

Flipped Classroom: A Literature Review

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Abstract

The teenagers or students of today have not known a life without technology. It's been an integral part of their existence, in many cases for the whole of their lives. The students in our age have quite different characterizes when compared to the past and their expectations have been shaped accordingly. Hence, it is quite difficult to draw interest and curiosity of the students today in learning activities through the traditional teaching approaches. That's why the interest in internet based technology within the field of education has increased. Electronic learning environment and online courses are generated. This may be the reason that children easily accepts online learning and spend a significant part of the day in front of the screen, taking online lesson on zoom or Google classrooms or whatever online platform the school has opted during lockdown period in pandemic. Recent advances in technology and in ideology have unlocked entirely new directions for education research. In this regard the educators today show much interest in the innovative teaching approaches that address the needs of this age. One of those approaches is flipped class model. Flipped classroom is a pedagogical approach which means that activities that have traditionally taken place inside the classroom take place outside the classroom and vice- versa. The flipped classroom environment ensures that students become more active participants compared with in the traditional classroom.

Keywords : Flipped classroom, Traditional classroom

Introduction

Information and communication technologies plays an important role in flipped classroom because with them interactions between teacher and student and information can be facilitated. We can all agree that the education space is continuously upgrading itself to evolve to present day necessities. The educational methods handed over to us years ago have a distinct and a stark difference to the pedagogical tools used today. With the advancement in technology, every industry is adapting to the new trends and the education sector is no exception. Educational trends adopted by institutions vary from each other depending on the trend that is most suitable for implementation and that which resonates with their objective. In this era of technology flipped classroom learning is also playing an important role in education. Sometimes Students gets bore with traditional learning so teachers need to adopt new teaching methods like flipped classroom to make teaching learning process interesting. I think it is a need of time. So lets understand

Julie Bedi (2018) the flipped model approach has been shown to inspire and motivate educators to change their teaching practices and incorporate technology to reflect our current digital era. If learning remains the focus, and teachers continue to reflect on improving teaching methodology. This allowed them to be more engaged with the subject matter, the class, and the instructors. Since a few studies were able to show some student increased learning performance and many studies revealed student enjoyment of the flipped teaching model, educators are on the right pathway toward creating a learning environment that can produce more powerful learning outcomes and increased depth of knowledge. Haley Threlkeld (2017) there is a lot of potential for the Flipped Classroom. What this study has seen is how the bridging of the of two social worlds, home and school, of the participating students has learning potential. Melissa D. MacLean Charlottetown, PE (2016) teachers cannot rely on the technology to deliver instruction effectively and engage students. The use of technology alone was not enough to engage students. Student engagement was significantly influenced by the design of the instructional video. Furthermore, students identified pedagogical characteristics as useful features in an instructional video.

The purpose of this paper is to fulfill the needs regarding the review of recent literature on the use of the flipped classroom approach in education. The contribution of the flipped classroom to education is discussed in relation to the changed in students' and teachers' role. This paper is also to describe the current state of knowledge and practice in the flipped learning approach in education and to provide guidance for researcher by critically appraising and summarizing existing research. Next, flipped classroom studies and its implementation in various disciplines will be explained. This will be followed by a section which covers future research requirements by stating the information gap in the literature. In conclusion, this paper argues

for the role of the flipped classroom in education and provides recommendations for the adaptation of the flipped classroom approach to teaching and learning activities.

2. Contributions of the Flipped Classroom to the Educational Environment

According to Anja J. Boevé¹ & Rob R. Meijer¹ & Roel J. Bosker² & Jorien Vugteveen² & Rink Hoekstra² & Casper J. Albers¹ (2016) showed that some students experienced the flipped course design as intended to support their learning process.. Cukurbasi, B., & Kiyici, M. (2018). stated that with the studyby flipped classroom motivation and interest in the lesson increased. Additionally in the group work students said that they cooperated , exchanged ideas , shared tasks took responsibility socialized with their friends. FC, students gave positive feedback on the communication opportunities of the atmosphere and they stated that they could repeatedly go beyond the class hours with FC hence came prepared and saved time. Also students stated that FC atmosphere improved opportunities for teacher student communication.

