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Enhanced Student Class Attendance by Using Concept of Flipped Classroom Approach

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Abstract
Purpose: The absenteeism of students in the classroom at an education institute is the interventional issue for this study and the flipped classroom method is used to solve or minimize this issue.
Methodology: This study was conducted on 100 (before and after) students of the 2020-21 session (Bangla, English, Philosophy, Mathematics and Statistics courses) of two reputed colleges in Dhaka City. The collected data were analyzed and compared using independent t-test methods, where instructional intervention was an independent variable, and class attendance and mid-term mark were considered dependent variables.
Results: The results of this study show that the class attendance and mid-term exam mark of students in the two groups (flipped method and traditional method) are statistically significant at a 5% level of significance *(class attendance t =15.54, p = 0.00, <0.05, mid-term exam mark, t =17.83, p = 0.00, <0.05)*. The classroom class attendance and mid-term exam mark for the students in the flipped method group (*class attendance: mean score 89.62, mid-term exam mark: mean score 20.58*) were significantly greater than that of the traditional method group (*class attendance: mean score 49.22, mid-term exam mark: mean score 8.54*).
Limitations: In this study, only 100 students' data was collected from two reputed colleges in Dhaka city, consequently the results obtained from this study may not represent the overall context.
Contribution: These two statistical results indicate the flipped classroom approach is better than the traditional approach. Thus, applying flipped classroom model to teaching keeps students engaged in a variety of activities before/in/after class, increased learning interest, and reduces student absenteeism.
Novelty: The method applied in this study has opened new horizons instead of the long-standing conventional idea in the field of education.
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1. Introduction

In current times there has been a great change in the methodological concept of teaching. The current education system is teacher-centered. We forget that students are a part of the classroom. The teachers in the classroom only give their lectures, they do not use any method for the participation of the students. As a result, students lose interest and become inattentive because of their lack of engagement in classroom learning activities.

The world is constantly progressing technologically, as a result of which new technologies are being invented in the field of education. All those technologies are being used to modernize education. This is even more true for the duration of the Corona situation. As a result of the massive disruption caused

by the virus spread across the globe, no doubt these technology-based approaches became more popular during the Corona pandemic. The World Health Organization has recommended increasing the restrictions considering the ongoing situation. We interact with other international organizations (related to disease control and prevention), working on ways to influence teachers' teaching and student learning. (Organization, 2020). Clearly, it has completely changed the educational paradigm, which includes not only lectureship methods but also personal and teamwork for how students can move forward with the times. (Dhawan, 2020; Fatani, 2020). This is particularly pertinent for tertiary institutions (such as universities or colleges), where a comprehensive different classroom ingredient, namely lecture sheets/notes, video/audio tutorials, or team works, are being accepted during the pandemic situation (Naw, 2020). Keeping in mind the evolution of the pandemic, the plan to start the teaching program for the academic year 2020-21 had to include several constraints considerations. Among the many constraints, the most important were limited classroom capacity, and arrangements to reduce face-to-face interaction. Classes and teamwork for certain departments or certain communities of students in the University were suspended in the 2020 and 2021 academic programs due to the imposed restrictions. In the last few years, education has come out of the traditional way of teaching. Classroom lectures are shifting from emphasis to active learning. As a result, different methods are being used to engage pupils inside and outside the classroom, ordinarily acquainted as flipped classroom (FC) method. The FC method allows the use of Internet technology or Web 2.0 tools to facilitate study in the classroom as well as outside, especially at home. As a result, a teacher gets enough time to do various active learning activities besides lecturing in the classroom. The concept of the FC system is new in the education system of Bangladesh and now, the education system is shifting from a traditional classroom to flipped classroom approach.

