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Effectiveness of Flipped Classrooms in Promoting Student Learning at the Tertiary Level

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Abstract: The study sought to explore the Effectiveness of Flipped Classrooms in Promoting Student Learning at the Tertiary Level. The objectives of the study were to explore the perceptions of students regarding the flipped classroom approach and to find out the effectiveness of flipped classrooms in enhancing students' learning. All the female students studying in the affiliated colleges of the University of Swabi comprise the population of the study. The number of female students was 273. Out of the total population, 100 female students were randomly selected from the sample institutions. A close-ended questionnaire containing 12 items on the Likert scale was used as a tool for gathering information. Based on the findings, it was concluded that the majority of the participants agreed that the flipped classroom approach can easily be implemented in classrooms. Most of the participants agreed that the video the lecturer provided to us as a home assignment was easily understandable. All of the participants were student agreed that the topic became easy after watching its videos or lecture notes. All participants agreed that the technological facilities available at school and home are necessary for implementing Flipped Classroom. All the participants agreed that the institution may arrange training workshops for teachers and students to enhance the implementation process of flipped classrooms.

Keywords: Flipped Classroom, Students Learning, Tertiary Level

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Introduction

Background of the Study

Bergmann and Sams (2012) introduced the Flipped Classroom approach as a means to enhance student engagement and learning. Contemporary education is witnessing a transformation in pedagogical practices, with a growing interest in innovative teaching methods. Among these approaches, the Flipped Classroom model has garnered attention. In the traditional classroom, instructors deliver lectures during class time, leaving homework for independent practice. Conversely, the Flipped Classroom flips this model, where students engage with instructional content outside of class, freeing up in-class time for interactive activities, discussions, and problem-solving (Bishop & Verleger, 2013).

This approach is rooted in the belief that active student engagement with content during class fosters deeper understanding and mastery. Advocates argue that it encourages critical thinking, peer collaboration, and personalized learning, allowing students to revisit complex topics at their own pace (Hamdan et al., 2013).

The Flipped Classroom approach has gained recognition for its potential to enhance student engagement. Bergmann and Sams (2012) asserted that by shifting the delivery of instructional content outside of class, students can actively engage with the material during face-to-face sessions. Numerous studies have supported this claim, highlighting that increased engagement leads to improved learning outcomes (Strayer, 2012; Lage et al., 2000). For example, a meta-analysis by Hew and Lo (2018) found a positive correlation between flipped learning and student engagement across various disciplines.

Moreover, the concept of "active learning" is central to the Flipped Classroom model. Active learning involves students participating in class activities, discussions, and problem-solving, as opposed to passively receiving information (Prince, 2004). The Flipped Classroom, with its emphasis on in-class interactivity, aligns with the principles of active learning. This alignment suggests that the Flipped Classroom not only enhances engagement but also promotes a more participatory and dynamic learning environment.

One of the touted benefits of the Flipped Classroom model is its ability to foster critical thinking skills and peer collaboration. In the traditional lecture-based format, students may passively consume information without necessarily engaging in deeper cognitive processes. In contrast, the Flipped Classroom requires students to grapple with instructional content independently before class, priming them for more sophisticated discussions and problem-solving activities during in-person sessions (Tucker, 2012).

Research by Tucker (2017) demonstrated that the Flipped Classroom promotes critical thinking by providing students with the opportunity to apply theoretical knowledge to practical scenarios. Additionally, peer collaboration is facilitated through group activities and discussions during class time. Peer interaction can lead to diverse perspectives, enhancing the overall learning experience (Mazur, 1997). This collaborative aspect of the Flipped Classroom is consistent with the idea that social interaction contributes to cognitive development (Vygotsky, 1978).

Another significant aspect of the Flipped Classroom is its alignment with personalized learning principles. The model allows students to engage with instructional content at their own pace, catering to diverse learning styles and preferences. Hamdan et al. (2013) argued that personalized learning in the Flipped Classroom empowers students to revisit complex topics until they achieve mastery.

The flexibility of the Flipped Classroom accommodates individual learning needs, potentially addressing the diverse academic backgrounds and learning speeds within a single class. This adaptability contributes to a more inclusive educational environment, where each student can progress according to their unique abilities and requirements (Brame, 2013).

