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EXPLORING THE EFFECT OF FLIPPED CLASSROOM MOTIVATION ON STUDENTS' ACADEMIC ACHIEVEMENT AT UNIVERSITY LEVEL

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Abstract:

Flipped classroom teaching (FCT) is a new pedagogical technique that involves predetermined digital resources with students through a platform outside the classroom. This study investigates the effect of flipped classroom motivation on academic achievement, aiming to understand how student engagement with this model influences their academic achievement. The research explores the relationship between the increased autonomy and responsibility in flipped classrooms and the resultant academic achievement. Through a quantitive type survey, combining quantitative assessments of academic achievement and collect data for flipped classroom motivation using MSLQ (Pintrich & De Groot, 1990). *The study provides evidence that higher motivation levels in a flipped classroom setting significantly enhance academic achievement. The findings suggest that the flipped classroom model not only fosters a more engaging learning environment but also positively effects students' academic success by promoting self-regulation and active participation. These results have important implications for educators seeking to optimize teaching strategies and improve student outcomes in various educational contexts.*

Keywords: *Flipped classroom, Academic achievement, Motivation, self-regulation, classroom.*

Introduction:

A fundamental problem for the educational system is the shift in the nature of society over the past few decades from an industrial to information and knowledge society. There has been a "knowledge explosion" because of rapid information expansion and growing digitalization. We find it difficult to imagine a world without information and communication technologies (ICTs). Students need to develop attitudes and abilities that allow them to adapt openly and flexibly to the ongoing changes in a digitalized world. Today, proficient use of ICT is considered as the fourth cultural skill after reading, writing, and math (Wagner, 2020). This acknowledgment highlights the essential role of ICTs in equipping students with the tools they need to thrive in a society where information and technology are everywhere.

The flipped classroom method is one educational strategy that resulted from these advances. The inventors of this strategy are two chemistry teachers named (Bergmann & Sams, 2012). In a classroom that has been "flipped," students watch pre-recorded video lectures at home prior to class and complete homework in class with help from the teacher and other students (Bishop & Verleger, 2013). In the realm of academic research, This ground breaking study by Bergmann and Sams (2012) established the foundation for more research on the effectiveness of the flipped classroom paradigm, its impact on student engagement, and its potential to enhance learning outcomes. This pedagogical approach makes the most of precious class time by allowing students to engage in meaningful discussions and collaborative activities. As homework, students may receive direct teaching in the form of a video, an essay, a book, a power point presentation, a handout, or a combination of these and other formats. Any instructor who has required students to study materials prior to class in order to encourage discussion or activities has employed the flipped classroom in some capacity (Szparagowski, 2014).

Student motivation is an essential requirement for managing their learning process. (Alsancak Sirakaya & Ozdemir, 2018). The model of flipped classrooms requires students to manage maintaining motivation in order to implement self-directed

learning and enable students to manage their own educational methods. In educational settings where technology advancements have created differentiation, student motivation plays a significant role in elevating accomplishment. They arrived to the conclusion that, in addition to technology, learning via the internet, distance learning, and hybrid educational environments had an impact on students' motivation to study.

Literature Review:

The concept of learning is ever-evolving, particularly with the increasing use of instructional strategies to promote student autonomy and learning. According to Baragash and Al-Samarraie (2018), students in a university context are expected to actively interact with the material on a regular basis with little assistance from the teacher. The FC technique is employed in this instance as a remedy, primarily to move lectures from in-class instruction to pre-class preparation, hence maximizing in-class time for active learning exercises. The FC method paradigm was presented by Prust et al. (2015) and maintains that students are responsible for their own learning and choices made before, during, and after class.

Students are expected to acquire a wide range of abilities, including technology use, self-learning, self-regulation, active engagement, and cooperative learning. These objectives are reflected in the person and learning-centered concept of education and the blended learning models that underpin it. Blended learning falls into four categories, according to Staker and Horn (2012): "Rotation," "Flex," "Self-Blend," and "Enriched Virtual Model." The FC Model, which is the focus of this study, was listed by Staker and Horn (2012) in a "translation" category.

