

Effect of Flipped Classroom Model on Academic Engagement and Achievement of Students in English at Secondary School Level

By

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Abstract

The present study aimed at finding the effect of flipped classroom model on academic achievement of students in English at secondary school level. The research question was; is there any effect of Flipped Classroom Model on the academic engagement of students in English at secondary school level? For conducting research random sampling technique was used and 70 students were selected from secondary school level from GGHSS ShiekhulBandi. Two tools were used for the collection of the data. A 100 MCQ achievement test and 40 item questionnaire for students engagement was constructed. Reliability and validity were checked. The sample was sub divided into two groups i-e experimental and control group. Flipped classroom model was utilized by the researcher on experimental group. After 08weeks post test was conducted. The data was analyzed using SPSS. The statistical tools included t-test, descriptive statistics and frequency distribution was used. The finding was the FCM has positive impact on students' Academic engagement and achievement.

Keys Words: Flipped Classroom Model, Comparison, Experimental Study, Academic Achievement.

Introduction

The modern world is changing in numerous ways, and the last ten years of the 20th century and the start of the twenty-first century saw critical turns of events, fundamentally in the field of data and communication innovation. Education is among the most notable changes caused by these new technologies. In the previous 10-20 years, there has been a movement in education and training. The days of memorizing facts and writing them down are long gone. Rapid advancement of technology, educators and corporate trainers has had to adapt to modern learning needs. Instructors must increasingly use integrated technology and digital media into their face-to-face sessions.

The teaching environment has evolved as communication and network infrastructure have developed, and in academic setting learning results have developed to offer meaningful learning experiences for students in academic settings. One of the new techniques for providing meaningful learning experiences is to create digital classrooms based on learners' cognitive needs, interests, and abilities through online and blended learning. The adoption of blended instruction is increasingly developing because teachers have faith in that a diversity of delivery techniques can improve learning outcomes and enhance student satisfaction with the learning process (Ahmad, Gul, & Kashif, 2022; Gul & Khilji, 2023; Salameh et al., 2022).

Flipped Classroom Model (FCM) lately has been a prominent focus in teaching and learning, mainly for educators and learners striving to enhance their English language skills around the world. Learning vocabulary is essential for acquiring a foreign language because vocabulary is the cornerstone of any language. Even for people who demonstrate mastery of grammar, having a large vocabulary is crucial so they may struggle to communicate. The learners of many foreign languages have suffered the frustration of being incapable to retain and use the appropriate term in a discussion due to a lack of vocabulary collection and applicability. As a result, learning vocabulary is critical for language learners because it aids in the formation of sentences and the presentation of themselves in meaningful ways.

The learner's status has evolved, and he is now an active participant in the teaching-learning process. Teachers' responsibilities in blended classrooms are likewise novel, and they will evolve in parallel with learners as they connect with and adjust each other and four mechanisms of the structure. New designations, such as facilitators, mentors, advisers, and moderators, will be used to identify these teachers. The content plays a significant role in this framework. Topic remains to have a noteworthy influence on how education is presented (Rani Gul et al., 2022; Rani Gul et al., 2022; Zhou et al., 2022). Instructors and learners can enhance details earlier, in, and even later in the course experience according to interactive, dynamic, and media-rich materials available online.

The rapid growth of modern instructional technology has helped to make the teaching profession more fruitful and beneficial for learners. Teachers now have more professional abilities and expertise in applying strategies, which in turn makes the learning process more attractive for students. Pupil is the most basic unit of any class that is why so many teaching procedures are adapted by the teachers to enhance their skills. Different teachers introduce new knowledge and educational methods in the classrooms to keep things fresh, while students happily participate (Ahmad & Gul, 2021; Gul, Ayub, et al., 2021; Gul, Muhammad, et al., 2021) What are the best ways to use different teaching methods in order to improve student learning? One way is to adopt a variety of methods, catering for various needs. Depending on their focus and approach, teachers can use a particular teaching method by considering the academic needs and interest. These days, businesses feel the need to keep up with an increasingly competitive and globalized market.

