Research Article

Students Attitude for Blended Learning at Higher Education Level

Kalakoti Uday Kumar[1], Qudsia Hafeez[2] & Busi Sujatha[3]

[1]UGC-JRF Ph.D Scholar (2021-2026), Department of Education, University College of Education, Osmania University

Email- udaykalakoti9347@gmail.com

[2]ICSSR-PDF Scholar (2021-2022), Department of Education, University College of Education, Osmania University

[3]Assistant Professor, Department of Education, University College of Education, Osmania University

Abstract

Education has leapt over from the conventional mode to the modern way of teaching with the accessibility of various online platforms. A hybrid instruction model called Blended Learning, conglomerates the strengths of each conventional and online mode of learning experiences. This study explores to what extent university students have an attitude towards the blended learning approach with the objectives laid to investigate and compare the attitude of undergraduate and postgraduate students belonging to two science and two non-science streams their gender, and undergraduate and postgraduate education level. The paper analyses the result of a survey conducted on 160 students randomly selected through stratified random sampling comprising 40 students from each of the four departments of Osmania University, including 20 undergraduates and 20 postgraduates, equally representing 20 males and 20 females. The data collected through an opinionnaire on four different aspects of the blended learning model, i.e. BL environment, BL structures, BL implementation, and BL assessment and evaluation; on a 5-point Likert scale showed significant differences exist among different streams, gender, and educational level of students towards blended learning method.

Keywords: Blended learning, ICT skills, Higher Education, Students attitude

Introduction

One of the fundamental principles of NEP-2020 is the integration of technology in educational transactions and reaching the socio-economically disadvantaged groups, cutting across the barriers of language, location, and digital divide. In higher education, the policy recommends multidisciplinary, holistic, equitable, and progressive quality higher education to fulfil the requirements of the techno-modern era and achieve Sustainable Development Goal 4 (SDG4) by 2040 (National Education Policy, 2020). Further, this revolutionary policy paves the way for transforming the regulatory system of higher education and establishing and expanding national-level initiatives for managing technology-based implementations such as NEFT, NDEAR, DIKSHA, and SWAYAM. With the advent of disruptive technologies and a plethora of technological platforms, future learners shall witness borderless classrooms irrespective of geographical location and independent of any educational facilitators (Kumar & Ganesh, 2022).

NEP 2020 Para 24.4 (i) recommends using effective blended learning models. As per UGC (2022), Blended learning is a meaningful merging of digital learning resources with in-class instruction. This significant fusion of on-campus and online modes provides a better learning environment.

A few essential characteristics of Blended Learning include (i) increased student engagement, (ii) provision for self-reliance, continuous, and experiential learning, (iii) improved student learning outcomes, (iv) flexible learning environment, and (v) enhanced peer-to-peer and peer-to-teacher interaction.

The different modes/structures of Blended Learning, according to UGC (2022), are-

(i) Blended "on-campus (face-to-face class) model" - This requires the replacement of some time of in-person classes with online activities.

(ii) Blended "virtual class model" is mainly conducted online with a significant amount of on-campus academic learning like discourses and laboratory experimentations.

(iii) "The flipped classroom model" - This requires students to watch a lecture video online and perform practical activities like group work, projects, and exercises in the classroom.

(iv) "The rotation model" - This may involve students moving in from one station to another like lab, individual, or station rotation; including an online learning lab.

(v) "The self-blend model" - This requires students to make their own choices for courses online and in person as per their needs and interests.

(vi) "The blended MOOC" - Students access MOOCS outside the classroom and meet in person discussions and classroom activities.

(vii) "Flexible-mode courses" - This hybrid instruction model allows students to choose to attend the class either physically or online.