Kostaris, C., Sergis, S., Sampson, D. G., Giannakos, M. N., & elliccione, L. (2017). the implementation of the FCM in an ICT K-12 course (in articular, junior high school) lead to enhanced students' motivation , engagement in learning activities compared to a traditional teaching control group. Ana Maria Barral, * Veronica C. Ardi-Pastores, and Rachel E. Simmons(2018) Students in the flipped sections had significantly higher quiz scores than students in the control sections for both post 1 and post 2. Analyses of variance analyzing the effect of and interactions between type of instruction, in-class activities, time, and Bloom's level of the quiz questions found significant differences in the overall model and all the factors, except for the presence and level of activities. Michail N. Giannakos, John Krogstie, and Demetrios Sampson (2018) focused on measuring students' attitudes and learning performance. There are certain benefits and challenges of using a flipped class approach in course.

N. S. Goedhart¹ · N. Blignaut-van Westrhenen¹ · C. Moser² · M. B. M. Zweekhorst (2019) In particular, the combination of personalised pre-class learning and peer-learning classroom activities facilitated deeper learning. Surprisingly, even though the overall experience was good, not all students agreed that the flipped classroom contributed to positive learning outcomes, Ramula Durai, Mukuntharajan Mohanraj (2020) FL group students felt that learning surgery is more interesting and brings in motivation and better understanding of the topic taught. Videos and surgical anatomy were found easy to understand. Eighty-two percent used lecture notes, 62% found PPT easy to follow, while 78% found animation more interesting. In posttest also, flipped group performed better than didactic lecture method. Success depends on the topic chosen, especially in surgery. Jalal Nouri(2016) Low achievers significantly reported more positively as compared to high

achievers with regards to attitudes towards the use of video as a learning tool, perceived increased learning, and perceived more effective learning.

Dr. Emrah EKMEKCI (2017) The results of the study also revealed that the great majority of the students in the experimental group held positive attitudes towards Flipped Writing Class Model. Nurhan Tütüncü1 Meral Aksu2(2018) flipped classrooms is an effective method compared to traditional lecture-based classrooms, The results showed FC related studies conducted in Turkey have four major focuses: achievement, attitudes, motivation and perspectives of the students in FC and traditional classrooms. As a results, the majority of the studies concluded that students taught in FC increased their achievement, are reported to be more motivated, and developed positive attitudes. Jared Montgomery (2015) flipped learning is a valuable form of instruction that allows students to gain deeper levels of understanding of the subject matter. students in a flipped learning environment perform better than students in a non-flipped learning environment with CCSS problem-based curriculum. Stephanie McHugh (2018) The significant results of satisfaction and innovation indicate that students enjoyed class more and found that there were a wider variety of teaching and learning activities used in the flipped classroom compared to the traditional classroom pedagogy.

Amal Amin El-Sheikh, Hanaa El-Sayed El-Sayad_(2019) revealed that the study group achieved higher level of perception towards flipped classroom after the first aid unit and the majority of them (87.2%) did not have any prior experience of flipped classroom. Donald Christian Kenna (2014) students in the intervention group indicated an increase in self-efficacy while the students in the comparison group identified a decrease in self-efficacy. Britta Adams (2016) found that the flipped classroom was a positive experience within a majority of the studies. Zafer Unal Aslihan Unal(2017) Both teachers and students believed that the experiment of teaching and learning with the flipped model was successful, exciting, and motivational. The results of the study showed that, in most cases, the flipped classroom model demonstrated higher student learning gains, more positive student perception, and higher teacher satisfaction compared to the traditional model. Chun Ding, Shengguo Li and Baihua Chen*(2019) Both the students and teachers were more satisfied with the FC-TCLEBL model. More students in the FCTCLEBL group agreed that the course helped them to develop skills in creative thinking, problem solving, and teamwork. Walter Leal Filho (2019) show the active and reflexive learning from flipped classroom methodology makes students more committed to sustainable development. Khe Foon HEW* and Chung Kwan LO(2018), the flipped classroom approach was more effective when instructors used quizzes at the start of each in-class session. Jeff Dunn (2014) has wrote a short piece on “The 6-step guide to flipping your classroom”, which presented 6 easy steps for implementing flipped classroom.

1. Plan : Figure out which lesson in particular you want to flip. Outline the key learning outcomes and a lesson plan.
2. Record : Instead of teaching this lesson in-person, make a video. A screencast works. Make sure it contains all the key elements you'd mention in the classroom.

