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Peer education and flipped learning to support adaptable intermingled learning during and Post COVID-19 Pandemic

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ABSTRACT

This study supports an outlineof peer education and flipped learning, two active learning approaches, in the perspectiveof learning and teaching in higher education and demonstrates their importance during theCOVID-19 pandemic. Peer education and flipped learning should beconsidered when creating flexible learning. These methodologies can encourage learning and createcontinuous activeengagement in fully online and blended settings even when switching between these modes becomes necessary due to advancements in this pandemic. This transitioning between fully online and intermingled, as and when necessary, is something that is of high significance during these difficult times, particularly for campus-based universities as they are keen to secure the soft moving of their programmes under complicated situations. In order to carry out this study, the data was collected through primary source using a questionnaire and the number of respondents was 226 who were students studying in Universities and colleges, The sampling technique used in the study was convenience sampling and further, thecollected data was analysed using Paired T-test&Correlation test. This study provides feasible assistance for course designers, components and programme advisers on how they can utilise peer education or flipped learning to boost student engagement and learning in an unavoidable situation likein this pandemic.

Keywords: adaptable intermingled learning, peer education, flipped learning, COVID-19 pandemic, student engagement, collaboration, remote learning, blended learning.

INTRODUCTION

Millions of students in India and around the world suffered as a result of the COVID-19 pandemic, which had a significant impact on many business and other sectors following the country's independence. The pandemic forced many institutions to shift from predominantly on-campus to entirely online or remote learning environments.

This was a last-ditch effort to ensure that their schools' programs would continue and that students could finish their education. Universities are assessing and restructuring their teaching methods in order to devise secure and motivating learning environments, given the unpredictable nature of the near future and the impending breakouts and lockdowns. This is causing a wave of changes in the way we instruct and assist students in their learning, as well as a realization of how important it is to create methods of actively and adaptably involving students in the learning process.

The COVID-19 epidemic forced a quick transition away from traditional classroom environments and toward mixed and remote learning strategies. This work investigates how to combine flipped learning and peer education to provide flexible mixed learning environments during and after pandemics. The research highlights the potential of these pedagogical practices to improve student engagement, cooperation, and flexibility in the face of changing learning environments by evaluating their efficacy. The influence of peer-led education and flipped learning on student results and attitudes will be evaluated through the use of mixed-methods research, which includes surveys, interviews, and performance analysis. The study's conclusions add to the current conversation on cutting-edge teaching strategies that can successfully address changes in conventional learning paradigms.

A significant shift in the education sector was brought about by the worldwide COVID-19 epidemic, which forced institutions to quickly switch from in-person to blended and remote learning methods. The flexibility and integration of several teaching modalities that define adaptive mixed learning have made it apparent as a viable way to negotiate the pandemic's uncertainties and beyond. The purpose of this research is to determine how well-suited adaptive mixed

learning environments are for implementing flipped learning and peer education, and to look at the ways in which these approaches affect student flexibility, collaboration, and engagement.

REVIEW OF LITERATURE

Armellini (2018, online) contends that "same place, same time is not enough to guarantee quality when the so-called teaching method is actually "information delivery": one person's notes copied into the notes of 200 people without going through anyone's brains." That is extremely problematic." Blended learning is defined as "moving some of the learning online and giving students more control over the pace, path, time, and place of learning" (Bailey, Schneider, & Ark, 2013, 68). In 2020, we mean the spread of learning and teaching across Chickering and Gamson's (1987) literature study suggests that hearing alone is not sufficient for learning. It needs to work. Teaching should thus concentrate on giving students the chance to reflect, debate, solve problems, research, and/or actively engage in the learning process.

Rethinking the lecture system would be an excellent place to start, according to Penner (1984). It was quite some time ago. The lecture, its purpose, its structure, and even its applicability and efficacy in the twenty-first century are still topics of debate. It's possible that a lot of academics have been hindered by beliefs, perceptions of what is appropriate and proper for their role as scholars, discomfort, a lack of support, and ignorance. (1991, Eison & Bonwell).online, networked modes without campus-based teaching, as well as the seamless integration of such experiences within a module and program.

At the campus-based University of Northampton, Armellini 2018–19 managed an organizational restructuring and established Active Blended Learning (ABL). With the help of tutors, ABL emphasizes student involvement and participation in both in-person and online contexts, both within and outside of the classroom. It seeks to integrate active learning modalities into the curriculum and create a seamless learning experience while allowing educators to customize ABL so that it best suits their students' needs and circumstances.

Peer education and flipped learning:
Peer education promotes collaborative learning settings by having students act as both teachers and learners. By allowing students to interact with educational materials outside of class, flipped learning flips the traditional teaching model and focuses on problem-solving, discussion, and active learning during in-person or synchronous sessions.