Companies not only want their employees to be efficient, but also innovative and competitive. Using elaborate training strategies is one way of achieving this. TAI learning assistants are often used in classrooms, content knowledge and other activities to help learners perform better. Learning strategies allow the teacher to focus on developing lower and higher order cognitive skills while teaching (Ahmad, Gul, & Kashif, 2022; Ahmad, Gul, & Zeb, 2022; Rani Gul et al., 2022; Gul, Ayub, et al., 2021). At one point in time, most people feared that libraries would become obsolete. However, libraries have been surprisingly resilient and during the last decades they have transformed into havens for information seeking. They are now a common tourist destination with much to explore for both children and adults alike. Nowadays,

due to development of IT sector World Wide Web (WWW) based teaching materials are used instead of mentioned sources. Students and teachers are free to choose the ways to approach new knowledge on the web. With so much information at our disposal, nowadays it's even more important to find ways to get quality knowledge whenever and wherever you are. Luckily there are now countless teaching materials online which make that possible. Everyone can get benefit from these sources of knowledge.

In modern era the FCM is one of the demanding strategies for teachers and pupils in education sector. It allows students to get more out of class time by doing work at home which leads to a higher level of engagement ((Bukhari et al., 2021; Gul & Khilji, 2021; Gul, Tahir, et al., 2021). So, educators are also responsible for improving the learner's performance & competencies. Professionals in this field can do this by sharing their knowledge about the subject and thinking of higher level strategy. Recent studies indicate that when the appropriate classroom practices are used students of all categories perform more remarkably. The instructor should make sure that each student is responding positively to the teaching methodology and the classroom techniques. If this is not the case, adjustments need to be made because the main objective is learning effectively (Bonk, 2012).

FL has been a hotly debated concept in education for decades, regardless of practitioners and researchers opinion. Despite being a popular quality-improving technique, Flipped Learning is still under debate on what it actually entails. The argument is that Flipped Learning flips a classroom (Mehring & Leis, 2018). According to Bergmann and Sams (2013); Mehring and Leis (2018), FL is an education intervention which introduces new materials before class to both the teacher and student. These materials are then used in a practical way during face-to-face interaction. However, in the early 1980s, this approach is considered active learning by giving students materials outside of the classroom. The FL theorists argue that students need help to interact with the new pedagogical setting (Gul, Tahir, et al., 2020; Gul, Zakir, et al., 2021; Said et al., 2021). This review article discusses how recent meta-analyses have considered how technology impacts language learning.

The formation of the FL network, Huitt (2003) confirmed the value of FL in helping teachers flip their classrooms more efficiently. Conferences are held regularly in many countries for educators to share their knowledge with one another. This is where students learn by reading the textbook before attending a face-to-face class, using this time to engage in classroom activities. To maximize learning, the class hour is then allocated for instruction, interaction and to promote higher order thinking skills (HOTS) through diverse activities. The FL approach has been shown to help their students succeed in SL and educators are believed to have the tendency to develop students' holistic because of their teaching methods (Sugano & Mamolo, 2021). Second language English educators should consider using FL to better understand what students are learning. It's a common complaint amongst teachers that they're too under-resourced to cover everything in the classroom. This means they don't get enough time to make instruction more engaging, and students spend a lot of time inside & outside the classroom drilling points just so they can review them later. The importance of FCM as a strategy to enhance teaching & learning. The teachers use different approaches of instruction to cater student's needs at various levels and backgrounds ((Batool et al., 2021; Gul, Kanwal, et al., 2020; Gul et al., 2023; Muhammad Tufail et al., 2022; Salameh et al., 2022). They have to keep the pupil's psychosomatic state, intellectual skills and social environment in mind. The characteristics of the topic they will teach also play an important role. Generally, professors adopt lecturing, demonstration, project-based learning, or interactive teaching methods. Among these different methods that you can choose from for your course, some are newly developed while others date back to ancient times. If you're in a certain situation, FCM

is the modern method of instruction process and practiced in developed states commonly, with the exception of the mentioned instructional approaches. FCM is most popular among educational academies because it is very useful in the teaching learning process (Bower, 2008).