In Bergmann and Sams' book (2012), they also pointed out that do not make a video just for the sake of making a video. Only do so when you feel these are appropriate and necessary. It all depends on the educational goal of your lesson. If making videos better facilitate your instructional goal, then go ahead.

3. Share : Send the video to your students. Make it engaging and clear. Explain that the video's content will be fully discussed in class.
4. Change : Now that your students have viewed your lesson, they're prepared to actually go more in-depth than ever before.
5. Group : An effective way to discuss the topic is to separate into groups where students are given a task to perform. Write a poem, a play, make a video, etc.
6. Regroup : Get the class back together to share the individual group's work with everyone. Ask questions, dive deeper than ever before.

After the six steps, Review, Revise, and Repeat!

Some other strategies that can be used in in-class activities include:

- Active learning. Allow students to apply concepts in class where they can ask peers or instructors for feedback and clarification.
- Peer instruction. Students can teach each other by explaining concepts or working on small problems.
- Collaborative learning. Collaborative learning activities could increase student engagement, enhance student understanding, and promote collective intelligence.
- Problem-based learning. Class time can be spent working on problems that can last for the duration of a semester.
- Discussions or debate. Give students the opportunity to articulate their thoughts on the spot and to develop their arguments in support of their opinions or claims.

Zamzami Zainuddin¹ and Siti Hajar Halili² (2016) this study has clearly demonstrated that the application of flipped learning has altered the culture of students' learning from a lecturer-centered to student-centered, with more class activities belonging to students.

This research has implications for students' learning activities; the students learned through hands-on and project-based learning activities. With limited time dedicated to the lectures, students have more occasions to practice the contents with peers. The results of this study have contributed to better understanding of technology use in teaching-learning activities. Erdi ERDOGAN¹ & Bulent AKBABA² (2018) teacher candidates have a positive attitude towards technology-supported teaching processes and stated that the use of flipped classroom model in social studies course would solve many problems like time management and absence of in-class practices. Moreover, it has been stated that prospective teachers are not equipped enough to implement this model, and problems may arise due to supervision during the application phase. teacher candidates stated they wanted to use the flipped classroom model in the teaching process, but that a certain experience has to be provided first.

Christian Stöhr and Tom Adawi ID (2018) Innovative approaches to teaching often consist of a mix of learning activities (the flipped classroom is no exception) and a main focus of realist evaluation is to investigate how different learning activities contribute to different learning outcomes through specific learning mechanisms.

Emine Cabı (2018) The Findings of this particular study show that while learning within the FC Model, the pre-service teachers are successful at using rehearsal and elaboration learning strategies.

Daniel Strohmeyer (2016) The findings of this study support the current literature because students perceived that flipped learning provided them opportunities to review lessons through interacting with and revisiting podcasts for further clarification as needed. In considering students perceptions of activities related to critical thinking, themes that emerged included instructional strategies, self-regulation, and time to engage in questioning. Students spent the largest amount of their time discussing ideas related to this topic. As students explored these topics through interviews and forums primary themes that emerged were related to learning from each other, recognition of multiple resources for learning, and increased opportunities to engage in questioning between and among both teachers and peers.

Ashley Butterick (2017) students improved their rate of homework completion during the intervention phases. The student satisfaction survey suggests that students enjoyed the flipped classroom and preferred it to traditional instruction models. the flipped classroom is an effective intervention for improving homework completion rates among high school students. the flipped classroom reduces the level of stress and frustration at home related to homework assignments.

3. The Flipped Classroom in Various Disciplines of Education

Dr. N. Ramakrishnan Mrs. J. Johnsi Priya (2016) The Flipped Classroom on Mathematics unit has affected positively on Students achievement in Mathematics. The Flipped Classroom module on Area and Perimeter in the Mathematics Unit has affected the students' achievement in Mathematics.

Yuan He¹, Jun Lu¹, Huaxing Huang², Shutong He³, Nina Ma¹, Zimo Sha⁴, Yanjun Sun¹, Xin (2019) Compared with LBL methods, implementing the FC model improved student performance, increased teacher-student interaction and generated positive student attitudes toward the experience As an effective pedagogical model, it can also stimulate pharmacy students' learning interest and improve their self-learning abilities.

