (Pierce and Fox, 2012; Bishop and Verleger, 2013; Abeysekera and Dawson, 2015, cited in Turan and Goktas, 2016).

If the flipped classroom is the instructional strategy of choice, it should be correctly implemented to ensure that it does not overload the student and therefore more teaching and learning strategies regarding the flipped classroom needs further research to ensure that this approach will not lead to negative student behaviour (Turan and Goktas, 2016).

More research should be conducted on how to successfully plan your induction for a new academic year in order to enhance student preparation in the pursuit of avoiding negative student behaviour towards their studies and the type of classrooms conducted through

chosen teaching and learning approaches (Abdulrahman and Al-Zahrani, 2015). Fostering student learning and application creativity as a concept through using the flipped classroom approach still needs more research (Abdulrahman and Al-Zahrani, 2015). It is important to find new methods of cultivating student creativity within learning by using the flipped classroom approach and should be perused to showcase this teaching and learning approaches' effectiveness (Abdulrahman and Al-Zahrani, 2015). Research specific to student diversity and assessment diversity should also be conducted in order to ensure curriculum alignment with that of assessment which will ensure that no student is left behind when making the move from secondary schooling to that of higher education (Abdulrahman and Al-Zahrani, 2015). More research should be directed to negative student behaviour when transitioning into a new academic programme to ensure the best possible implementation plan that will cater for your diverse student body (Boevé *et al.*, 2017). Additional to previous notion it is vital to also conduct more research specific to student learning background and student learning ability to direct the correct teaching and learning approaches for a flipped classroom that fosters and supports inclusive learning (Boevé *et al.*, 2017).

The ultimate goal is to successfully implement a flipped classroom that will improve student engagement, that will transform the student into an independent learner that will have the ability to integrate learning concepts, grow as an individual through interaction and experience and become a lifelong learner after completing their course (Altemueller and Lindquist, 2017).

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APPENDIX A: EXPLANATORY INFORMATION SHEET AND CONSENT FORM FOR PARTICIPANTS

To whom it may concern,

My name is Lorinda Visagie and I am a student at the Independent Institute of Education. I am currently conducting research under the supervision of Clodagh Mannion-Nash about the flipped classroom approach in order to find the necessary tools on how to improve not only my classroom environment but at the same time the students themselves through significant learning experiences that in hope will improve student behaviour, self-regulation through managing their studies, to control their process of learning, to stay motivated within their learning process and for this process to change not only the students' academic ability but their individual self as well. I hope that this research will enhance my understanding of how to incorporate significant learning experiences through using student-centred approaches.

I would like to invite you to participate in my study. In order to explain to you what your participation in my study will involve, I have formulated questions that I will try to fully answer so that you can make an informed decision about whether or not to participate. If you have any additional questions that you feel are not addressed or explained in this information sheet, please do not hesitate to ask me for more information. Once you have read and understood all the information contained in this sheet and are willing to participate, please complete and sign the consent form below.

What will I be doing if I participate in your study?

I would like to invite you to participate in this research because this will assist me in applying the correct implementation strategies and teaching and learning approaches that will improve student engagement and create an interactive classroom that allow for significant learning experiences to occur that will enhance student behaviour. If you decide to participate in this research, I would like to explain the process of my research. I will deliver a traditional classroom experience which typically involves you attending class and myself as the lecturer delivering the content via Power-point or whiteboard. I will then in turn within the next session flip the classroom by creating a contact session where the students engage within cooperative learning activities and out of class activities through online learning and practical sessions that will allow me to become the facilitator of the session and not only the lecturer delivering content. This will in hope create a significant learning experience that not only changes and improves the students' knowledge but also changes the student's behaviour towards their studies, learning, application of knowledge, their discipline and life. This process will occur twice a week for five weeks. Before the starting date of the study, a questionnaire on study skills will be completed. When the study officially commences two sessions per week will be conducted where one session will be dedicated to a passive (traditional) contact session and the second session within the same week dedicated to an interactive (flipped) contact session. After each session you as the participant will answer questions via a teaching and learning questionnaire provided by me as the researcher.

You can decide whether or not to participate in this research. If you decide to participate, you can choose to withdraw at any time or to decide not to answer particular questions within the questionnaire.

Are there any risks/ or discomforts involved in participating in this study?

Whether or not you decide to participate in this research, there will be no negative impact on you. There are no direct risks or benefits to you if you participate in this study. You might, however, indirectly find that it is helpful to talk about your learning experience and motivation towards your studies, class engagement or lack thereof and motivation for attending your classes within this course. If you find at any stage that you are not comfortable with the line of questioning, you may withdraw or refrain from participating.

Do I have to participate in the study?