The FCM, as a teaching strategy has many benefits as compared to traditional ways of instruction. It has the advantage of getting more free time in the class for a teacher. This way, when a teacher flips the classroom, can engage the students in many productive and absorbing instructions. Those teachers who teach in environment i.e. hybrid or blended settings of teaching and learning that has an element of face-to-face interaction and instructions over the internet (Milman, 2018). Although, flipped instruction has many advantages but there are some limitations as well which cannot be ignored. Firstly, the teacher may not be technically and professionally competent enough to produce high quality videos for the students. The quality of the video may be very poor resulting in not getting more fruitful results (Ahmad, Gul, & Imtiaz, 2022; Ali et al., 2021; Batool et al., 2022; Gul, Khan, et al., 2020). It may happen that a teacher who is excellent in face-to-face situation, may not produce quality video, podcast or screencast. Secondly, the students, as whole, may not watch the video or any kind of such material online in proper way. Due to many distractions, they might be interrupted watching the video. On the other hand, face-to-face interactive classroom, has, also, many distractions but at least, there is an element of continuous assessment which enable more active learning (Ayub, Gul, Malik, et al., 2021; Gul & Reba, 2017; Saleem et al., 2021; Sohail et al., 2018).

Thirdly, lesser or least material comprehension may occur through watching videos online. They may not be very well prepared for more engaging activities in the class. Fourthly, the student may need many types of scaffolding in order to understand the ideas presented in the video. Although, there are facilities of backwards and forwards in the recorded online video, but it still lacks in the idea that not all the students can equally benefit from this way of teaching. Fifthly, the 'just in time' questioning and answering may not happen due to the unavailability of the instructor and it occurs in the face-to-face instructions. It may also be not a good option for the learners of the second language (Milman, 2020). This study answers the following question.

- i. Is there any effect of Flipped Classroom Model on the academic engagement of students in English at secondary school level?

Study Hypothesis

H01: There is no significant difference between control and experimental group in English before treatment.

H02: There is no significant difference between experimental and control group in English after treatment.

Theoretical Framework

This study was based on constructivist theory of learning. Flipped classroom is kind of blended learning. One of the best components of the blended learning approach, which draws heavily from constructivist ideas such as Piaget cognitive theories and beginner center theories, is the flipped classroom. Piaget's views on cognitive development place a strong emphasis on how learners' cognitive abilities and emotional development work together. The development of behaviorist and cognitive theory preceded the maturation of the said theory, which was pertinent to psychology of education. It described ways that people learn cognitively. It had

advanced to become the teaching development idea that instructors used the most. The ideology places a high importance on students, seeing them as the most significant source of information. The notion holds that learners are the most significant contributors to the development of knowledge plans from passive consumers. It opposed conventional teaching approaches that emphasized instructors as the primary source of information to be passed forward. The idea behind Constructive approach is to improve educational process by developing students' skills, proficiency, and abilities in addition to their academic accomplishments (Gul, Kanwal, et al., 2020; Gul & Rafique, 2017; Khan et al., 2023). Mvududu and Thiel (2012) defined constructivism by referencing its four principles, including the following: learning mostly depends on the previous knowledge of learner; new conceptual knowledge arises when we change and modify our prior notions with the present. It emphasized that learning is a process of getting ideas and concepts instead of only gathering information. According to this theory, learning that is meaningful occurs when students reflect on their prior knowledge and draw conclusions about new ideas that conflict with it. Recently, the constructivist method has been used to learning and teaching in the classroom. Adults and peers must disagree with one another for the promotion of meaningful and group learning (Ilyas et al., 2014). Motivated students work hard to figure out the solutions to queries that aren't obvious. So, by actively modifying the physical environment, learners pertinently develop knowledge (Birenbaum, 2003).

Developing knowledge from abstract notions to actual information is a key component of a constructive approach. It is not only the instructor's responsibility to instill information in students' minds; they should also be given the tools to develop knowledge for application in real-world situations (Zappe et al., 2009). Instead of passive involvement, it is thought that learning occurs when meaning is actively constructed. He said that a state of disproportion is created when students encounter a circumstance that is different from the dominant way of thinking. To regain a feeling of equilibrium, the learners must adjust their ideas. The learner evaluates new knowledge by relating it to the experiences they have already had in order to maintain stability. When the learner is unable to do so, the present knowledge is reformatted to an advanced level of thought in order to accommodate the new information to the conventional notions (Ayub, Gul, Malik, et al., 2021; Batool et al., 2022; Gul, Ayub, et al., 2021). The studies on FL in the ESL context primarily focused on writing. These speakers found that it was difficult for FL learners to process grammar, due to their increased cognitive load. Teacher education (Lee & Martin, 2020; Hu, 2016) and pedagogical approach several studies have reported that using FL in the ESL classroom improves students' academic performance and achievement. Akbar (2002) recommends using a large sample size to collect new insights on the effectiveness of FL in ESL classrooms. (Ayub, Gul, Ali, et al., 2021; Gul, Tahir, et al., 2021) argued that Flipped Classroom also known as FL, brings positive changes and is effective for busy teachers. They are convinced it is also able to improve students' perceptions towards grammar learning. Arlina and Yunus (2015) stated that technology should be used in order to practice FL. They said that Mobile Learning could also be integrated with writing, which had several approaches. This will help students to improve their own writing skills.