The FC includes a metamorphosis of the role of teachers. In a traditional class, the instructor can be narrated as the “sage on the stage” that affords information in enticing ways in expecting that pupils will pay interest and adopt the information (Jon Bergmann, Overmyer, & Wilie, 2014). The FC strikes away from this concept, placing the instructor in the function of the “guide on the side” who works with the pupils to guide them via their individual studying experiences (Jon Bergmann et al., 2014). The “guide” function can be pictorial using Paulo Freire’s concept that education “should not contain one person appearing on another, however instead human beings working with each other,” (Smith & Boscak, 2021).

The use of the FC has the conceivable to be a fantastic and really helpful approach to teaching. Replacing outright guidance (the specific scripted presentation or transport of fact or a task) from the category time with video contents found outdoors of the classroom permits for extra class time to be used for abuzz learning. abuzz learning can encompass functions, group conversation, learner’s-created study content, impartial hassle-solving, inquiry-based activity, and project-based learning (Jon Bergmann et al., 2014). This use of class time can create classroom surroundings that make use of collaborative and constructivist learning; blending with the outright guidance used inside the classroom (Tucker, 2012). Constructivist studying takes location when the learners acquire knowledge via direct personal experiences such as activities, projects, and discussions. (Ültanir, 2012). The frequency of these personal experiences can be accelerated in an FC via the use of activities, creating learners who are energetic beginners (learning by attraction in analysis, synthesis, and evaluation), alternatively than passive beginners (learning by the absorption of information from hearing, seeing, and reading) (Minhas, Ghosh, & Swanzy, 2012). The passive studying of a flipped classroom takes place during the video lectures backyard of the class, releasing up in-class time for active learning (Tucker, 2012). Active studying has been discovered to produce higher grades than passive studying (Minhas et al., 2012).

1.1 Research Gap

What I noticed after reviewing the literature is that there is not much significant research on educational technology or learning methods in education in Bangladesh. Most of the research has been done on a specific field, and all of them have emphasized the advantages and disadvantages of the flipped classroom over the traditional classroom in that field. In that case, this study has identified the ongoing problems in the education sector of Bangladesh and how Flipped classrooms can be useful in solving those problems.

1.2 Statement of the Research Problem

This study noticed that all the students who take regular classes and engage in active learning in the classroom do well in the mid-term exams. Even those who are focused on their studies have a good idea about their sense of life. Students in the classroom work to improve their skills. So, absenteeism in the classroom is a problem or cause for concern. Students who do not participate in classroom teaching activities are affected by active learning. In that case, educators cannot finish their lesson plans on time. He cannot verify whether the students understand his class yes or not. So, both the students who do not participate in active learning in the classroom and the teachers engaged in teaching are affected. So, absenteeism in the classroom is an instructional Issue for this study.

Source: Author Own Work

1.3 Purpose and Significance of the Study

The motive of this study was to check out the academic performance inequalities among college learners in the TC approach and classes taught using the FC approach. The study applied a quasi-experimental technique, which is normal to many research concerning human-related subjects, due to the concern of using randomized assignment of participants to groups. The explained variable was academic performance, mid-term marks and the explanatory variable was an intervention. The study also investigated the interactions between learning methods, academic performance and mid-term marks. This study will contribute to the effective transformation of education, as it will raise the issue of whether the teaching approach has any effect on students' classroom attendance (%) and mid-term exam mark.

1.4 Research Objective

The present study has been conducted on 100 students (before and after) two reputed colleges with the following objectives in mind:

1. To find the significance between in-class attendance between teaching students in the traditional method with teaching students through flipped classroom method.
2. To find the significance in the mid-term mark between teaching students in the traditional method with teaching students through flipped classroom method.

2. Literature Review

In traditional teaching, educators normally deliver their lectures only. In this approach, teachers are at the center of teaching. Students cannot accept the knowledge imparted by educators, and gradually lose interest in learning. The flipped classroom approach can play an important role in overcoming this problem, in which educators and students can contribute to the development of the quality of education as an alternative to the traditional classroom approach.