- Your inclusion in this study is completely voluntary;
- If you do not wish to participate in this study, you have every right not to do so;
- Even if you agree to participate in this study, you may withdraw at any time without having to provide an explanation for your decision.

Will my identity be protected?

I promise to protect your identity. I will not use your name in any research summaries to come out of this research and I will also make sure that any other details are disguised so that nobody will be able to identify you. Nobody else, including anybody at the Independent Institute of Education, will have access to your personal information. I would like to use quotes when I discuss the findings of the research, but I will not use any recognisable information in these quotes that can be linked to you.

What will happen to the information that participants provide?

Once I have finished all with the data collection and analysis period, I will write summaries to be included in my research report, which is a requirement to complete my research study. You may ask me to send you a summary of the research if you are interested in the final outcome of the study.

What happens if I have more questions about the study?

Please feel free to contact me or my supervisor should you have any questions or concerns about this research, or if there is anything you need to know before you decide whether or not to participate.

You should not agree to participate unless you are completely comfortable with the procedures followed.

My contact details are as follows:

Lorinda Visagie

The contact details of my supervisor are as follow:
Clodagh Mannion-Nash

Consent form for participants

I, _____, agree to participate in the research conducted by Lorinda Visagie about the flipped classroom approach in order to find the necessary tools on how to improve not only her classroom environment but at the same time the students themselves through significant learning experiences that in hope will improve student behaviour, self-regulation through managing their studies, to control their process of learning, to stay motivated within their learning process and for this process to change not only the students' academic ability but their individual self as well.

This research has been explained to me and I understand what participation in this research will involve. I understand that:

1. I agree to complete questionnaires relevant to each classroom scenario conducted for this research.
2. My confidentiality will be ensured. My name and personal details will be kept private.
3. My participation in this research is voluntary and I have the right to withdraw from the research at any time. There will be no repercussions should I choose to withdraw from the research.
4. I may choose not to answer any of the questions that are asked within the provided questionnaires.
5. I may be quoted directly when the research is published, but my identity will be protected.

Signature

Date

APPENDIX B: TEACHING AND LEARNING EXPERIENCE QUESTIONNAIRE – TRADITIONAL CLASSROOM

TEACHING AND LEARNING EXPERIENCE QUESTIONNAIRE

The purpose of conducting research within the flipped classroom approach is to find tools on how to improve not only my classroom environment but at the same time the students themselves through significant learning experiences that in hope will improve student behaviour, self-regulation through managing their studies, to control their process of learning, to stay motivated within their learning process and for this process to change not only the students' academic ability but their individual self as well (Fink, 2013). Learning experience forms a great part of determining whether a student has developed, improved and achieved the necessary goals within the specific module outcomes that was designed (Fink, 2013). The feedback within the questionnaire will assist my research and determine suitable approaches to enhance student behaviour, self-regulation, independent learning and learning autonomy (Fry, Ketteridge and Marshall, 2014).

Please be assured that all data collected will only be used for research purposes only and all personal information will remain confidential to that of yourself and the researcher Lorinda Visagie.

Therefore, I (Student name & surname) _____

agree to participate in the proposed research study and give full permission for data to be stored and processed by the researcher Lorinda Visagie.

Student Signature:

Date:

Student background:

Institution:	
Year of study:	

Course:	
Student number:	
Gender:	

***For researchers' purposes only.**

TEACHING AND LEARNING EXPERIENCE: TRADITIONAL CLASSROOM

(Based on how the student perceives their learning environment and how they apply themselves within their learning through different types of instruction).

***Tick the box you mostly agree with and provide a reason within the comment section to justify your answer:**

Learning content access:

Question 1: Were you able to easily access course materials for the modules enrolled for on ETA connect?

1. Strongly Disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree

Comment: _____

Question 2: Did the online module content act as a guide by providing module outcomes, learning objectives, resources and assessments?

1. Strongly Disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree

Comment: _____

Question 3: The themes within the module of SESC 203 was explained and showed consistency in creating a chain of events that leads to the end goals or outcomes of the entire module.

1. Strongly Disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree

Comment: _____

Teaching and learning experience:

Question 4: Did you enjoy the lecture?

1. Strongly Disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree

Comment: _____

Question 5: Did you pre-read allocated resources before coming to class?

1. Strongly Disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree

Comment: _____

Question 6: Do you read additional resources for pre-study apart from the available resources on ETA connect?

1. Strongly Disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree

Comment: _____

Question 7: Did pre-study assist you with in-class activities?

1. Strongly Disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree

Comment: _____

Question 8: Did the lecture allow you to participate in groupwork or class discussions on the learning topic covered in class?

1. Strongly Disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree

Comment: _____

Question 9: Did groupwork and class discussions improve the classroom experience?