Blended learning requires suitable technologies and online platforms for implementing various teaching-learning approaches such as internet-based, project-based, TAB-based remote learning, online assessments, and virtual labs; and teaching techniques that can be implemented are cooperative learning strategies, discussions on case studies, brainstorming, mind-mapping, concept-mapping, creative presentations, etc.; so an Indian Model /Framework is created for its implementation following the IPSIT model that is to (i) Recognize resources and learner-focussed activities, (ii) Provide materials and make LMS activity announcements, (iii) Providing support and scaffolding for learners, (iv) Identifying gaps in learning and providing comments, and finally (v) Evaluating (UGC, 2022).

In this context, the study tries to understand the attitudes of graduate and postgraduate students genderwise from four different streams, viz. science, engineering, arts, and social science, and education departments of Osmania University and its affiliated college in Telangana towards Blended Learning model which seeks students attitudes upon (i) BL environment, includes opinions on the features of blended learning model; (ii) BL structures, includes opinions on the different modes/structures of blended learning model and synchronous and asynchronous e-learning; (iii) BL implementation, includes opinions on availability of ICT infrastructure and

digital technology at the university level and at individual level; and (iv) BL assessment and evaluation, includes opinions on online and offline mode of examination and feedback.

At the higher education level, a few key findings of AISHE 2019-20 (2020) report are -

(i) Infrastructure for Institutions at the university level (Para 2.8), 94 per cent have libraries, 85 per cent have laboratories, 81 per cent have computer centres, 62 per cent have solar power generation, 55 per cent are connected to NKN (National Knowledge Network), 40 per cent are connected to NMEICT.

(ii) Pupil Teacher Ratio (PTR) (Para 2.4.1) in Universities and Colleges is 28 in regular mode;

(iii) At the higher education level, the Gross Enrolment Ratio (GER) (18-23 years), (Para 2.3), is 27.1 per cent, comprising 26.9 per cent of the male population and 27.3 per cent of the female population,

(iv) Gender Distribution (Para 2.2.4), 50.8 per cent of males and 49.2 per cent of females are enrolled at the Undergraduate level, whereas slightly less, 40 per cent male and 60 per cent female at the Postgraduate level;

(v) Discipline/Subject-wise enrolment (Para 2.2.3), the majority of undergraduate students are in the Arts stream, followed by Science, Commerce, Engineering, and Technology. Whereas the Management and Social Science streams contain most of the students at the postgraduate level.

Review of Literature

Adenekan and Jatto (2023) studied 130 postgraduate students' attitudes towards blended learning and reported a positive attitude, with 94.7 per cent of postgraduates stating blended learning as beneficial, 89.5 per cent as interesting, 94.8 per cent of respondents cited internet connectivity issues as a major challenge for implementing blended learning; conversely, 84.2 per cent supported physical classes for understanding some topics, and 89.5 per cent stated blended learning reduces physical attention.

Tamang and Naraginti (2022) found favourable attitudes of post-graduate science stream students concerning the implementation of the blended learning model. Zhu et al. (2013) also found an optimistic attitude toward hybrid learning from University students when exposed to the online learning environment. According to Mahato et al. (2021) demographic variables such as Gender, Locality, Semester, Internet User, Family type, Caste, and Guardian's Occupations had no significant impact when compared to the significant differences in educational streams like Arts, Science, and Commerce, of Post Graduate students for a hybrid model of learning.

Aladwan et al. (2018) indicated a positive attitude of University students towards blended learning and stressed its effectiveness over classical approaches of imparting knowledge, where students take immense responsibility for their own learning process. Whereas Falah and Chairuddin (2022) reported drawbacks with regard to internet connections and limitations with instructors' strategies for online teaching-learning. In another study conducted by Bindu and Bharathi (2022) on university students' perceptions of the mode of examination pattern, viz., online and offline examinations, the results revealed mixed interest as the majority of students were already adjusted to the traditional offline system

and its easiness to pass. However, students expressed their positive opinions on the associated benefits of online examinations such as time-saving, less tiring, minimized cheating with accuracy and the possibility of obtaining fast results, and eco-friendly in less paper usage.