Several current research articles have explored the idiosyncratic and extrinsic outcomes of these instructing innovations, discovering that these methods can bring up studying either in the totally online or mixed educational periphery, even whilst it is obligatory to switch from one style to some other due to the fact of the current pandemic situations. Chick et al. (2020) provide various options to soothe the threat of virus propagation, together with the FC model, teleconferencing, and online practice, with

wonderful results, as contributors were content with the structure and were fascinated in keep up to study beside usually attending eyeball-to-eyeball lectures. A relative study was carried out by means of Latorre-Cosculluela et al. (2021), who terminated that contributors were bent to take an extra abuzz role in their own studying manner by using growing 21st-century abilities (e.g., crucial thought or creativity) below the FC model rather than silently listening to outright instruction. In this consideration, different research highlighted the relevance of videos, recorded lectures, and team discussions, amongst different digital contents, to encourage collaborative discussions, incite students to gain knowledge of and detach concentration away from the contemporary breakdown due to the pandemic (Agarwal & Kaushik, 2020; Guraya, 2020). As can be referred to from the foresaid studies, the significance of growing propitiation and engagement at the time of the uncommon scenario of COVID-19(Uddin & Uddin, 2021) is indispensable for educators to take strategic determinations to improve a lifestyle of engagement amongst learners. In this sense, Collado-Valero et al. (2021) recognized a massive expansion in the use of distinct online digital content below the FC method in a Spanish higher education context, in general, these associated with video and audio content, which supplied a larger quantity of advantages for students to take part their studying experiences through a virtual space. Other articles also verify the unique upward push of flipped learning, whereby pupils get admission to information and have extra advantages to engage with each other, due to the broad range of chances for sharing views and thoughts offered by these virtual scenarios. In particular, Monzonís, Méndez, Ariza, and Magaña (2021) surveyed 123 trainee instructors who had been gaining knowledge of the flipped-top classroom model during the 2019-20 educational year. They carried that the utility of this bendy methodology raised the improvement of oral abilities and the enchantment of studying skills. They also highlighted time optimization as one of the opportunities reported by the contributors in the survey. With the identical motive of contributing to the improvement of student studying prang and engagement no matter pandemic constraints, Smith and Boscak (2021) examined well-known FC pedagogy, in which students were provided with self-learning academic contents, e.g., before class materials or case studies, collectively with interactive online lectures in which studying topics were revisited and discussed. They referred to both the students' propitiation with the method invested by the bendy and enticing content used and their subsequent self-assurance in the abilities improved during the course. In parallel, Monzonís et al. (2021) examined the grasp of pedagogy pupils who observed a flipped methodology during the COVID-19 disaster and discovered that most of them had accelerated their digital abilities and elevated their inspiration thanks to this methodology. Despite these clear advantages for abilities improvement and abuzz participation of pupils, there are still some obstacles that necessary to be addressed in extra detail and that may be frequently associated with teachers, pupils, or technological requirements. Writers such as Agung, Surtikanti, and Quinones (2020) highlighted different technology-based issues when they unfolded that a greater portion of pupils surveyed was not enthusiastic about online learning predominantly due to a lack of admittance to the net and other technological contents, which may be exposing the trouble of the digital divide. The snappy shift in the way of e-learning since spring 2020 has had other real web-based limits, which have been reported by comparable studies, specifically over-reliance on the unerring functioning of technology or lack of individual contact in video conferences due to the marked contrast concerned by the teaching-learning environment swap (Clark-Wilson, Robutti, & Thomas, 2020; Goksu & Duran, 2020). The obstacles associated with instructors may be associated with their inconvenience in dealing with rising technology in such a brief space of time. In this consideration, ElSaheli-Elhage (2021) mentioned that several educators explicitly that they are not enough digital scholars to take regular online learning activities at the time of the pandemic. In this appreciation, Cevikbas and Kaiser (2020) marked out every other disadvantage associated with digital education, which is gingerly connected to the subject-earmarked content needed for workable flipped teaching. They highlighted the issues for instructors in figuring out adapted studying content that effectively assembles the particular desires of their students or in developing their own lecture videos, slides, infographics, and other learning content through online platforms. Regarding pupil-related obstacles at the time of the contemporary emergency, several writers have recognized students' depressive signs and that symptoms of nervousness bounce in online studying courses due to the understanding of falling behind at the back of academically under these uncommon prerequisites (Islam, Barna, Raihan, Khan, & Hossain, 2020). The impact of physical distance or the expansion in response time when answering queries and offering educational assistance in

asynchronous lessons may be different factors that cause these emotions of psychological unease (Ardan, Rahman, & Geroda, 2020).