1. Strongly Disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree

Comment: _____

Question 10: Did the groupwork and discussion lecture improve your communication skills?

1. Strongly Disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree

Comment: _____

Question 11: Did the lecture allow you to apply theory into practice?

1. Strongly Disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree

Common: _____

Question 12: Did the lecturer allow for student feedback on the type of teaching in class?

1. Strongly Disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree

Comment: _____

Feedback:

Question 13: Did the lecturer provide constant feedback within class?

1. Strongly Disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree

Comments: _____

APPENDIX C: TEACHING AND LEARNING EXPERIENCE QUESTIONNAIRE – FLIPPED CLASSROOM

TEACHING AND LEARNING EXPERIENCE QUESTIONNAIRE

The purpose of conducting research within the flipped classroom approach is to find tools on how to improve not only my classroom environment but at the same time the students themselves through significant learning experiences that in hope will improve student behaviour, self-regulation through managing their studies, to control their process of learning, to stay motivated within their learning process and for this process to change not only the students' academic ability but their individual self as well (Fink, 2013). Learning experience forms a great part of determining whether a student has developed, improved and achieved the necessary goals within the specific module outcomes that was designed (Fink, 2013). The feedback within the questionnaire will assist my research and determine suitable approaches to enhance student behaviour, self-regulation, independent learning and learning autonomy (Fry, Ketteridge and Marshall, 2014).

Please be assured that all data collected will only be used for research purposes only and all personal information will remain confidential to that of yourself and the researcher Lorinda Visagie.

Therefore, I (Student name & surname) _____

agree to participate in the proposed research study and give full permission for data to be stored and processed by the researcher Lorinda Visagie.

Student Signature:

Date:

Student background:

Institution:	
Year of study:	

Course:	
Student number:	
Gender:	

***For researchers' purposes only.**

TEACHING AND LEARNING EXPERIENCE: TRADITIONAL CLASSROOM

(Based on how the student perceives their learning environment and how they apply themselves within their learning through different types of instruction).

***Tick the box you mostly agree with and provide a reason within the comment section to justify your answer:**

Learning content access:

Question 1: Were you able to easily access course materials for the modules enrolled for on ETA connect?

6. Strongly Disagree	7. Disagree	8. Neutral	9. Agree	10. Strongly Agree

Comment: _____

Question 2: Did the online module content act as a guide by providing module outcomes, learning objectives, resources and assessments?

6. Strongly Disagree	7. Disagree	8. Neutral	9. Agree	10. Strongly Agree

Comment: _____

Question 3: The themes within the module of SESC 203 was explained and showed consistency in creating a chain of events that leads to the end goals or outcomes of the entire module.

6. Strongly Disagree	7. Disagree	8. Neutral	9. Agree	10. Strongly Agree

Comment: _____

Teaching and learning experience:

Question 4: Did you enjoy the lecture?

6. Strongly Disagree	7. Disagree	8. Neutral	9. Agree	10. Strongly Agree

Comment: _____

Question 5: Did you pre-read allocated resources before coming to class?

6. Strongly Disagree	7. Disagree	8. Neutral	9. Agree	10. Strongly Agree

Comment: _____

Question 6: Do you read additional resources for pre-study apart from the available resources on ETA connect?

6. Strongly Disagree	7. Disagree	8. Neutral	9. Agree	10. Strongly Agree

Comment: _____

Question 7: Did pre-study assist you with in-class activities?

6. Strongly Disagree	7. Disagree	8. Neutral	9. Agree	10. Strongly Agree

Comment: _____

Question 8: Did the lecture allow you to participate in groupwork or class discussions on the learning topic covered in class?

6. Strongly Disagree	7. Disagree	8. Neutral	9. Agree	10. Strongly Agree

Comment: _____

Question 9: Did groupwork and class discussions improve the classroom experience?

6. Strongly Disagree	7. Disagree	8. Neutral	9. Agree	10. Strongly Agree

Comment: _____

Question 10: Did the groupwork and discussion lecture improve your communication skills?

6. Strongly Disagree	7. Disagree	8. Neutral	9. Agree	10. Strongly Agree

Comment: _____

Question 11: Did the lecture allow you to apply theory into practice?

6. Strongly Disagree	7. Disagree	8. Neutral	9. Agree	10. Strongly Agree

Common: _____

Question 12: Did the lecturer allow for student feedback on the type of teaching in class?

6. Strongly Disagree	7. Disagree	8. Neutral	9. Agree	10. Strongly Agree

Comment: _____

Feedback:

Question 13: Did the lecturer provide constant feedback within class?

6. Strongly Disagree	7. Disagree	8. Neutral	9. Agree	10. Strongly Agree

Comments: _____