The FC model enables more efficient use of classroom time as well as the application of theoretical knowledge learned in class outside of the classroom (Sams and Bergmann 2013). For studying outside of class, students use resources like video lectures, podcasts, articles (Chen 2016; García-Sánchez and Santos-Espino 2017), homework, and textbooks. This phase additionally facilitates research and independent learning at home (Abeysekera and Dawson 2015). In contrast, students apply what they have learned and use cooperative learning strategies in the classroom (Sams and Bergmann 2013).

Bergmann and Sams (2012), who ensured the model's widespread adoption through their research, began by recognizing the necessity to commit more time to practical parts, such as laboratory work or problem solving, where students relied more on their teachers. The FC, which was proposed as a solution to the challenges that persist in today's educational environment, has recently grown in popularity around the world (Kim et al. 2014).

There are numerous studies in the literature that suggest the model's efficiency is improving on a daily basis. The concept has been used in teacher and language education, as well as medical, engineering, mathematics, and STEM studies, among other sectors, and the activities have been shown to be effective based on the findings of many research. For example, Lee and Martin (2020) highlighted the effectiveness of the approach in independent learning, learning by doing, and reducing cognitive overload in teacher education.

Hew and Lo (2018) conducted a meta-analysis among medical professionals, including doctors, nurses, and medical students, and found that the model had a positive impact on learning. Meanwhile, Nikitova et al. (2020) found that the model had positive implications on variables related to language education, including motivation, time management, and lifelong learning.

Academic achievement and motivation:

Studies in higher education entities show that the model promotes student-centered teaching, improves achievement, motivation, perception, and participation, changes learning habits, encourages individual work, and enhances communication skills (Bishop and Verleger 2013). To summarize these factors and their interrelationships, motivation, as the fundamental force behind learning that allows the individual to act, is regarded as a sub-dimension of self-regulation strategies (Pintrich and De Groot 1990). Motivation is defined as an individual's motivation to do and learn in order to obtain favorable outcomes (outputs). Motivation is also a factor in determining whether a student can succeed (Sharp et al. 2002). In this regard, a robust link between academic achievement and both self-regulation mechanisms and motivational beliefs has been discovered (Pintrich and De Groot 1990).

These two notions have an impact on learning, either together or individually (Barrett et al., 2005). Aside from the appealing design of the learning environment, the academic performance to be demonstrated is a critical aspect in student motivation. At this point, the student's reactions to learning practices and techniques and the course's student-centered design play an important role in improving motivation (Eggen and Kauchak 2001). As a result, being engaged and interested in the course boosts student motivation and involvement, In addition to these links to the concept of motivation, there is additional evidence demonstrating that active learning has a major impact on academic accomplishment (Hew and Lo 2018).

Objective:

To find out the effect of flipped classroom motivation on academic achievement of students.

Research Hypotheses:

H01 There is no significant effect of flipped classroom motivation on the academic achievement of students.

Methodology:

The design of the study was quantitative type survey. For descriptive statistic, frequency were calculated while for inferential statistics regression were carried out. The Population of the study were all B. Ed (4 years) students enrolled at public sector Universities in KP. The target population of the proposed study were the University of Peshawar and Islamia College University students studying in B. Ed (4 years) semester 4^{th}.In this study, the purposive random sampling strategy is applied This study adapted the instrument measuring motivation developed by (Pintrich & De Groot, 1990),This questionnaire has 20 items, which for the purposes of this study were modified to meet the characteristics of university level students. The instrument used to measure the level of academic achievement was a knowledge test, the score of which was calculated based on total points obtained by students. The average knowledge test results can be considered an indicator of students' progress in academic achievement (Gustems-Carnicer et al., 2020; Yuda et al., 2022).