According to Jon Bergmann et al. (2014), the ordinary definition of an FC is changing outright guidance with videos and patronaging pupils to focal point on vital studying functions with their instructor's interior of the classroom. It is disputed that there is misinformation about the flipped classroom and this misinformation can be clarified by defining the flipped classroom as personalized education where pupils take accountability for their self-study. In addition, the FC permits the instructor to be a facilitator and also enlarges interaction and personalized contact time between instructors and students. The FC is also defined as developing problem-based studying interior the class and changing direct guidance with videos in order to supply academic material to be accessed whenever and wherever it is required by students (Jonathan Bergmann & Sams, 2012; Hamdan, McKnight, McKnight, & Arfstrom, 2013). Hamdan et al. (2013) noted that guidance can be delivered by recording and narrating screencasts of work on computers, developing videos of instructors while instructing or gathering video lessons from relied-on websites.

Gilboy, Heinerichs, and Pazzaglia (2015) applied the FC model in two undergraduate nutrition courses and defined the understanding of students concerning the model. The measuring rod used in the study permits the faculty to layout functions that can be applied before-class, in-class and after-class, and also assessments incorporating Bloom's Taxonomy. It is observed that the majority of the 142 students desired the FC method compared with the traditional classroom.

Hung (2015) examined the feasible influences of flipping the classroom on English language educators' educational competency, studying attitudes, and understanding levels. Three different formats of flipped instructing were utilized and it was observed that structured and semi-structured flipped learning became more workable than non-flipped learning.

Love, Hodge, Grandgenett, and Swift (2014) utilized an FC model for one part of a utilized linear algebra course and a traditional lecture layout for some other part of the course. Termination of semester surveys and assessments was organized for the reconsideration of students' content material understanding and course grasp. Pursuant assessments showed that pupils in the FC had proven greater extent than pupils in the traditional lecture segment. In coupling, the effects of the give-up of semester survey confirmed that FC pupils were pretty fine with respect to the course.

Flipped classrooms, also regarded as "inverted classrooms", began in the United States at the end of the twentieth century and made significant development at the start of the twenty-first century. In 2000, American scholars Lage, Platt, and Treglia (2000) published an article titled "Inverting the classroom: A gateway to creating an inclusive learning environment.", in that study, researchers suggested using flipped classrooms in the introductory economics course at the University of Miami to activate distinguished teaching and take to the identical learning patterns of individual students.

Quality education can be provided by making maximum use of classroom time as a result of the use of various educational technologies in the application of the flipped method of the classroom in teaching. In this strategy, as college students can use educational technology tools, their technical skills increase, their creativity develops, they tend to work in groups through interactive discussions and find specific learning strategies with individual learning activities. Millard (2017) showed that if flipped classroom techniques are used as a teaching method, it is possible to keep students active in the classroom.

Although the FC method has many amenities in teaching, it also has some drawbacks. Tim (2014) revealed the challenges that, before coming to class, college students can attend without having to watch videos anymore. According to Kordyban and Kinash (2013), educators face many difficulties in evaluating whether college students follow their instructions at home. The biggest hurdle for educators is creating and broadcasting lecture videos. As well as preparing for class activities and integrating them with classroom strategies (LaFee, 2013).