Jung Eon Kwon , Hyung Rok Woo (2017) The results revealed that the cooperative mindset scores in the treatment groups were improved more than those of the control groups. The competitive mindset scores in the treatment groups, on the other hand, were decreased more than those of the students in the control groups. These findings suggest that flipped learning methods may be a promising approach to enhance students' awareness of sustainable management in business.

Salem Saleh Ibnian(2018) The results of the study showed that the flipped classroom strategy had a positive effect on developing university students' reading comprehension in EFL. The results indicated that there was a statistical difference at ($\alpha=0.05$) between the two groups (control and experimental) in the post-reading comprehension test in favor of the experimental group. Furthermore, the results revealed that students of the experimental group showed positive attitudes towards the use of the flipped learning strategy.

David C.D. van Alten*, Chris Phielix, Jeroen Janssen, Liesbeth Kester (2019) Moderator analyses showed that students in flipped classrooms achieve higher learning outcomes when the face-to-face class time was not reduced compared to non-flipped classrooms, or when quizzes were added in the flipped classrooms. We conclude that a flipping the classroom (FTC) approach is a promising pedagogical approach when appropriately designed. Our results provide insights into effective instructional FTC design characteristics that support an evidence-informed application of FTC.

Khaled Mohammed Abdel Baki Mohammed Diab(2016) Result related to the Passport to Advanced Math skills in the posttest showed that the mean of the experimental group taught in the flipped classroom instruction scores were significant than the mean of the control group taught using ordinary methods.

Samar Hassan Alzaytuniya (2013). There were statistically significant differences in learning English grammar between the mean scores of the experimental group and their counterparts in the control one in favor of the experimental group due to the application of Flipped classroom.. There were statistically

significant differences in the total mean score of the post application of the learning motivation scale between the experimental group and the control group in favor of the experimental group.

Kelsey Lynn Dermott(, 2019) Regarding learning performance, students performed better on the post-test than the pre-test, except for the application based mole question in the flipped classroom. This study has shown that the use of a flipped classroom approach to teaching is more complex than we think. Educators must think carefully about their approach used to deliver and engage with content to ensure that the learning goals match the age group, pedagogy, content and technology to maximize student learning.

Martina Maněnová¹, Věra Tauchmanová¹, Jana Burgerová()The methods of frontal teaching, project teaching and cooperative teaching are the most frequently applied ones. The Flipped Classroom method is not used by 50 % of the respondents; only 7 % of the respondents use this method in almost every lesson. The respondents identified themselves with the following statements: The Flipped Classroom gives me a chance for my professional development. To compose easily understandable and highly motivating learning packets is a challenge which I like. The Flipped classroom helps to develop the 21st century's skills in the students. It needs a lot of work to gather and prepare the necessary learning contents when applying this method.

Pao-Ching Lin & Hai-Ming Chen (2016) both the instructors and students of technical and vocational colleges (the first half) believe that flipped learning has a positive effect on learning satisfaction; while the students of the second half of technical a vocational colleges believe that flipped learning has a negative effect on learning satisfaction; both the instructors and students of technical and vocational colleges (both halves) believe that flipped learning has a significant positive effect on learning effectiveness; and both the instructors and students of technical and vocational colleges (the first half) believe that flipped learning has a positive effect on learning effectiveness; while the instructors and students of the second half of technical and vocational colleges believe that flipped learning has a negative effect on learning effectiveness. Summarising the above, learning satisfaction has a partial mediating effect.

Zumrut Cassidy (2018) Based on the results of the questionnaires, students indicated a high percentage of agreement with the stimulating environment. The students stated that the flipped learning environment was a more thought provoking and captivating. It increased their level of encouragement towards learning new things. It is also mentioned " sixty five percent agreed that the flipped classroom is more engaging than traditional classroom instruction

. Jeremy F. Strayer,(2007) The findings of this research show that classroom flip students were less satisfied with how the structure of the classroom oriented them to the learning tasks in the course. The variety of learning activities in the flipped classroom contributed to an unsettledness among students that traditional

classroom students did not experience. Finally, the concept of student comfortability with learning activity is presented and developed in light of learning environments research

.Dr. Jehan Mahmoud El-Bassuony (2016) The first result showed that there were statistically significant differences between the control and experimental groups on the grammatical performance in writing test in favour of the latter for both underachieving language learners and normal students. the second result revealed that there were statistically significant differences between the control and experimental groups on the grammatical performance in speaking test in favour of the latter for both underachieving language learners and normal students. The third result showed that in the control group there were statistically significant differences at 0.01 for underachievers and 0.005 for normal students between the mean ranks of the pre-post grammatical performance in writing test in favour of the post test for both underachievers and normal students in the control group.