Bhosale (2022) reported that the All India Gaming Federation (AIGF) has observed that gamification of educational content has proven to be an essential tool in making the content easier to understand with the use of gaming elements. Children with learning disabilities and introverts can learn in an interactive way, improving hand-eye coordination, reaction time, and reflexes in children, which is handy in several real-life situations. Gamification of the syllabus is slowly gathering attention post-pandemic, as children are using apps and techniques to learn difficult concepts.

Das (2021) studied the outlook of students and instructors concerning hybrid models to be more positive, efficient, and more viable than traditional learning and online learning and stated the need for teachers to select a proper blended learning model. Huang (2016) revealed university students' positive attitude towards mixed learning, as most students preferred blended learning to either f2f or online learning alone, while f2f learning was preferable and advantageous for learning world knowledge and facilitating learners' interests in learning English, whereas e-learning was helpful in listening skills. Similarly, Bakeer (2018), through an experimental study, found positive attitudes of undergraduate students towards English language courses taught through the blended learning model enhanced students' language skills as well as learner autonomy and motivation. Further, Munir et al. (2021) reported that all participants agreed that blended learning facilities promote a better understanding of EFL subjects.

Kintu et al. (2017) surveyed 238 university students; and found male students performed better than females in a blended learning environment. Results showed blended learning design features (technology quality, online tools and resources) and student characteristics (attitudes to blended learning, and self-regulation) predicted student satisfaction with blended learning as an outcome.

Singh (2020), in the context of NEP-2020 and the reach of technology, stated that the availability of computers is far less than 5 per cent in countryside households compared to 23.4 per cent in metropolitan areas. Similarly, less than 15 per cent of rural inhabitants are connected online as against 42.0 per cent of urban inhabitants. The majority of the students from underprivileged communities do not have online learning devices/internet connectivity/electricity. Students belonging to both urban and rural zones mainly use mobile phones for accessing internet connectivity.

Based on PRISMA guidelines, Ashraf et al. (2021) conducted systematic reviews on blended learning and found that the majority of the studies were conducted at higher education level with students as the participants and indicated that a dearth of ICT infrastructure and skills are the most frequent problems experienced by educators, pupils, and organizations. It was found that the majority of studies did not focus on any particular subject matter. Moreover, blended learning affects students psychological (self-regulation, satisfaction, and engagement) and behavioral outcomes (academic performance in various subjects).

In the light of review of literature, it felt significant to conduct a fresh study of different subject streams and education level of Osmania University students to understand their attitudes towards blended learning.

Objectives of the Study

(1) To investigate the attitude of undergraduate and postgraduate students belonging to science, engineering, arts and social science, and education streams towards the blended learning model.

(2) To compare the attitude of undergraduate and postgraduate students belonging to science, engineering, arts and social science, and education streams towards the blended learning model.

(3) To investigate the attitude of undergraduates and postgraduates towards the blended learning model with respect to gender.

(4) To compare the attitude of undergraduates and postgraduates towards the blended learning model with respect to gender.

(5) To investigate the attitude of undergraduates with that of postgraduates with respect to educational level, belonging to science, engineering, arts and social science, and education streams towards blended learning model.

(6) To compare the attitude of undergraduates with that of postgraduates with respect to educational level, belonging to science, engineering, arts and social science, and education streams towards blended learning model.

Hypotheses of the Study

(1) There is no significant difference between the attitude of undergraduate and postgraduate students belonging to science, engineering, arts and social science, and education streams towards the blended learning model.

(2) There is no significant difference between the attitude of undergraduates and postgraduates towards the blended learning model with respect to gender.

(3) There is no significant difference between the attitude of undergraduates with that of postgraduates with respect to educational level, belonging to science, engineering, arts and social science, and education streams towards blended learning model.

Methodology

A Descriptive Survey study was conducted on 160 students randomly chosen via stratified random sampling from the population of students studying in science, engineering, arts and social science, and education departments of Osmania University and one of its affiliated colleges in Telangana.