Student engagement in the classroom is assessed in three stages, these three stages are emotional engagement, cognitive engagement and behavioral engagement (Wang, Bergin, & Bergin, 2014). Emotional engagement refers to the motivation of students to learn in the classroom as well as their own feelings about their classroom and college. Cognitive engagement refers to the procedures such as cabbalistic-processing, method use, attention and metacognition. Behavioral engagement refers to remarkable attitudes such as active participation in-class activities, expressing curiosity about the lesson what they don't understand, being active in collaborative works and finishing duties except extend (Skinner, Kindermann, & Furrer, 2009).

According to Ozdamli and Asiksoy (2016), the FC is an effective classroom approach that was established to enhance the quality of the duration within the class. Generally, this approach, whose applications are finished mostly in Physical Sciences, additionally attracts activity of learners and teachers in many disciplines recently. The idea of FC learning, which is gaining recognition around the world, is not generally recognized in our nation.

The flipped classroom approach has paved the way for the use of technology in classroom application teaching, which has resulted in the extensive development of technical concepts such as interactive video, interactive in-class activity and video conferencing structures (Johnston, 2017). The flipped classroom approach to using technology in education is a great idea to create a positive learning environment in schools. (Hamdan et al., 2013). Studies about the FC show up in distinct branches consisting of information systems (Davies, Dean, & Ball, 2013), engineering, sociology, and humanities (Kim, Kim, Khera, & Getman, 2014), arithmetic schooling (Zengin, 2017), and English composition (Zhonggen & Guifang, 2016).

According to the study of Awidi and Paynter (2019), Overall, college students expressed excessive levels of pleasure with a number of components of the FC approach. On the other hand, some activities were wrongly appreciated, prompting worries from the course coordinator and students. Students' comfort, motivation, and involvement were all related to facets of the model for student learning. It was decided that enhancing components of the flipped design, such as recorded lessons and the composition of class sessions, could improve the student learning journey in this course.

According to Sarker & Uchinlayen (2020), a study shows that Students' attendance in the classroom has a positive correlation with their final exam marks. Students who attended 80% of the class have relatively better final exam marks compared to the students with less than 80% attendance.

Caratiquit and Pablo (2021), according to their research, With the increase in the use of information technology in teaching, the number of users is increasing rapidly. Because of this, there is a need for new technologies and education to develop student learning activities. Information technology devices that have been used during the Covid-19 era have helped students to attend classes, communicate or talk to teachers, or ask students class-related questions and get feedback from teachers.

According to the study done by Hossain and Yasmin (2022); Khaneghahi, Nasripour, and MahmoudZehi (2022) in terms of quality teaching during the time of covid-19, online classes have become a complicated process for both teachers and students, but the management skills and adaptability of new technologies of the teachers have been able to create fun and interesting learning among the students.

A review of the above studies shows that no one has used the emerging flipped classroom method of teaching students to keep them engaged in the classroom before this study. The results from this study will be helpful to teachers, training institutes, and those involved in the work related to teaching. The study was conducted in five different courses for 4 weeks in the spring semester on the students of two reputed colleges in Dhaka city.

2.1 Research Question

The above research was arranged to find solutions to the following research questions:

1. Is there an inequality in class attendance between teaching learners in the TC approach with teaching learners through the FC approach?
2. Is there an inequality in mid-term marks between teaching learners in the TC approach with teaching learners through the FC approach?

3. Research Methodology

3.1 Study Population and Sample

For this study, set up some criteria. We have collected data in two ways to facilitate this study. The first part is before implementing the intervention and the second one is after implementing the intervention. Before, our PLC teams collect information from students who engage in learning activities in a traditional approach and in after, who were involved in the learning activities in the FC approach.