Mohammed Farrah (2018) the students had positive attitudes towards using flipped classroom in the process of learning. there were no significant differences among male and female students in their attitudes towards the flipped classroom. However, the mean scores show the female students had better attitudes. This is in agreement with other studies that reported no significant differences in the strategy used in relation to gender. The difficulties that were mentioned by students were similar. Some students stated that flipped classroom needs an equipped classroom with all the needed tools and technologies. students suggested that the teacher should encourage the students to watch the lectures before coming to the class. The teacher can also give positive feedback to those students who have clearly seen the video prior to class. Finally, the other students suggested that the teacher can give the students a training courses on how to use flipped classroom.

Jared Montgomery (2015) flipped learning is a valuable form of instruction that allows students to gain deeper levels of understanding of the subject matter. students in a flipped learning environment perform better than students in a non-flipped learning environment with CCSS problem-based curriculum.

Beverly Wagner (2018) Differing expectations between instructors and students of what teaching and learning should be intersects with a second-language learning environment in which students may have a background of limited prior learning in the second language. This results in consistent teaching and learning challenges that require additional scaffolding. This additional scaffolding was proposed and implemented as a flipped class approach. The flipped class approach was added and studied in Phase II of this action research Findings indicated increased engagement during class activities and increased comprehension and application among students who scored at the lower end of the class. And while specific components of a flipped class approach were deemed beneficial by students, such as chunked videos they could watch more than once, the contextualized aspects of the flipped class, identified in Phase I of this study, were also deemed

useful by the students. Examples included embedded Arabic key words in the course materials and culturally relevant class activities.

Hamad Alsowat (2016) The findings of the study revealed statistically significant differences between the two groups in HOTS in favor of the experimental group. Also, there was significant difference between the pre and post administration of the engagement scale in favor of the post administration. Moreover, students' satisfaction on the (EFL-FCTM) was high. Finally, there were high significant relationships between HOTS and student engagement, HOTS and satisfaction and between student engagement and satisfaction. Salem Saleh Ibnian (2018) The results of the study showed that the flipped classroom strategy had a positive effect on developing university students' reading comprehension in EFL. The results indicated that there was a statistical difference at ($\alpha=0.05$) between the two groups (control and experimental) in the post-reading comprehension test in favor of the experimental group. Furthermore, the results revealed that students of the experimental group showed positive attitudes towards the use of the flipped learning strategy. Jung Eon Kwon, Hyung Rok Woo (2017) The results revealed that the cooperative mindset scores in the treatment groups were improved more than those of the control groups. The competitive mindset scores in the treatment groups, on the other hand, were decreased more than those of the students in the control groups. These findings suggest that flipped learning methods may be a promising approach to enhance students' awareness of sustainable management in business.

Yuan He¹, Jun Lu¹, Huaxing Huang², Shutong He³, Nina Ma¹, Zimo Sha⁴, Yanjun Sun¹, Xin Li^{5,6,7*} (2019) Compared with LBL methods, implementing the FC model improved student performance, increased teacher-student interaction and generated positive student attitudes toward the experience. As an effective pedagogical model, it can also stimulate pharmacy students' learning interest and improve their self-learning abilities. Ramula Durai, Mukuntharajan Mohanraj (2020) FL group students felt that learning surgery is more interesting and brings in motivation and better understanding of the topic taught. Videos and surgical anatomy were found easy to understand. Eighty-two percent used lecture notes, 62% found PPT easy to follow, while 78% found animation more interesting. In posttest also, flipped group performed better than didactic lecture method. Success depends on the topic chosen, especially in surgery.