Forty students from each of the four departments comprising, viz. (i) 20 Postgraduate students from the University College of Science and 20 Undergraduate students from its affiliated college; each consisting of 10 boys and 10 girls. (ii) 20 Postgraduate students and 20 Undergraduate students from the University College of Engineering, each consisting of 10 boys and 10 girls. (iii) 20 Postgraduate students from the University College of Arts and Social Sciences and 20

Undergraduate students from its affiliated college, each consisting of 10 boys and 10 girls. (iv) 20 Postgraduate students and 20 Undergraduate students from the University College of Education, each consisting of 10 boys and 10 girls. Altogether, the sample is 80 Undergraduates and 80 Postgraduates by education level and 80 boys and 80 girls by gender. The Independent variables considered are Gender, Education level, i.e. Undergraduate students and Postgraduate students, and different streams, i.e. Science, Engineering, Arts and Social Science, and Education student's attitudes towards the Blended Learning model as a Dependent variable.

The data was collected through an opinionnaire consisting of 52 statements on four different aspects of the blended learning model, i.e. (i) Blended Learning Environment (14 questions), (ii) Blended Learning Structures (16 questions), (iii) Blended Learning Implementation (14 questions), and (iv) Blended Learning Assessment and Evaluation (08 questions); based on a Likert scale with five possible outcomes (Strongly Agree, Agree, Undecided, Disagree, and Strongly Disagree); to find whether any significant differences exist among the sample towards blended learning approach. The tool was validated, and the reliability coefficient was found to be .694, calculated using Cronbach's alpha for these 52 questions, which indicated a reliable instrument for executing the study.

Analysis and Interpretation

This section includes descriptive and inferential analysis of the sample for the set objectives and hypotheses.

Objective 1: "To investigate the attitude of undergraduate and postgraduate students belonging to science, engineering, arts and social science, and education streams towards the blended learning model", crosstabulations are performed of the frequencies of students opinion towards blended learning with respect to different colleges, viz. UCS, UC^{E}, UCASS, UCEdn.

Table:1- Overall Student's Opinion towards Blended Learnin

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	33	20.6	20.6	20.6
Disagree	33	20.6	20.6	41.3
Undecided	33	20.6	20.6	61.9
Agree	29	18.1	18.1	80.0
Strongly Agree	32	20.0	20.0	100.0
Total	160	100.0	100.0	

Table 1 shows, there is not much difference among the frequency of total opinions of students i.e. strongly disagree (33, 20.6 per cent), disagree (33, 20.6 per cent), undecided (33, 20.6 per cent), agree (29, 18.1 per cent) and strongly agree (32, 20.0 per cent) towards blended learning model.

Table-2: Cross tabulation of Students Opinion towards Blended learning among four Colleges, viz. UCS, UCE, UCASS, UCEdn

UCS		College				Total
		UCE	UCASS	UCEdn		
Total BL	Strongly Disagree	5	14	3	11	33
	Disagree	6	14	2	11	33
	Undecided	6	4	15	8	33
	Agree	4	1	18	6	29
	Strongly Agree	19	7	2	4	32
Total		40	40	40	40	160

Table 2 shows the total sample; University College of Science (UCS) and University College of Arts and Social Sciences (UCASS) students showed favourable attitudes, whereas University College of Engineering (UCE) and University College of Education (UCEdn) students showed unfavourable attitude towards blended learning model.

Objective 3: "To investigate the attitude of undergraduates and postgraduates towards the blended learning model with respect to gender", crosstabulations are performed of the frequencies of students opinion towards blended learning with respect to students gender.

Table-3: Cross tabulations of Students Opinions towards Blended learning with respect to Students' Gender

Male		Gender		Total
		Female		
Total BL	Strongly Disagree	19	14	33
	Disagree	19	14	33
	Undecided	12	21	33
	Agree	14	15	29
	Strongly Agree	16	16	32
Total		80	80	160

Table 3 shows that, compared to male students, female students exhibit a positive attitude towards blended learning.