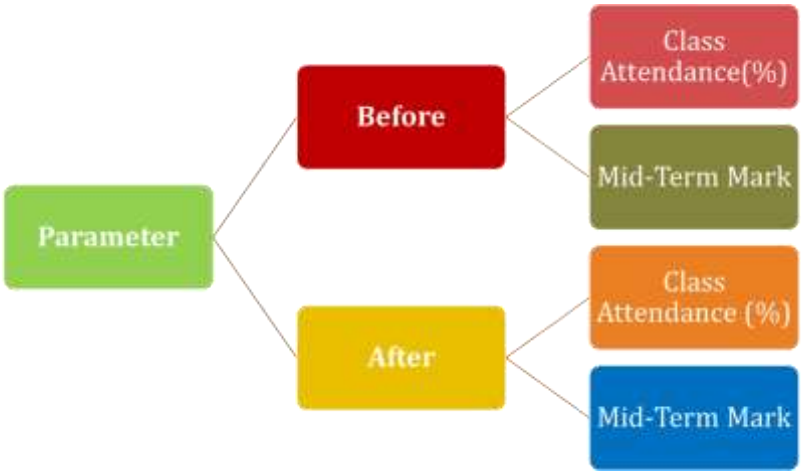


Figure 1. Data Collection criteria

In the first part, we collected data from a total of 50 students, 10 from each department, where we looked at just two things, one was the student's class attendance (%) and the other was the mid-term mark (total mark of 30). After implementing our instruction intervention, we collected the same information from 50 students (10 from each department) in five different departments which we did in the first stage.

3.2 Research Technique

In this study, a before/after quasi-experimental quantitative research technic was applied to verify the impact of the FC approach on students' class attendance and mid-term mark.

3.3 Analysis Tools

The collected data from the five different departments were analyzed and compared using independent t-test methods where instructional intervention was an independent variable, and class attendance, mid-term mark were considered dependent variables.

3.4 Traditional Classroom Vs Flipped Classroom Approach

3.4.1 Traditional Classroom Approach

The learners come to the classroom based on the topic and schedule given to them	The educator delivers the lecture to the classroom and provides the study material	The learners are given practice exercises or activities to enhance their learning

Source: Author Own Work

The picture represents the traditional classroom (TC) approach. TC approach, a teacher only gives his lectures in class, he/she does not have any headaches about the students. He does not check whether the students have understood his/her lecture at all. Students do not ask or do any questions related to the lecture but do not get any answers. As a result, students do not have active participation in the classroom. They do not even spend quality time at home for the next day's class preparation.

3.4.2 Flipped Classroom Approach

Source: Author Own Work

On the other hand, flipped classroom approach students absorb information in advance and prepare a question for the class. Student deepens their understanding through Q&A session, collaborative learning session, and student-led active learning.

Challenges of Implementing the Instructional Intervention

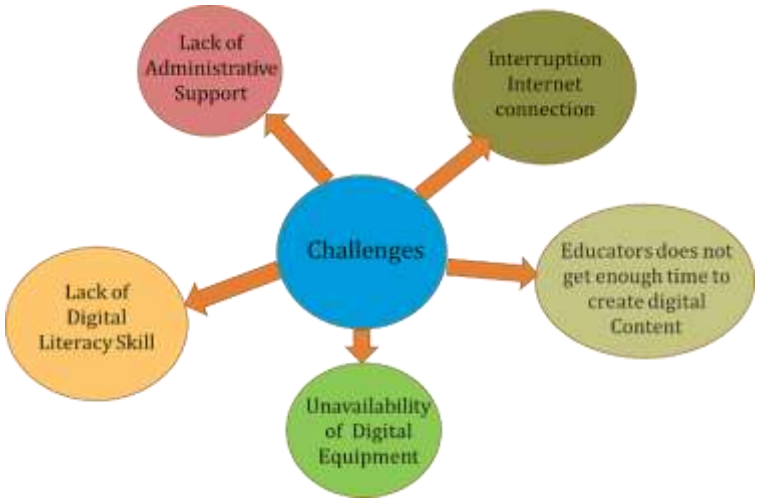


Figure 2. Challenges of Implementing the Instruction Intervention

This study encountered a number of problems when implementing instructional interventions. Among the problems that hinder the implementation of instructional interventions are a lack of digital literacy skills, unavailability of digital equipment, lack of administrative support, interruption of internet connection, and educators not getting enough time to create digital content. The first hurdle in implementing the FC approach is the lack of digital literacy skills. This problem has been observed in both teachers and students. Since teachers have no idea about digital literacy, they do not know how to use Web 2.0 tools in the field of education to make the classroom more attractive and create a creative environment for students to learn. On the other hand, it goes without saying that students have no idea about technology. Many of them have smartphones but they do not know how to use them in the field of education to get the maximum benefit.