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DATA ANALYSES:

Distribution of respondents:

Table 1. Students responses about motivation strategies and learning

Indicators		Excellent	Good	fair	undecided
Task value	1	63.4%	23.3	5.1	23.3
	2	56.7%	26.7	3.3	13.3
Extrinsic goal orientation	1	40.0	30.0	3.3	13.3
Intrinsic goal orientation	1	56.7	26.7	3.3	13.3
	2	50.0	36.7	6.7	6.7
Self-efficacy for learning and performance	1	43.3	13.3	10.0	13.3
	2	63.3	26.7	3.3	6.7
	3	70%	20	3.3	6.7
Time and study environment	1	56.7	23.3	16.7	3.3
	2	60	30.0	3.3	6.7
	3	60	26.7	3.3	10.0
Help seeking	1	53.3	23.3	10.0	13.3
	2	73.3	16.7	0.00	10.0
	3	60	23.3	3.3	13.3
Peer learning	1	76.7%	20.0	0.00	3.3
Organization	1	50	30.0	0.00	20.0
	2	66.6	30.3	0.00	3.3
Rehearsel	1	53.4	26.7	10.0	10.0
Self-regulation	1	46.7	20.0	3.3	30.0
	2	53.4	30.0	0.00	16.7
Critical Thinking	1	70	20	3.3	6.7

This data reveals that students in a flipped classroom setting generally exhibit strong task value, intrinsic motivation, peer learning, and critical thinking skills. However, there are areas, such as self-efficacy, help-seeking, organization, and self-regulation, where students' responses vary more widely. This suggests that while many students thrive in a flipped classroom environment, others may require additional support or resources to fully engage with and benefit from this learning model.

Table 2 Hypotheses testing (Regression Model)

H01 There is no significant effect of flipped classroom motivation on the academic achievement of students.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
1	.295[a]	.087	.071	20.96189	5.534	.022[b]

To find out the flipped classroom motivation level of students on academic achievement for this purpose regression test was applied. The above table indicates that motivation has a statistically significant effect on the academic achievement of students. The R value of 0.295 suggests a positive correlation between motivation and academic achievement. The R Square value of 0.087 indicates that approximately 8.7% of the variance in academic achievement can be explained by motivation. The F-statistic of 5.534 with a significance level of 0.022 suggests that the model is statistically significant, meaning motivation does have a meaningful effect on academic achievement.

Summary of Hypotheses Testing:

Explanatory Constructs	P-Value	Decision
Ho1.There is no significant effect of flipped classroom motivation on the academic achievement of students.	0.022	Ho1 Rejected

Discussion and conclusion:

The aim of this study was to investigate the effects of using the Flipped classroom motivation on students' academic achievement. It is determined that student of flipped classroom had greater motivation values.T he high level of motivation noted in the measurements may be attributable to the fact that the students' were engaging in a new and intriguing structure, and that their learning needs, achievements and development triggered their intrinsic motivation (Chan et al. 2012).In addition, preparing performance-oriented learning environments that trigger learning,as in this study, and the learning strategies used (Pajares and Schunk 2001) can also have positive effects on student motivation. On the other hand, under the influence of motivation on student performance (Pajares and Schunk 2001), it can be seen that the academic achievement of the flipped classroom was higher and their opinions of the model were generally positive. The Flipped classroom has significantly improved students' academic achievement in Educational Psychology of B.Ed (4 YEARS) students in the current study. FC model incorporates videos are frequently used to teach outside of the classroom, while interactive tasks in which students actively participate are employed as in-class exercises (Basal, 2015; Graziano, 2017; Hsu, 2018).In this study, the videos boosted pupils' attention and academic achievement.

Furthermore, it is determined that the usage of videos that keep students' attention and allow them to focus on the material can promote active participation and student-centered learning (Herreid & Schiller, 2013). Utilizing technology, educators produce their own video content in addition to using freely accessible videos from the Internet (Sherer & Shea, 2011).The results showed that students' active learning has significantly increased. Srivastava (2014) claims that flipped courses improve student learning results, allow for more individualized instruction, and allow for student-paced lectures. Thus, it was determined that by having students watch the introductory video lectures ahead of time, they improve their readiness to apply the material and engage in more advanced conversations with both the instructor and their peers.

Recommendations:

i. To improve students' academic achievement , Educational psychology teachers may employ FC in their own classrooms and make use of resources.
ii. The study revealed students' interest in the educational process; as a result, educators might use digital resources into their lessons to encourage students' active engagement.
iii. To represent higher level learning, teachers may use FCT in their particular disciplines.
iv. FCT may be included into professional development programs that instruct educators and encourage them to apply this method by providing them with compensation and evaluation.

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