Research Methodology

Research Design: An equivalent experimental group design was used by the present study. The said design was appropriate for this study because it included individuals to one of two groups, a test group and a control group, each with an equal number of pupils by assigning randomly. It was also used by William (2007) to analyses the efficiency of FCM against traditional learning methods. The current study was experimental in nature. In the investigation

a pre and post-test with an equivalent group design was used. This design is acceptable for the current study because both the experimental and control groups have an equal number of students. The pretest was taken before the FCM was used, and the posttest was taken after the method was applied, because the pretest and posttest were the same for both groups (control and experimental).

Population

According to William (2007), in research, the term population refers to the subjects and members who are being studied. All the students studying at Secondary Level in District Abbottabad were the population of the study. According to Annual Statistical Report (2021-2022) prepared by EMIS of E&SE Department KP the district Abbottabd, population comprises of 727 (168 public schools at secondary and 559 registered private schools, private schools of same level). Out of which GGHS Shaikh-ul-bandi is chosen for this study through random sampling technique.

Sample

The seventy (70) female students of GGHS Shiekh-ul-bandi Abbottabad were selected through random sampling. On the bases of scores of pre-tests 35 students were included in controlled group and 35 in experimental group. Random Sampling technique was used to select students from the given population of schools.

Procedures

Students were given paper-pencil written pre test. This test was consisted on 100 MCQs. Students took one and half hour to complete this test. Students were divided into two groups on the basis of result of pretest i.e. control group and experimental group. Researcher used traditional approach i.e. lecture method for teaching control group while FCM was used to teach experimental group. Five chapters (unit # 1 Hazrat Muhammad the Model of Tolerance, Unit # 2 Iqbal's Message to Youth, Unit # 3 Quaid-A Great Leader, Unit # 4 The Daffodils and Unit # 5 The Madina Charter) of English text book published by Khyber Pakhtunkhwa text book board were taught to each group. During the experiment researcher made different lecture videos on selected units of English book. Videos lecture of YouTube, TED-Education and Khan Academy etc. were also shared to students by researcher one day before the class. When students came in class next day they were fully prepared and took keen interest in lesson. Students discussed with each other what they had learnt from these videos. If they felt any difficulty they discussed with teacher. Students in experimental group watched these videos at home. In classroom they participated in active learning activities in the form of question/answer and discussion. Students of experimental group were taught in person and through videos, presentations, films and groups discussion etc. After the experiment of 8 weeks pre test was re-administered as post test from students to examine the effect of FCM on students.

Research Instruments

An objective type Question paper containing 100 multiple choice questions was used for pre and post test of students. This questions paper was used to analyze the performance of students. Similarly, a questionnaire having 40 items based on four-point Likert scale was used to measure effect of Flipped Classroom approach on student's academic engagement.

Validity of Research Instruments

Validity ensures that the complete scope of the issue is covered, and that the measurement device does as well (Long, 2014). As a result, content validity was employed as the content of the experiment with the variables to be examined in this study. Both tools i.e. question paper and questionnaires were validated from the panel of experts from Department of Education, The University of Haripur. They put some observations. These observations were removed, tools were refined and opinion and suggestions were incorporated accordingly.

Reliability

The Reliability of both the tools was checked through pilot testing over 10 non-sampling students. Afterwards, the data was analyzed in SPSS using "Cronbach's Alpha". The reliability coefficient on academic achievement test came as 0.872 and for questionnaire it was 0.74. These figures reflected that both the tools were reliable enough to be implied for data collection.

Data Collection

The researcher personally collected the data from the sampled students and teachers. The data was collected by distribution of question paper for pretest. Both groups were taught separately, and post test was conducted. Questionnaire was filled by the sampled students in the presence of the researcher herself.