The Flipped Classroom model heavily relies on technology for the delivery of pre-class instructional content. The integration of technology into education is a key component of this approach. Scholars have explored how various technological tools, such as online videos, interactive simulations, and learning management systems, contribute to the effectiveness of the Flipped Classroom (Missildine et al., 2013). The use of multimedia resources not only allows for the delivery of content in diverse formats but also caters to different learning preferences, making the learning experience more engaging and accessible.

Moreover, technology facilitates the tracking of student progress and engagement outside the classroom. Learning analytics and data-driven insights enable instructors to identify areas where students may be struggling and tailor in-class activities accordingly (Lage et al., 2015). The incorporation of technology in the Flipped Classroom is an evolving area of research that continues to shape the landscape of modern education.

The traditional model of education often relies on summative assessments conducted at the end of a learning period. In the Flipped Classroom, however, the shift towards active learning necessitates an evaluation of assessment strategies. Formative assessments, quizzes, and in-class activities are often employed to gauge students' understanding in real time, allowing instructors to provide timely feedback and address misconceptions. The integration of frequent, low-stakes assessments is considered crucial for reinforcing learning and promoting continuous improvement (McDowell, 2022).

The cognitive load theory posits that there is a limit to the amount of information a learner can process at a given time. In the Flipped Classroom, students are expected to engage with instructional materials independently before class, potentially affecting their cognitive load. The design of pre-class materials, such as the complexity of videos or readings, may impact students' ability to comprehend and retain information. Research suggests that careful consideration of cognitive load is essential for optimizing the effectiveness of the Flipped Classroom (Chen et al., 2018).

While the Flipped Classroom has been widely studied across various disciplines, its application in STEM (Science, Technology, Engineering, and Mathematics) education has garnered specific attention. Studies indicate that the Flipped Classroom can be particularly beneficial in STEM courses, promoting active problem-solving, collaborative learning, and real-world applications of theoretical concepts (Mason, Shuman & Cook, 2013; Herreid & Schiller, 2013).

The Flipped Classroom places a significant responsibility on students to engage with pre-class materials and come prepared for in-class activities. The level of student accountability in completing assignments before class sessions is a crucial factor affecting the success of the Flipped Classroom model. Research has explored strategies to enhance student accountability, such as graded pre-class quizzes or reflective activities that prompt students to think critically about the materials (Talbert, 2017; McLaughlin et al., 2013).

Statement of the Problem

Tertiary education institutions, such as universities and colleges, confront the persistent challenge of not only imparting knowledge but also fostering academic performance and engagement among students (Peters, 2019). In recent years, the Flipped Classroom approach has emerged as a pedagogical innovation that holds the promise of enhancing student engagement and active learning (Bishop & Verleger, 2013). This approach encourages students to take a more active role in their education by pre-learning content independently and utilizing classroom time for collaborative discussions and problem-solving.

Despite the theoretical benefits and its potential to address the challenges faced by tertiary institutions, there is a gap in knowledge regarding its effectiveness in this specific educational context. As such, this research aims to address this gap and provide valuable insights. The present study was designed to explore the effectiveness of the Flipped Classroom Approach in enhancing students' learning at the tertiary level,

Objectives of the Study

The objectives of the study were

1) To explore the perceptions of students regarding the flipped classroom approach.
2) To find out the effectiveness of flipped classrooms in enhancing students' learning.

Research Questions

1) To explore the perceptions of students regarding the flipped classroom approach.
2) To find out the effectiveness of flipped classrooms in enhancing students' learning.

Significance of the Study

This research holds significance for educators, policymakers, and tertiary education institutions. Understanding the impact of the Flipped Classroom approach on academic performance can inform instructional strategies and curriculum design. It may lead to the adoption of pedagogical practices that better cater to the diverse learning needs of today's tertiary-level students.

Delimitation of the Study

This study will be delimited to the tertiary level at the University of Swabi. The research will primarily examine academic performance in educational psychology related to the Flipped Classroom approach.

Literature Review

Introduction

The flipped classroom approach has gained significant attention in recent years as an innovative pedagogical strategy that reverses the traditional learning model. In a flipped classroom, students engage with instructional content, such as lectures, outside of class, allowing in-class time for active learning, discussion, and problem-solving. This literature

review explores existing research on the effect of the flipped classroom approach on students' academic performance at the tertiary level.

Flipped Classroom Approach

The flipped classroom approach represents a paradigm shift in traditional teaching methods, transforming the way students engage with course content. In this model, instructional materials, such as lectures and presentations, are delivered outside of the classroom through online platforms, while in-class time is dedicated to interactive and collaborative activities. This pedagogical strategy aims to promote active learning, student engagement, and a deeper understanding of the subject matter.