Gathering of Data:
Pre- and post-implementation questionnaires are used to determine how students feel about flipped learning and peer-led education, as well as how engaged and adaptable they feel.
Interviews: In-depth talks with teachers and students to investigate qualitative perceptions of the instructional techniques' advantages and disadvantages.

Performance Analysis: A comparison of indicators related to student performance, including grades and assessment results, before and after flipped learning and peer education were put into place.

Data Analysis: To find patterns and important differences, quantitative data from surveys and performance measures will be examined using inferential analysis and descriptive statistics.Thematic analysis will be used to extract important themes and patterns pertaining to student experiences from the qualitative data obtained from interviews.

Anticipated Contributions:
By shedding light on the effectiveness of flipped learning and peer education as strategies to improve flexible intermingled learning, this study seeks to advance the field of educational research. The results provide useful information for curriculum developers, educators, and legislators on how to effectively include students, encourage teamwork, and cultivate flexibility in changing educational settings.

Objectives of the study:

a) To compare student performance before and after the COVID-19 pandemic.

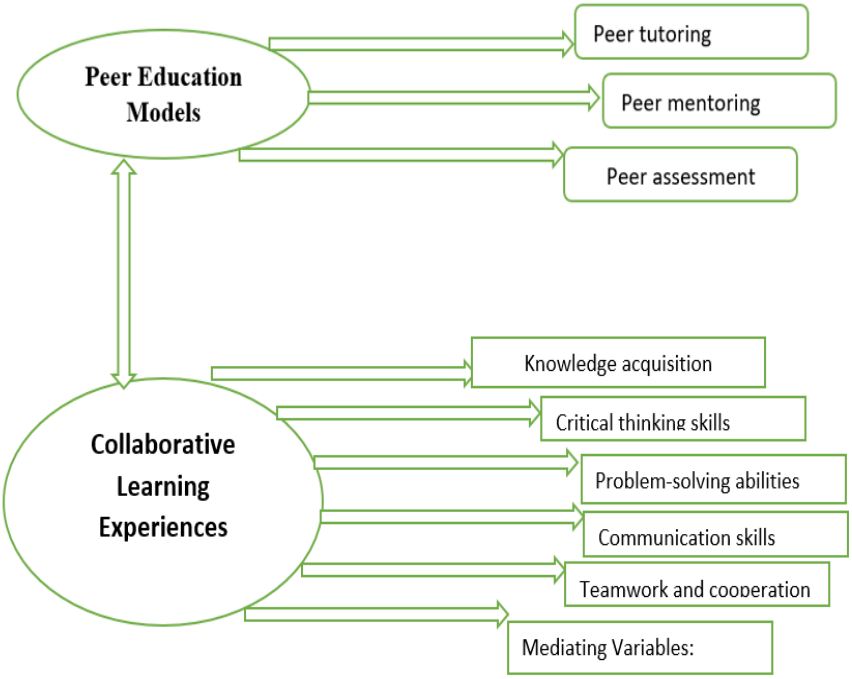
b) To analyse students' perceptions of the teaching and learning process before and after the pandemic.

c) To explore the role of technology in the teaching and learning process during and after the pandemic.

d) To distinguish between offline and online teaching and learning methods during and post-pandemic.

e) To assess the impact of integrating technology into the teaching and learning process during the pandemic and its continued use thereafter.
f) To understand and promote self-directed learning, fostering independent research and sustaining learning throughout and after the pandemic.

Independent and Dependent Variable for Peer Education Models and Collaborative Learning Experiences



In this study, fully online and blended modes of active learning are considered. Modes that will help practitioners and their institutions use the campus, facilities, and resources in secure socially distanced ways, utilising the technological infrastructure that is in place to support remote learning and teaching away from the campus. Flexibility will be key; being prepared to switch rapidly between blended and fully online learning and teaching when required, as this pandemic is far from over.

After pandemic, the terms “emergency isolated teaching”, and “temporary online pivot” are mentioned in academic conversations and publications around learning and teaching and curriculum design and their transition and conversion to online modes of learning and teaching. Such terms illuminate the disruption caused by this pandemic across the higher education sector as well as institutional and practitioner driven ideas and propositions put forward that should not be compared to established online courses. Practitioner stories have been published that capture experiences linked to this rapid transition to online learning and teaching, and how they have embraced the challenge, supported, and connected with their students in challenging circumstances and turned it into an opportunity for positive changes that may inform future curriculum design interventions and modes of learning and teaching.

There are a range of pedagogical frameworks that have been designed to support learning using digital technologies in online, open, and blended settings, many of them, developed some years ago, are still current and can provide a valuable scaffold for active learning to happen within the curriculum and can also be used to evaluate curriculum interventions.