Ana Maria Barral,^{*} Veronica C. Ardi-Pastores, and Rachel E. Simmons (2018) Students in the flipped sections had significantly higher quiz scores than students in the control sections for both post 1 and post 2. Analyses of variance analyzing the effect of and interactions between type of instruction, in-class activities, time, and Bloom's level of the quiz questions found significant differences in the overall model and all the factors, except for the presence and level of activities. Significant differences between students in the flipped and control sections were observed for low-level Bloom's questions only. Mervat Abd Elfatah Ali Said Ahmed

(2016) The results of this study indicate that not only did flipping classroom instruction improve students' attainment in writing but also it improved their overall attitudes and beliefs towards the writing skill. Moreover, this teaching method boosted students' motivation and class engagement. Students in the experimental group demonstrated a better writing attainment through the FCI, and found that they became more engaged and responsible of their learning. Results of the study showed that the experimental group outperformed the control group in the post-test of EFL writing. Second, there was statistically significant difference between the mean scores of the pre and post application of the questionnaire of the experimental group in favor of the post application. This difference can be attributed to using flipping.

Mohammed Fahad Alsobaie (2018) All participating teachers noted that they made the decision to use flipped learning in their classroom in the elementary school based on their thinking about it as one of the best approaches to teaching that can work with all students. The teachers' decisions on using the flipped learning approach in the classroom in the elementary schools were also influenced by their perspective that it was a new and interesting strategy. All the elementary school teachers who participated in this study noted that making the decision about using flipped learning in their classroom was dependent on their perspective and belief that this style of teaching was a useful strategy to promote better understanding of curricular content for students. All the elementary school teachers who participated in this study noted that making the decision about using flipped learning in their classroom was dependent on their perspective and belief that this style of teaching was a useful strategy to promote better understanding of curricular content for students. Two of the elementary school teachers who participated in this study commented that the flipped learning method was one of the best ways for saving time for classroom activities. Three of the participating teachers noted that making the decision about utilizing the flipped learning approach in their classroom was dependent on their belief that flipped learning, integrated with technology, was the language of today's students, so they have to use it. All participating teachers noted that they believed flipped learning in the elementary classroom plays an obvious role in increasing students' accomplishments. Kelly E. Snowden, (2012) The findings revealed that the teachers more likely to have positive perceptions of the method for use in their own classroom taught math or science and used lectures as a main method of content delivery. Math and science teachers agree that using the flipped method increases student engagement in their classroom, while English and social studies teachers do not believe it would have a positive impact in their classrooms, but acknowledge that it may increase engagement for other subjects. Possibly the most significant finding to this study is that perceptions of the flipped classroom vary widely according to the subject matter taught by the participant. Elizabeth Setren, Kyle Greenberg, Oliver Moore, and Michael Yankovich (2019) We find no long term average effects on student learning, but the widened achievement gap persists. Our findings

demonstrate feasibility for the flipped classroom to induce short term gains in student learning; however, the exacerbation of the achievement gap, the effect fade-out, and the null effects in Economics suggest that educators should exercise caution when considering the model. Rebecca C. Hunley (2016) The findings revealed that students indicated some classes are not well suited for a FCM while others work well and most students prefer a FCM compared to a traditional lecture. Findings revealed that teachers indicated implementation of a FCM works best with supportive administration, parents, and the increased engagement of students is well worth the effort. Student participants identified a FCM as a useful learning tool to accompany teacher-guided instruction during class, allowing opportunities for students to take ownership of their own learning, and improved teacher and student relationships. Jacob Lowell Bishop, Dr. Matthew A Verleger, (2013) Students tend to prefer in-person lectures to video lectures, but prefer interactive classroom activities over lectures.

4. The Research Needs Regarding the Flipped Classroom

Donald Christian Kenna (2014) states that studies on the flipped classroom should also extend beyond the science classroom. Researchers should continue to evaluate this educational model in classes such as the humanities and civics, language arts, or history. Finally, research needs to be conducted on the specific aspects of the flipped-classroom. Identification of factors used in the flipped classroom should be reviewed for student achievement. According to JoRanna Marita Saunders(2014) High schools should consider implementing technology into their upper mathematics courses on a regular basis in the form of computers, laptops or iPads. Students should have the option of viewing digital media as it relates to the concept being taught during class if they require further explanation, desire further enrichment, or if they wish to extend their understanding of the topic of the lesson. Schools should facilitate student progress in high school mathematics classrooms by instructing and motivating students to view upcoming curriculum topics via digital media. Shereen A. Elia" Diala A. Hamaidi(2018) recommended to provide schools with adequate technology tools, modern laboratory devices, and high speed internet to help teacher to prepare the needed materials according to the flipped classroom strategy. Furthermore, the study suggested re-applying this research study by investigating the effect of flipped classroom strategy on other variables such as other content subjects or areas and other grades from different academic stages. Emine Cabi2018 recommended that students' motivation and readiness level to learn outside the classroom be identified and necessary arrangements be done before applying the FC Model. Lastly, rich content videos should be chosen and produced specifically for students to consult for out-of-class studies. According to Amy Bajurny(2014)more research could be conducted on the opinions of where flip teaching fits in the SAMR Model; Julie Bedi