Bergmann and Sams (2012) are often credited with popularizing the flipped classroom model. They argue that by "flipping" the traditional order of instruction, students can access lecture materials at their own pace, allowing for flexibility in learning. This approach is thought to cater to diverse learning styles, enabling students to review and reinforce concepts as needed. As Mason, Shuman, and Cook (2013) note, the flexibility of the flipped classroom model can enhance student engagement by accommodating individual learning preferences.

The interactive nature of in-class activities in a flipped classroom is considered a key feature. Herreid and Schiller (2013) highlight that these activities foster collaborative learning environments, encouraging students to actively participate in discussions, problem-solving, and other hands-on exercises. This shift from a passive to an active learning approach aligns with the constructivist philosophy, emphasizing that students learn best by actively constructing their knowledge (Strayer, 2012).

Students' Academic Performance at the Tertiary Level

Academic performance at the tertiary level is a multifaceted concept that encompasses various indicators, including grades, assessments, and overall mastery of course content. Research suggests that the flipped classroom approach has the potential to positively influence students' academic performance in higher education settings.

In a study conducted by Lage, Platt, and Treglia (2000), students in a flipped classroom setting demonstrated improved performance compared to those in a traditional lecture-based format. The authors found that the flipped model resulted in higher exam scores and increased retention of information. Similarly, Tucker (2012) argues that the flipped classroom can lead to better academic outcomes by fostering a more personalized learning experience.

Furthermore, a meta-analysis by Hew and Lo (2018) examined the impact of flipped classrooms on academic performance across various disciplines. The findings revealed a positive effect on student achievement, indicating that the flipped model, when implemented effectively, can contribute to improved learning outcomes at the tertiary level. It is important to note that the relationship between the flipped classroom approach and academic performance is nuanced, and factors such as student engagement, instructor effectiveness, and the nature of in-class activities play crucial roles. As educators continue to explore and refine the implementation of the flipped model, ongoing research is essential to deepen our understanding of its impact on student's academic success in tertiary education.

Improved Engagement and Participation

The flipped classroom model has emerged as a transformative pedagogical strategy, showcasing considerable potential in enhancing student engagement and participation at the tertiary level. The seminal work of Bergmann and Sams (2012) emphasizes a fundamental shift in the educational paradigm by advocating for the pre-recording of lectures and their subsequent online availability. This innovative approach affords students the flexibility to navigate educational content at their own pace, representing a departure from the rigid structures of traditional classrooms.

In the realm of student engagement, the flexibility inherent in the flipped classroom model emerges as a critical factor. Mason, Shuman, and Cook (2013) assert that the ability of students to revisit instructional materials multiple times fosters a deeper understanding of the subject matter. This adaptability to individual learning styles is pivotal in catering to the diverse needs of students, enabling them to digest complex concepts at a pace that aligns with their

cognitive processes. As a result, this personalized approach is correlated with heightened levels of engagement, as students actively participate in the learning process with a strengthened grasp of the foundational concepts.

Furthermore, the interactive nature of in-class activities within the flipped classroom setting contributes significantly to heightened levels of student participation. Herreid and Schiller (2013) highlight the collaborative learning environment fostered by in-class discussions and activities. Unlike the traditional lecture-centric format, the flipped classroom encourages students to apply theoretical knowledge acquired during pre-class study in real-time scenarios. This hands-on, interactive approach not only solidifies conceptual understanding but also cultivates a sense of collective inquiry as students engage with their peers in problem-solving and critical analysis.

The collaborative aspect of the flipped classroom is particularly impactful in nurturing a sense of community among students. Through group discussions and collaborative projects, students become active contributors to the learning experience, transcending the passive role often associated with traditional lectures (Tucker, 2012). This communal engagement not only deepens individual comprehension but also enriches the overall educational environment, as students benefit from diverse perspectives and collective problem-solving.

In the broader context of educational psychology, the flipped classroom model aligns with contemporary theories emphasizing student-centred learning. The autonomy granted to learners in navigating pre-recorded materials is consistent with the principles of self-directed learning, wherein individuals take charge of their educational journey (Bergmann & Sams, 2012). This shift from a teacher-centred to a student-centred approach inherently promotes higher-order thinking skills and critical analysis, contributing to a more enriching academic experience.