Objective 5: "To investigate the attitude of undergraduates with that of postgraduates with respect to educational level, belonging to science, engineering, arts and social science, and education streams towards blended learning model", crosstabulations are performed of the frequencies of students opinion towards blended learning with respect to students educational level.

Table-4: Cross tabulations of Students' Opinions towards Blended learning with respect to Students' Educational Level

U.G.		Educational Level		Total
		P.G		
Total BL	Strongly Disagree	18	15	33
	Disagree	16	17	33
	Undecided	14	19	33
	Agree	13	16	29
	Strongly Agree	19	13	32
Total		80	80	160

Table 4 shows that Undergraduate students have a slightly more favourable attitude towards blended learning than postgraduate students.

Hypothesis 1: There is no significant difference between the attitude of undergraduate and postgraduate students belonging to science, engineering, arts and social science, and education streams towards the blended learning model.

Table-5: The Distribution of Students among four Colleges, viz. UCS, UCE, UCASS, UCEdn

College	Frequency	Valid Percent	Cumulative Percent
UCS	40	25.0	25.0
UCE	40	25.0	50.0
UCASS	40	25.0	75.0
UCEdn	40	25.0	100.0
Total	160	100.0	

Table 5 indicates distribution of students sample, comprising each 40 making 25 per cent of the sample from four different colleges viz. University College of Science (UCS), University College of Engineering (UCE), University College of Arts and Social Sciences (UCASS), and University College of Education (UCEdn).

Table-6: F-value of Students among four Colleges, viz. UCS, UCE, UCASS, UCEdn

Total BL	ANOVA	Sum of Squares	df	Mean Square	F	Sig.
Total BL	Between Groups	8225.619	3	2741.873	9.690	.000
	Within Groups	44142.825	156	282.967		
	Total	52368.444	159			

From Table 6, the F-ratio is found to be 9.690 (3df), and the p-value is .000<0.05α, which is statistically significant. Therefore, the null

hypothesis is rejected, and the alternate hypothesis is accepted, which states that there is a significant difference between the attitude of undergraduate and postgraduate students belonging to science, engineering, arts and social science, and education streams towards the blended learning model.

Further, Post Hoc Comparisons were conducted to compare students among four colleges, viz. UCS, UCE, UCASS, UCEdn with respect to students attitudes towards Blended learning.

Table-7: Post Hoc Comparisons of Students among four Colleges, viz. UCS, UCE, UCASS, UCEdn

Total BL	College	Comparison College	Fisher LSD Test	
			Mean Difference	Sig.
Total BL	UCS	UCE UCASS UCEdn	17.77500 3.25000 12.95000	.000 .389 .001
	UCE	UCS UCASS UCEdn	-17.77500 -14.52500 -4.82500	.000 .000 .201
	UCASS	UCS UCE UCEdn	-3.25000 14.52500 9.70000	.389 .000 .011
	UCEdn	UCS UCE UCASS	-12.95000 4.82500 -9.70000	.001 .201 .011

Post Hoc Comparisons from Table 7 revealed significant pairwise differences in students' attitudes toward Blended learning between the mean scores of Colleges, i.e. UCS and UCE p-value is .000<0.05α; UCS and UCEdn p-value is .001<0.05α; UCE and UCASS p-value is .000<0.05α; UCASS and UCEdn p-value is .011<0.05α. Whereas insignificant pair-wise differences existed in students' attitudes toward Blended learning between the mean scores of Colleges, i.e. UCS and UCASS p-value is .389>0.05α; UCE and UCEdn p-value is .201>0.05α.

Hypothesis 2: There is no significant difference between the attitude of undergraduates and postgraduates towards the blended learning model with respect to gender.

Table-8: Gender-wise Distribution of Students among four Colleges, viz. UCS, UCE, UCASS, UCEdn

Gender	Frequency	Valid Percent	Cumulative Percent
Male	80	50.0	50.0
Female	80	50.0	100.0
Total	160	100.0	

Table 8 presents the distribution of students by gender, i.e. 80 male and 80 female students, each making 50 per cent of the sample.