(2018) recommends future flipped classroom studies could assess and examine how this model could be evaluated differently using various methods of assessment that will reflect students' enhanced Flipped Classroom experience and increased student engagement. This would be a better indication of how students have connected with the subject matter.

Anja J. Boevé¹ & Rob R. Meijer¹ & Roel J. Bosker² & Jorien Vugteveen² & Rink Hoekstra² & Casper J. Albers¹ (2016) suggested that Further research on the relationship between students' learning regulation and actual study behavior and course results is necessary to understand when and why implementing the flipped classroom is successful. Recommendations that may help more effective flipped classroom implementation include considering the prior history between students and instructor(s), the broader curriculum context, and frequent expectation communication especially with large numbers of students and non-mandatory lecture attendance. Kelsey Lynn Dermott (2019) claims that Future research should be conducted on the educator's perspective on the flipped classroom, particularly at the secondary-school level. Melissa D. MacLean (2016) demonstrated that further research should consider the experimentation with instructional videos over a full course term. This is not to say that each lesson requires an instructional video but some pattern of use (e.g., one or two videos per week) would explore whether students' perceptions towards instructional videos was related to a novelty effect. According to Mohammed Fahad Alsobaie (2018) the role of facilitative professional development at the district level may be a target for future research. Based on the recommendations offered by the elementary school teachers who use flipped learning in their elementary classroom in this study, another area of further research might assess whether and how other elementary school teachers are able to use the published recommendations to achieve similar outcomes. Kelly B. Butzler (2014) recommended that the study be repeated with a larger sample size using a mixed-methods design with experienced flipped class instructors so that even small differences in achievement and satisfaction can be detected and evaluated. Hamad Alsowat (2016) demonstrated that Further research should examine different aspects that may be contributed to the success of flipped instruction in language learning, such as students' aptitude, learning styles, cognitive and metacognitive strategies. There is a demand to apply this model, (EFL-FCTM), in different environments and to students of different stages; intermediate and higher stages. Samar Hassan Alzaytuniya (2016) recommended to investigate the effectiveness of using Flipped classroom on students' motivation for learning other school subjects.

According to Burak Ayçiçek Tuğba Yanpar Yelken (2018) It is necessary to plan technical capacity of learning environment well in order to make the process in the class more efficient. If students in the study have problems about accessing internet, course contents should be provided to them by equipments such as

CD, DVD, portable memory, etc. □□In future studies, the effect of the model should be studied in other education levels and courses. □□Future studies can also include opinions of students and parents about the model. Mohammed Farrah * Ahlam Qawasmi (2018) stated that educators should incorporate technology into their teaching to achieve better learning outcomes. Educators should also include technology in their classroom to create better learning opportunities for their students. Dr. Jehan Mahmoud El-Bassons (2016) recommended that More research is needed to investigate the effectiveness of FL in developing different language skills. More research is needed to examine different treatments that help underachieving language learners to use grammatical rules in speaking and writing correctly. Conducting studies comparing the grammatical performance of both genders using other interventions.