Data Analysis

For statistical analysis of the data Mean, Standard Deviation, and the t-test were used. The average of the data was calculated using the mean. Standard deviation was employed to provide an insight about the distribution of scores around the mean. We can't compare two data sets efficiently without standard deviation, employed the t-test to investigate significant differences between high achievers, and low achievers.

Table 1. Comparison between academic achievement of control and experimental group before treatment

Groups	N	Mean	S. Dev	S. E. Mean	t	Sig. (2-tailed)
Exp	35	63.3143	3.59552	.60775	-1.076	.286
Control	35	64.4571	5.15263	.87095		

Table 1 depicted that experimental group (N = 35, Mean = 63.3143, SD = 3.59552, SE Mean = .60775) and control group (N = 35, Mean = 64.4571, SD = 3.59552, SE Mean = .60775) has same mean values as illustrated by t-value (-1.076) with p-value (0.286 > 0.05), which was found weak. Therefore, it is concluded that there was no difference between control group and experimental group before treatment. As a result, the null hypothesis is accepted.

Table 2. Comparison between Control and Experimental Group about Grammar before Treatment

Groups	N	Mean	S. Dev	S. E Mean	t	Sig. (2-tailed)
Exp	35	13.1143	1.56753	.26496	-.344	.732
Control	35	13.2857	2.49200	.42123		

Table 2 depicted that the experimental group (N = 35, Mean = 13.1143, SD = 1.56753, SE Mean = .26496) and control group (N = 35, Mean = 13.2857, SD = 2.49200, SE Mean = .42123) has same mean values as illustrated by t-value (-.344) with p-value (.732 > 0.05) , which was found weak. Therefore, it is concluded that there was no difference between experimental and control group before treatment. As a result, the null hypothesis is accepted.

Table 3. *Comparison between Control and Experimental Group about Vocabulary before Treatment*

Groups	N	Mean	S. Dev	S. E. Mean	t	Sig. (2-tailed)
Exp	35	11.5143	1.73835	.29383	-1.717	.090
Control	35	12.3143	2.13888	.36154		

Table 3 depicted the comparison between control and experimental group about vocabulary before treatment and experimental group (N = 35, Mean = 11.5143, SD = 1.73835, SE Mean = .29383) and control group (N = 35, Mean = 12.3143, SD = 2.13888, SE Mean = .36154) has same mean values as illustrated by t-value (-1.717) with p-value (.090 > 0.05) , which was found weak. As a result, the null hypothesis is accepted.

Table 4. *Comparison between Control and Experimental Group about Comprehension before Treatment*

Groups	N	Mean	S. Dev	S. E Mean	t	Sig. (2-tailed)
Exp	35	13.6571	2.23532	.37784	.966	.338
Control	35	13.0857	2.69391	.45535		

The table 4 depicted the comparison between control and experimental group about comprehension before treatment and experimental group (N = 35, Mean = 13.6571, SD = 2.23532, SE Mean = 2.13506) and control group (N = 35, Mean = 52.8286, SD = 12.65024, SE Mean = .37784) has same mean values as illustrated by t-value (.966) with p-value (.338 > 0.05), which was found weak. As a result, the null hypothesis is accepted.

Table 5. *Comparison between Control and Experimental Group about Translation before Treatment*

Groups	N	Mean	S. Dev	S. E Mean	t	Sig. (2-tailed)
Exp	35	11.6000	1.37627	.23263	1.077	.285
Control	35	11.2000	1.71155	.28931		

The table 5 depicted that the experimental group (N = 35, Mean = 11.6000, SD = 1.37627, SE Mean = .23263) and control group (N = 35, Mean = 11.2000, SD = 1.71155, SE Mean = .28931) has same mean values as illustrated by t-value (1.077) with p-value (.285 > 0.05) , which was found weak. Therefore, there was a no difference between control group and experimental group before treatment. As a result, the null hypothesis is accepted.