Challenges and Limitations

While the flipped classroom approach holds immense promise for reshaping the educational experience, it is not immune to challenges that warrant careful consideration. Roach (2014) offers critical insights into the potential stumbling blocks associated with this pedagogical model, highlighting issues such as student resistance to self-directed learning and the imperative for robust technological infrastructure.

Roach's (2014) examination of the flipped classroom landscape brings to the forefront a noteworthy challenge—student resistance to self-directed learning. The traditional educational paradigm often places students in a passive role, where the teacher assumes the responsibility for content delivery. The flipped model, with its emphasis on pre-recorded lectures and independent study, necessitates a more proactive engagement from students. Some learners may find this transition challenging, resisting the shift from a structured, instructor-led environment to a more autonomous, self-guided learning approach. This resistance may be rooted in various factors, including a lack of familiarity with self-directed learning methods or a preference for the familiarity of traditional instructional formats.

A second challenge identified by Roach (2014) revolves around the technological infrastructure required to support the flipped classroom model effectively. In an era where digital access is not universal, concerns arise regarding equitable access to online resources. Students with limited access to technology or those facing challenges in navigating digital platforms may find themselves at a disadvantage. The digital divide, therefore, becomes a pertinent issue that educators must address to ensure inclusivity and equal opportunity for all students.

Tune, Sturek, and Basile (2013) contribute to the discourse by shedding light on the variability in student preferences for learning styles within the flipped model. While some students thrive in the active, collaborative environment fostered by the flipped approach, others may struggle to adapt. Learning preferences, influenced by factors such as individual learning styles, prior educational experiences, and personal preferences, contribute to this variation. Recognizing and accommodating this diversity becomes imperative for educators seeking to implement the flipped classroom model successfully.

The acknowledgement of these challenges underscores the importance of proactive strategies for educators. Addressing student resistance requires a thoughtful approach to scaffolding the transition to self-directed learning, incorporating strategies that gradually empower students to take control of their educational journey. Additionally,

educators must advocate for and, where possible, provide access to the necessary technological resources, ensuring that the benefits of the flipped model are accessible to all students.

Furthermore, the variability in student preferences necessitates a flexible and adaptive approach to instruction within the flipped classroom. Tune, Sturek and Basile's (2013) insights emphasize the importance of offering diverse learning pathways and catering to different learning styles. This adaptability can be achieved through the incorporation of various instructional methods, allowing students to engage with content in ways that align with their individual preferences.

Impact on Diverse Learners

In the pursuit of educational innovation, understanding how diverse learners engage with new pedagogical approaches is paramount. The flipped classroom model has garnered attention for its potential to cater to a spectrum of learning styles and cultural backgrounds. Herreid and Schiller (2013) delve into the impact of the flipped model on diverse learners, emphasizing its flexibility in accommodating varied learning preferences. However, as Tucker (2012) cautions, potential disparities in access to technology pose challenges that could disproportionately affect specific student populations.

Herreid and Schiller (2013) contribute significant insights by highlighting the adaptability of the flipped model to diverse learning preferences. The flexibility inherent in the flipped classroom allows students to engage with content in a manner that aligns with their individual learning styles. For instance, visual learners might benefit from multimedia resources, auditory learners from recorded lectures, and kinesthetic learners from hands-on, in-class activities. This adaptability is crucial in recognizing and respecting the diversity of learners, fostering an inclusive educational environment that caters to the unique needs of each student.

Moreover, the ability of students to choose the format that best suits their needs is aligned with the principles of learner autonomy. This aspect of the flipped model not only respects the agency of diverse learners but also contributes to a sense of ownership over the learning process. Empowering students to select materials and engage in activities that resonate with their individual preferences can enhance motivation and overall satisfaction with the learning experience (Herreid & Schiller, 2013).

However, as Tucker (2012) notes, the integration of technology in the flipped classroom model introduces a potential challenge—disparities in access that may disproportionately affect certain student populations. While the flexibility of the flipped model is intended to cater to diverse learners, the reality is that not all students have equal access to the required technology. Socioeconomic factors, geographical location, and institutional resources may contribute to disparities in technology access.

These disparities, if unaddressed, can exacerbate existing inequalities in educational outcomes. To ensure the inclusivity of the flipped classroom approach, educators and institutions must be proactive in mitigating technological disparities. This might involve providing access to necessary technology resources, implementing strategies for equitable use of digital tools, or offering alternative pathways for students facing technological constraints.