According to Stephanie A. McHugh (2018) To minimize additional validity threats, the study could be repeated using more than one cohort for both the traditional and flipped classrooms. It may not be possible to conduct a true experimental analysis with a randomized sample; however, increasing the number of cohorts for both pedagogies and extending this study to multiple institutions has the potential to increase the sample size and statistical power. Additionally, adding more institutions will likely result in more generalizable findings. A large, diverse sample of multiple sections of the same class would also assist in confirming or contradicting the relationships observed between the demographic data, such as age, gender, race, and years in college in relation to the CUCEI scores. Leah Good (2017) suggested that Future research on flipped classrooms should include a stricter ‘flipped’ curriculum that lowers the variability of instruction seen within class types and should include more participating faculty so demographics can be analyzed. According to M. Teresa Villalba* Guillermo Castilla Sara Redondo-Duarte (2018) More studies using alternative data sources and methods are needed to obtain a definite model to support this adoption since FC has proved to be a very successful model for motivating students. We hope these results pave the way for schools who want to adopt the FC model and for focusing teaching training in the competences as part of this work detected. According to Jeremy F. Strayer (2007) would be helpful to have stronger guidelines for when and how to use ITS effectively in the classroom. Secondly, it would also be interesting to investigate ITS use specifically in light of the classroom learning environment. Perhaps there are certain conditions in the learning environment that make it helpful for an ITS to be used for student learning. Finally, I would find it helpful to see more research on the teacher’s role in the classroom when ITS is used as a learning tool in the class. All of these avenues for future research would be good ways to extend the findings of this present study. Gerald Robert Overmyer 2014stressed that qualitative studies could be done that show best practices of creation and design of flipped learning courses. Researchers could study the aspects of higher education courses that work well for flipped learning and note the inherent pitfalls, both with instructor and student observations and case-studies. Yuko Enomoto Prefume, (2015) suggested that The types of assessments

should also be reexamined for future studies. The assessment tools used in this study were course content specific. The students' course grades may not necessarily correlate to their actual proficiency, especially at beginning levels. For future research, the use of general proficiency examinations such as JLE and JLPT, or OPI and OWI, will be recommended in order to evaluate general language proficiency. According to Daniel Strohmeyer (2016) research should also consider the intentional use of technology and social media in the flipped classroom, including more intentionally considering student ease of use and perceptions of potential encroachment of academia in social realms as well as the partnership between teachers and students in identifying the most useful tools and structuring learning around those tools.

Rebecca C. Hunley (2016) Through purposeful sampling, this could be accomplished by identifying teachers at various grade levels and different content areas. Further expansion to include teachers in multiple school systems as well as multiple regions can provide a broad perspective of this model. According to Khaled Mohammed Abdel Baki Mohammed Diab (2016) Provide a professional development course for the teachers and students before applying the flipped classroom instruction: One of the very important part in flipping the classroom is teachers and students should be ready, teachers should be ready for creating videos and activities, students should have trained how to see the video. And how to use the content delivered by the video in understanding the main concepts. Dr. Salem Saleh Ibnian(2020) Making use of electronic applications in TEFL field, including the flipped learning strategy, so as to create a motivating learning environment and move towards leaner centered classroom methods. - Holding training sessions for EFL instructors on new teaching strategies and applications of new technologies in the educational process, such as the flipped learning strategy. Conducting further studies to examine the effect of using the flipped learning strategy on developing other language skills. Kelly E. Snowden (2012) suggested that Additional research is needed across a wider range of participants from various school districts to further determine the validity of these findings. In order to discover teacher's perceptions of the impact the flipped method has on learning and achievement, more quantitative data is needed. Graham Brent Johnson2013demonstratd that Further research could explore how these and other technological advances could make Flipped Classroom experiences more engaging. As a result of the student responses for an increase to interactivity I have experimented with interactive video production.

Bethann Marie Wiley (2015) claims that there is a need for studies involving students of all ages. The needs and understandings, thus the impact of the model, on an elementary age student may prove to be very different than that of a high school or college age student as this study has suggested. While the Flipped Classroom model has become very popular the body of research is still developing.

4. Conclusion

The paper concludes that a careful consideration of the warnings recommendations made in the literature can help to produce effective flipped classroom environments and also this paper attempts to inform those who are thinking of using new technologies and approaches to deliver courses. Result of this survey shows that students perceptions to the flipped classroom are generally positive overall. students prefer interactive classroom activities rather than boring lectures. though there are mixed responses but it is confirmed that students required interesting teaching with various activities. The review of the literature indicates that there is an increased contribution to the educational environment by the use of flipped classroom. Firstly, student applications concerning learned topics can be provided and also all levels of Bloom's Taxonomy can be accomplished by the use of the flipped classroom model. Students are encouraged to move out of the classroom to learn independently of place and time and also to choose the most useful study strategy for their own learning. Moreover, it is found that instructors who used the flipped classroom model improved the sort of resources they have, experienced reflective discussions and shared their instructional practices among each other.

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