Table 6. *Comparison between Control and Experimental Group about Sentence Structure before Treatment*

Groups	N	Mean	S. Dev	S. E Mean	t	Sig. (2-tailed)
Exp	35	12.3714	2.10162	.35524	1.186	.240
Control	35	11.6857	2.69827	.45609		

The table 6 depicted the comparison between control and experimental group of academic achievement before treatment. The experimental group (N = 35, Mean = 12.3714, SD = 2.10162, SE Mean = .35524) and control group (N = 35, Mean = 11.6857, SD = 2.69827, SE Mean = .45609) has same mean values as illustrated by t-value (1.186) with p-value (.240 > 0.05), which was found weak. As a result, the null hypothesis is accepted.

Table 7. *Comparison between Control and Experimental Group of Academic Achievement after Treatment*

Groups	N	Mean	S. Dev	S. E Mean	t	Sig. (2-tailed)
Exp	35	73.2286	11.49190	1.94249	3.206	.002
Control	35	66.2571	5.78204	.97734		

The table no. 7 depicted the comparison between control and experimental group of academic achievement after treatment. The experimental group (N = 35, Mean = 73.2286, SD = 11.49190, SE Mean = 1.94249) and control group (N = 35, Mean = 66.2571, SD = 5.78204, SE Mean = .97734) has same mean values as illustrated by t-value (3.206) with p-value (.002 < 0.05), which was found strong. Therefore, there was no flyer cases found before treatment. As a result, the null hypothesis is rejected.

Table 8. *Comparison between Control and Experimental Group about Grammar after Treatment*

Groups	N	Mean	S. Dev	S. E Mean	t	Sig. (2-tailed)
Exp	35	16.4571	2.10522	.35585	2.983	.004
Control	35	14.8857	2.29797	.38843		

The table 8 depicted the comparison between control and experimental group about grammar after treatment. The experimental group (N = 35, Mean = 16.4571, SD = 2.10522, SE Mean = .35585) and control group (N = 35, Mean = 14.8857, SD = 2.29797, SE Mean = .38843) has same mean values as illustrated by t-value (2.983) with p-value (.004 < 0.05), which was found strong. Therefore, there was no flyer cases found before treatment. As a result, the null hypothesis is rejected.

Table 9. *Comparison between Control and Experimental Group about Vocabulary after Treatment*

Groups	N	Mean	S. Dev	S. E Mean	t	Sig. (2-tailed)
Exp	35	15.6000	2.65906	.44946	2.181	.033
Control	35	14.2286	2.60187	.43980		

The table 9 depicted that the experimental group (N = 35, Mean = 15.6000, SD = 2.65906, SE Mean = .44946) and control group (N = 35, Mean = 14.2286, SD = 2.60187, SE Mean = .43980) has same mean values as illustrated by t-value (2.181) with p-value (.033 > 0.05), which was found weak. Therefore, it can be concluded that there was no significant difference between control and experimental group. As a result, the null hypothesis is accepted.

Table 10. *Comparison between Control and Experimental Group about Comprehension after Treatment*

Groups	N	Mean	S. Dev	S. E Mean	t	Sig. (2-tailed)
Exp	35	15.7429	1.99031	.33642	4.301	.000
Control	35	13.3429	2.63397	.44522		

Table 10 depicted the comparison between control and experimental group about comprehension after treatment. The experimental group (N = 35, Mean = 15.7429, SD = 1.99031, SE Mean = .33642) and control group (N = 35, Mean = 13.3429, SD = 2.63397, SE Mean = .44522) has same mean values as illustrated by t-value (4.301) with p-value (0.000 > 0.05), which was found strong. Therefore, there was no flyer cases found before treatment. As a result, the null hypothesis is rejected.

Table 11. *Comparison between Control and Experimental Group about Translation after Treatment*

Groups	N	Mean	S. Dev	S. E Mean	t	Sig. (2-tailed)
Exp	35	14.4571	3.05193	.51587	4.969	.000
Control	35	11.5429	1.65108	.27908		

The table no. 11 depicted the comparison between control and experimental group about translation after treatment. The experimental group (N = 35, Mean = 14.4571, SD = 3.05193, SE Mean = .51587) and control group (N = 35, Mean = 11.5429, SD = 1.65108, SE Mean = .27908) has same mean values as illustrated by t-value (4.969) with p-value (.000 < 0.05), which was found strong. Therefore, there was no flyer cases found before treatment. As a result, the null hypothesis is rejected.