Related Studies

The flipped classroom teaching method has a positive impact on improving the learning outcomes and work abilities of students. Additionally, it influences students' career choices (Zheng Jieru, 2021)

According to Alamri (2019), the flipped classroom approach led to a significant improvement in students' academic performance. Students expressed a high level of satisfaction with this method, enjoying the use of online materials, peer discussions, and the instructor's role in their learning. However, some students faced challenges related to weak computer skills and time-consuming tasks.

Students were more satisfied with structured flip lessons. Structured flip lessons were the most effective, followed by semi-structured flip lessons, and traditional lessons were the least effective. (Teng, 2017)

Sablan and Prudente (2022) stated that the Flipped Classroom Model is a valuable approach for enhancing academic performance in subjects like Physics and Mathematics, regardless of class size or geographical location.

The flipped classroom method has the potential to enhance both student attitudes and academic success, particularly in resource-constrained educational settings (Nja et al., (2022)

According to Sezer and Abay (2019), students exposed to the flipped classroom model achieved notably higher academic outcomes than those using traditional teaching methods.

The flipped classroom approach is favoured by students and enhances their performance, suggesting its potential integration into higher education institutions in Pakistan (Mujtaba et al., 2022)

According to Bevilacqua and Campion (2019), Flipped Classroom promotes students' participation, but there are a few inherent issues, such as accessibility of educational technologies, consistency in planning activities, as well as the involvement of colleagues and students' parents.

Research Methodology

Nature of the Study: The present study was descriptive in nature, in which the researcher collected data concerning the current status of the subject of the study.

Population of the Study: All the female students studying in the affiliated colleges of the University of Swabi comprise the population of the study. The number of female students was 273.

Sampling of the Study: Out of the total population, 100 female students were randomly selected from the sample institutions.

Research Instrument: A close-ended questionnaire containing 12 items on the Likert scale was used as a tool for gathering information by female students at the tertiary level, which was assessed and validated by the students themselves.

Data Collection: The researcher personally met with the sampled students for data collection and distributed the questionnaire among the respondents.

Analysis of Data: The collected data was analyzed using percentages as a statistical tool.

Analysis of Data

Students' perceptions

Table 1

The flipped classroom approach can easily be implemented in classrooms

	SA	A	U	DA	SDA
Frequency	40	60	0	0	0
Percentage	40%	60%	0%	0%	0%

Table 1 shows that 100 of the participants agreed that the flipped classroom approach can easily be implemented in classrooms.

Table 2

The video the lecturer provided to you as a homework assignment is easily understandable.

	SA	A	U	DA	SDA
Frequency	10	90	0	0	0
Percentage	10%	90%	0%	0%	0%

Table 2 shows that 90% of the participants agreed that the video the lecturer provided to us as a home assignment is easily understandable.

Table 3

The topic becomes easy after watching its videos or lecture notes.

	SA	A	U	DA	SDA
Frequency	50	50	0	0	0
Percentage	50%	50%	0%	0%	0%

Table 3 shows 100% of the participants were student agreed that the topic become easy after watching its videos or lecture notes.

Table 4

The technological facilities available at school and home are necessary for implementing Flipped Classroom.

	SA	A	U	DA	SDA
Frequency	10	90	0	0	0
Percentage	10%	90%	0%	0%	0%

Table 4 shows that 100% of the participants agreed that the technological facilities available at school and home are necessary for implementing Flipped Classroom.

Table 5

The institution may arrange training workshops for teachers and students to enhance the implementation process of flipped classrooms.

	SA	A	U	DA	SDA
Frequency	40	60	0	0	0
Percentage	40%	100%	05	0%	0%

Table 5 shows that 100% of the participants agreed that the institution may arrange training workshops for teachers and students to enhance the implementation process of flipped classrooms.

Table 6

The discussion among students to generate new ideas is the essence of the flipped classroom approach.

	SA	A	U	DA	SDA
Frequency	30	70	0	0	0
Percentage	30%	70%	0%	0%	0%

Table 6 shows that 100% of the participants agreed that the discussion among students to generate new ideas is the essence of the flipped classroom approach.

Students' Learning

Table 7

The flipped classroom approach enhances your ability to remember concepts easily.

	SA	A	U	DA	SDA
Frequency	20	80	0	0	0
Percentage	20%	80%	0%	0%	0%

Table 7 shows that 100% of the participants agreed that the flipped classroom approach enhances your ability to remember concepts easily.