4. Results and Discussions

Table 1. Distribution of Class Attendance, Mid-term Exam Marked by Intervention Wise

	Intervention	Gender	Mean	S.D
Class Attendance (%)	Flipped	Male	89.24	7.68
		Female	90.35	6.48
	Traditional	Male	50	17.18
		Female	47.56	16.7
	Total	**Male**	**69.33**	**23.81**
		Female	**69.61**	**24.97**
Mid-term Exam Mark	Flipped	Male	21	3
		Female	21	3
	Traditional	Male	9	4
		Female	9	4
	Total	**Male**	**15**	**7**
		Female	**15**	**7**

Source: Author Own Work

From table 04, in the FC approach, the class attendance rate (%) is a little bit higher for female students than for male students based on gender. On the other hand, traditional classroom approach male and female students have attendance rates of 50 and 46.56 respectively. As compared to the intervention, in flipped classroom approach class attendance rate is higher than in the traditional classroom approach. Thus, it can be said that the application of instructional intervention has resulted in increased class attendance rate and mid-term marks, which is positive for this study. Therefore, we can say that flipped classroom method makes students interested in the classroom, which results in minimizing absenteeism.

Table 2. Distribution of Instructional Intervention by Department Wise

S.L	Department Name	Intervention	Class Attendance (%)		Mid-term Exam Mark	
			Mean	S.D	Mean	S.D
01	Bangla	Traditional Traditional	51.50	7.63	10	3
		Flipped Classroom	88.40	3.57	20	3
02	Statistics	Traditional Classroom	42.50	5.89	8	4
		Flipped Classroom	90.30	21.25	22	3
03	Mathematics	Traditional Classroom	46.70	11.01	8	4
		Flipped Classroom	92.70	11.56	21	3
04	Philosophy	Traditional Classroom	46.80	17.13	8	4
		Flipped Classroom	91.90	11.01	20	2
05	English	Traditional Classroom	58.60	14.44	8	4
		Flipped Classroom	84.80	3.81	20	3
06	Total	Traditional Classroom	49.22	16.9	9	4
		Flipped Classroom	89.62	7.24	21	3

Source: Author Own Work

From table 05, it's clearly seen that in every department the class attendance and mid-term exam mark are increasing in terms of intervention.

For the justification of our instructional intervention, data were analyzed and compared using an independent t-test where we consider instructional intervention as an independent variable and class attendance (%), and academic performance were the dependent variables.

Table 3. Resulted in Outcome of Instructional Intervention

	Interventional Method	N	Mean Score	t-value	Sig.
	Flipped Method	50	89.62	15.54	0.00 ($p < 0.05$)

Class Attendance (%)	Traditional Method	50	49.22		
Mid-term Exam Mark	Flipped Method	50	20.58	17.83	0.00 ($p < 0.05$)
	Traditional Method	50	8.54		

Source: Author Own Work

The esulting outcome shows that class attendance (%) scores of students in the two groups (flipped method and traditional method) are not the same. Students who follow the flipped classroom method have higher class attendance (%) than the traditional classroom. Test Statistic values also show that our instructional intervention is statistically significant at a 5% level of significance *(t =15.54, p = 0.00, <0.05)*. Therefore, we say that flipped classroom is better than a traditional classroom. The academic performance scores of students in the two groups (flipped method and traditional method) are statistically significant at a 5% level of significance *(t =17.83, p = 0.00, <0.05)*. Students in the flipped method group had an academic performance score (mean score of 20.58) larger than student in the traditional method group (mean score of 8.54).