Table 12. *Comparison between Control and Experimental Group about Sentence Structure after Treatment*

Groups	N	Mean	S. Dev	S. E Mean	t	Sig. (2-tailed)
Exp	35	13.8000	2.08355	.35218	3.225	.002
Control	35	12.0571	2.42466	.40984		

The table no. 12 depicted the comparison between control and experimental group about sentence structure after treatment. The experimental group (N = 35, Mean = 13.8000, SD = 2.08355, SE Mean = .35218) and control group (N = 35, Mean = 12.0571, SD = 2.42466, SE Mean = .40984) has same mean values as illustrated by t-value (3.225) with p-value (002 < 0.05), which was found strong. Therefore, there was no flyer cases found before treatment. As a result, the null hypothesis is rejected.

Discussion

The findings of this study revealed that FCM had a significant impact on academic achievement of experimental group and students were fully engaged in learning. Similar results are found in other studies conducted on FCM. In recent years, the process for handling and processing records has changed to the form of analog but now; we want it in digital shape with a fostered way by mean and manifestation door step for every one so by means of making use of these updated technology. There are a few ways we can deliver knowledge and information to novices. Whether they're in the classroom or outside of it, there are various methods that can be used.

This research concluded that students can improve their performance by using strategy while learning. The FCM enhances students' listening ability and leads to better results for those in flipped model classes, just like the earlier studies suggest (Galway et al., 2014).

The study found that in classroom environments where FCM was used, student engagement increased, and teachers had much more interaction with them. In addition, the

same results by Strayer (2007). Research shows that FCM are beneficial for students. Schultz et al. (2015) studied that FCM learning environments were favorably advantageous for active-learning strategy.

The participants of the study who were from a FCM environment scored significantly better than those who weren't. The results of that study also showed that this new technology helped improve their understanding of the subject. The effects of this study are parallel to Marlowe (2012). The data indicate that stress levels were reduced and students' performance in previous classes increased after the FCM class.

Conclusions

It has been explored that FCM affects the students' academic achievements. The major conclusions can be summarized as following:

The control and experimental showed no significant difference in academic achievement before treatment. It was concluded that FMC intervention has a significant effect on student's achievement in English at secondary school level after treatment in term of increased marks. Applying FCM had a significant impact between control and experiential group in English language competencies mainly in grammar, vocabulary building, comprehension, translation skills and sentence structure. There was difference between the mean score of flipped classroom students and non-flipped classroom students. FCM intervention generated better result of students. They have shown interests to learn new things due to use of new teaching methodology.

It was concluded that students have shown interest in the studies through flipped class approach rather than traditional approach. So FCM has positive effect on students' learning and students engagement rather than traditional teaching method. The study revealed that during FCM classroom environment was favourable for students, and they were fully engaged in active learning. Teacher provided support during flipped classroom and concentrated on student easily because during FCM students and teacher easily interact with each other. The results of the study indicated that learning environment during flipped classroom was task oriented, cooperative and innovative as compared with traditional classroom.

Recommendations

According to conclusion of this study FCM has a significant effect on the academic achievement of students. So FCM should be preferred for the teaching of English at secondary level rather than traditional method. FCM is useful for grammar, vocabulary building, comprehension and translation in English. So teachers may be motivated to use FMC model at every level i.e. primary, high or higher education. In modern era innovative teaching strategies must be adopted. So the Department of Education may provide necessary gadgets for the teacher to utilize FCM lipped classroom model for the students to engage them.

For active participation of students FCM is very effective, it enables the students to use their critical thinking and comprehension abilities. FCM would be adopted in order to increase student's engagement. Study reviles that that FMC is very effective for teaching English but it would be used by teacher to teach every subject, because this model is equally useful for all subjects. It is also recommended that in Pakistan, policymakers and stakeholders should take serious efforts to promote FCM strategy as a contemporary in teaching-learning activities at all

level of education. For the sake this purpose necessary in-service and pre-service training for the use FCM may be provided to teachers.

Recommendations for Future Research

FCM is very effective method in teaching of English as evident from the findings of present study. However further research may be conducted in a large population using more reliable research tools. So, this technique may be evaluated for other subjects as well. Supplementary research work is needed to assess the efficacy of FCM from the prospective of public and private educational institutions. The results so obtained may be incorporated in both public and private sector educational institutions. The FCM might be proved beneficial for students to improve the learning assimilation capabilities.

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