Table 8

The flipped classroom approach enhances your ability to understand concepts easily.

	SA	A	U	DA	SDA
Frequency	10	90	0	0	0
Percentage	10%	90%	0%	0%	0%

Table 8 shows that 100% of the participants believed that the flipped classroom approach enhances your ability to understand concepts easily.

Table 9

The flipped classroom approach enhances your ability to apply concepts easily.

	SA	A	U	DA	SDA
Frequency	40	60	0	0	0
Percentage	40%	60%	0%	0%	0%

Table 9 shows that 100% of the participants agreed that the flipped classroom approach enhances your ability to apply concepts easily.

Table 10

The flipped classroom approach enhances your ability to analyze concepts easily.

	SA	A	U	DA	SDA
Frequency	10	90	0	0	0
Percentage	10%	90%	0%	0%	0%

Table 10 shows that 100% of the participants agreed that the Flipped classroom approach enhances your ability to analyze concepts easily.

Table 11

The flipped classroom approach enhances your ability to evaluate concepts easily.

	SA	A	U	DA	SDA
Frequency	30	70	0	0	0
Percentage	30%	70%	0%	0%	05

Table 11 shows that 100% of the participants agreed that the flipped classroom approach enhances your ability to evaluate concepts easily.

Table 12

The flipped classroom approach enhances your ability to create concepts easily.

	SA	A	U	DA	SDA
Frequency	0	100	0	0	0
Percentage	0%	100%	0%	0%	0%

Table 12 shows that the participants agreed that the Flipped classroom approach enhances your ability to evaluate concepts easily.

Findings

1. Table 1 shows that 100 of the participants agreed that the flipped classroom approach can easily be implemented in classrooms.

2. Table 2 shows that 90% of the participants agreed that the video the lecturer provided to us as a home assignment is easily understandable.
3. Table 3 shows 100% of the participants were student agreed that the topic become easy after watching its videos or lecture notes.
4. Table 4 shows that 100% of the participants agreed that the technological facilities available at school and home are necessary for implementing Flipped Classroom.
5. Table 5 shows that 100% of the participants agreed that the institution may arrange training workshops for teachers and students to enhance the implementation process of flipped classrooms.
6. Table 6 shows that 100% of the participants agreed that the discussion among students to generate new ideas is the essence of the flipped classroom approach.
7. Table 7 shows that 100% of the participants agreed that the flipped classroom approach enhances your ability to remember concepts easily.
8. Table 8 shows that 100% of the participants believed that the flipped classroom approach enhances your ability to understand concepts easily.
9. Table 9 shows that 100% of the participants agreed that the flipped classroom approach enhances your ability to apply concepts easily.
10. Table 10 shows that 100% of the participants agreed that the Flipped classroom approach enhances your ability to analyze concepts easily.
11. Table 11 shows that 100% of the participants agreed that the flipped classroom approach enhances your ability to evaluate concepts easily.
12. Table 12 shows that the participants agreed that the Flipped classroom approach enhances your ability to evaluate concepts easily.

Conclusion

The majority of the participants agreed that the flipped classroom approach can easily be implemented in classrooms. Most of the participants agreed that the video the lecturer provided to us as a home assignment was easily understandable. All of the participants were student agreed that the topic became easy after watching its videos or lecture notes. All participants agreed that the technological facilities available at school and home are necessary for implementing Flipped Classroom. All the participants agreed that the institution might arrange training workshops for teachers and students to enhance the implementation process of flipped classrooms. All the participants agreed that the discussion among students to generate new ideas is the essence of the flipped classroom approach. All the participants agreed that the flipped classroom approach enhances your ability to remember concepts easily. All the participants agreed that the flipped classroom approach enhances your ability to understand concepts easily. All the participants agreed that the flipped classroom approach enhances your ability to apply concepts easily. All the participants agreed that the Flipped classroom approach enhances your ability to analyze concepts easily. All the participants agreed that the flipped classroom approach enhances your ability to evaluate concepts easily.

Recommendations

Based on the findings, the following recommendations were made.

1. The government may provide incentives to the teachers for the effective implementation of flipped classrooms.
2. The technological support might be provided to the teachers and students.
3. The training workshop for teachers and students might be arranged for more effective results.
4. The curriculum might be developed according to the flipped classroom approach.

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