So, applying the flipped classroom model to teaching kept students engaged in a variety of activities before-class, in-class and after-class, increased learning interest, reduced student absenteeism and improved academic performance.

5. Conclusion

5.1 Conclusion

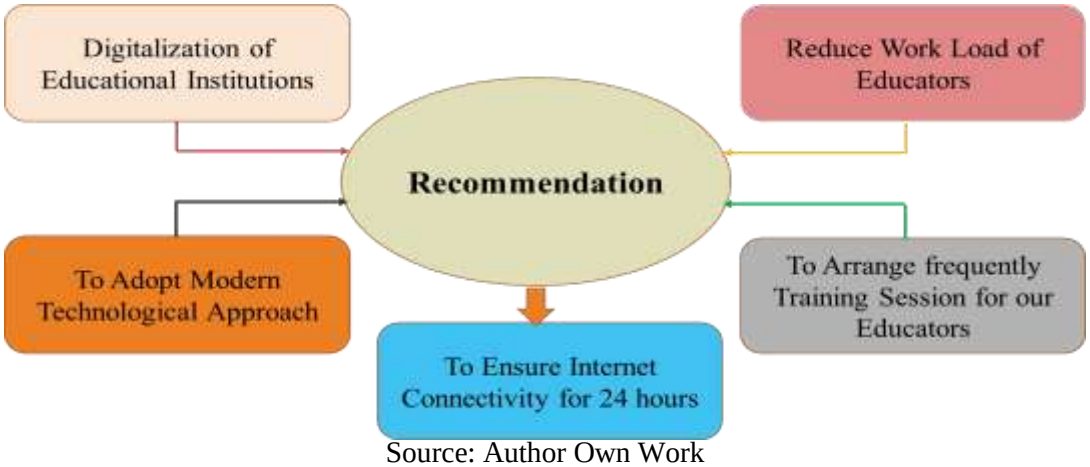
This study supports the principle that flipped learning models keep students in higher education engaged in the classroom. Educators who specialize in quest-based, innovative, expert in IT, and collaborative learning have found the greatest success in the FC approach. In FC, we have provided the study materials before the class. As a result, students can read instructional videos/audio/books/articles in advance and come up with ideas for the next day's class. This study reveals that flipped learning helps low-performance students increase their learning effectiveness. Flipped classroom provides more time for giving practical examples and allows to do some collaborative work in the classroom than the traditional approach. Thus, students feel easy with the FC in the terms of time utilization during class. However, the result from this study may not be representative always due to the limited number of students involved.

5.1. Limitations

The biggest limitation of this study is its sample size. The results obtained from this small number of samples may not reflect the true picture of our education system.

5.2. Recommendations

By completing this research work, the researcher has come to the conclusion that if we want to see the benefits of flipped classroom approach in our education system, then the following recommendations need to be implemented properly. We have made five recommendations. This picture represents the recommendations are:



Source: Author Own Work

Digitalization of Educational Institutions

We are the teachers of the 21st century and this century has raped changed the education system in terms of technology. The technology applied in the field of education will give us the traditional ideas of the education system. That is why we have to build classrooms based on modern technology. Moreover, the success of this flipped classroom approach is largely dependent on access to modern technology. That's why this study recommended that educational institutions must be digitalized.

To Adopt a Modern Technological Approach

At present, the so-called "traditional approach" education system is not conducive to developing our students to the world standard. The flipped classroom approach is largely successful in adapting students to the current times. In order to sustain this success, modern education systems like the "flipped classroom teaching approach" must be incorporated into our education system.

To Arrange Training Sessions for our Educators

Our teachers will play the most important role in enrolling students in the 21st-century education system. For this, we must prepare our teachers through s regular training sessions.

Reduce Work Load on Educators

Teachers need to be supported by the college administration as well as colleagues in creating materials in flipped classrooms.

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