Today, the technology is mature enough to support active learning approaches in higher education and consider some of the existing frameworks. A systematic review of a selection of those frameworks revealed the four most important features to make learning happen in such settings are:

1. Organizer assistance,
2. Actions,
3. Alternative
4. Society.

DATA ANALYSIS AND INTERPRETATION:

Research methodology:

This study is based on primary data and secondary data, the responses collected from students and its analysed by using some basic statistical tools like the Paired T-test and correlation test.

HYPOTHESIS

H0 = Thereis no significant difference between the performanceof students during and after the pandemic.
H1 = Thereis a significant difference between the performanceof students during and after the pandemic.

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Q,No-4 - Q,No-15	-.788	1.254	.083	-.952	-.623	-9.442	225	.000

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Q,No-4	2.84	226	1.117	.074
	Q,No-15	3.62	226	1.009	.067

Interpretation:
With the above paired T-test says that thereis a significant difference between the performanceof students during and after pandemic.

As the significant value (p <0.05). Therefore, we reject the null hypothesis and accept the alternate hypothesis.

HYPOTHESIS:
H0 = Thereis no significant difference between the useof technology during and after pandemic.
H1 = Thereis a significant difference between the useof technology during and after pandemic.

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Q, No-9 - Q,No-14	.332	1.389	.092	.150	.514	3.592	225	.000

Interpretation:
Thereis a significant difference between the useof technology during and after pandemic during and after pandemic.
As the significant value (p <0.05). Therefore, we reject the null hypothesis and accept thealternate hypothesis.

HYPOTHESIS:
H0 = Thereis no significant differenceonline and offline teaching and learning process.
H1 = Thereis a significant differenceonline and offline teaching and learning process.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Q,No-2	3.15	226	1.056	.070
	Q,No-6	3.81	226	1.310	.087

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 Q,No-2 & Q,No-6	226	.165	.013

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			

Pair 1	Q,No-2 - Q,No-6	-.664	1.541	.103	-.866	-.462	-6.474	225	.000

Interpretation:
Thereis a significant difference between the useof technology during and after pandemic during and after the pandemic.
In the above table it shows that the T- value shows that 6.474.
As the significant value (p <0.05). Therefore, we reject the null hypothesis and accept thealternate hypothesis.

Correlation test:
HYPOTHESIS:
H0: Thereis no significant relationship between teaching pedagogy and student's satisfaction level towards flipped learning.
H1: Thereis a significant relationship between teaching pedagogy and student's satisfaction level towards flipped learning.

Correlations

		TEACHING PEDAGOGY	STUDENT'S SATISFACTION
TEACHING PEDAGOGY	Pearson Correlation	1	.417**
	Sig. (2-tailed)		.000
	N	226	226
STUDENT'S SATISFACTION	Pearson Correlation	.417**	1
	Sig. (2-tailed)	.000	
	N	226	226

**. Correlation is significant at the 0.01 level (2-tailed).

Thereis a positive moderatecorrelation between teaching pedagogy and student's satisfaction level towards flipped learning.

CONCLUSION

According to the study, peer teaching and flipped learning can be effective tactics to take into account for really and actively involving students in the learning process at all levels of higher education. When considering the four essential elements of a successful technology-enabled classroom—activities, choice, facilitator support, and community—both strategies can be fully enhanced and tailored by practitioners to a variety of subject contexts and programs. They also function well in both blended and online learning environments supported by networked technology.

Flipped learning combined with peer education is a viable way to provide flexible blended learning experiences as the educational landscape continues to change due to the pandemic and other disruptions. Through an analysis of these tactics' effects on participation, teamwork, and flexibility, this research contributes to the body of information about cutting-edge instructional techniques that can successfully assist students before, during, and after uncertain periods.
Engaging different students in inclusive ways through flipped learning and peer education can maximize chances for both self- and peer learning. As they seamlessly integrate self-paced active learning as an essential component of learning outside of the physical or live classroom, these approaches not only empower students by helping them develop active learning habits that are supported by their tutors but also increase their sense of responsibility for their education and foster autonomy in a supportive environment. Support and direction from tutors may be directed at the specific difficulties and ideas that students encounter when studying a given subject. These issues are recognized by the students and are acquired by the tutor through their participation in the self-paced exercises that come before a live or in-person session.

In order to facilitate a deeper connection with the materials, tutors should take extra care to combine them with specific activities in addition to offering specific resources for self-paced study. Additionally, they must to think about involving students not just in the curation but also in the co-creation of materials for flipped learning and peer education. In particular, flipped learning and peer education should be taken into consideration during this period when educators and institutions are looking for innovative approaches to create curriculum that encourage active learning in flexible ways.

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