Table-9: Mean values of Students towards Blended learning with respect to Students Gender

Total BL	Gender	N	Mean	Std. Deviation
Total BL	Male	80	202.0375	19.43014
	Female	80	206.4250	16.60164

Table 9 shows that the Mean value of 206.4250 with SD 16.60164 is higher than the Mean value of 202.0375 with SD 19.43014. Female students showed slightly better attitudes towards blended learning than Male students.

Table-10: Independent Samples t-test value of Students towards Blended learning with respect to Students Gender

Total BL	Levene's Test for Equality of Variances		t-test for Equality of Means			
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Total BL	1.440	.232	-1.536	158	.127	-4.38750

Table 10 reveals that the F-ratio is found to be 1.440 (158 df), and the p-value is .232>0.05α, which is statistically not significant. The t-ratio is found to be -1.536 (158 df), and the p-value (2-tailed) is .127>0.05α, which is also statistically not significant. It is inferred that the null hypothesis; there is no significant difference between the attitude of undergraduates and postgraduates towards the blended learning model with respect to gender, is accepted.

Hypothesis 3: There is no significant difference between the attitude of undergraduates with that of postgraduates with respect to educational level, belonging to science, engineering, arts and social science, and education streams towards blended learning model.

Table-11: Education-wise Distribution i.e. Undergraduates and Postgraduates Level of Students among four Colleges, viz. UCS, UCE, UCASS, UCEdn

Education Level	Frequency	Valid Percent	Cumulative Percent
U.G.	80	50.0	50.0
P.G.	80	50.0	100.0
Total	160	100.0	

Table 11 presents distribution of students by education level i.e. undergraduate and postgraduate students comprising each 80 making 50 per cent of the sample.

Table-12: Mean values of Students towards Blended learning with respect to Students Educational Level

Total BL	Education Level	N	Mean	Std. Deviation
Total BL	U.G.	80	205.0250	17.77637
	P.G.	80	203.4375	18.59076

Table 12 shows the Undergraduate student's Mean value of 205.0250 with SD 17.77637 is higher than the Postgraduate student's Mean value of 203.4375 with SD 18.59076. Undergraduate students show a slightly better attitude towards blended learning than Postgraduate students.

Table-13: Independent Samples t-test value of Students towards Blended learning with respect to Students' Educational Level

Total BL	Levene's Test for Equality of Variances		t-test for Equality of Means			
Total BL	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
	.037	.847	.552	158	.582	1.58750

Table 13 reveals that the F-ratio is found to be .037 (158 df), and the p-value is .847>0.05α, which is statistically not significant. The t-ratio is found to be .552 (158 df), and the value (2-tailed) is .582>0.05α, which is also statistically not significant. It is inferred that the null hypothesis that there is no significant difference between the attitude of undergraduates with that of postgraduates with respect to educational level, belonging to science, engineering, arts and social science, and education streams towards the blended learning model is accepted.

Key Findings

1. Overall opinion of students opting strongly agree and strongly disagree towards blended learning model remained mostly similar.
2. University College of Science (UCS) and University College of Arts and Social Sciences (UCASS) students showed positive attitude towards blended learning model than compared to University College of Engineering (UCE) and University College of Education (UCEdn) students.
3. Compared to male students, female students had a positive attitude towards blended learning.
4. Undergraduate students showed a positive attitude towards blended learning as opposed to postgraduate students.
5. Significant difference exists between the attitude of undergraduate and postgraduate students belonging to science, engineering, arts and social science, and education, towards blended learning model.
6. The attitudes of undergraduate and postgraduate students towards blended learning varied significantly-
    a. Significant difference exists with respect to the University College of Science (UCS)

and University College of Engineering (UCE) and University College of Education (UCEdn).

b. Significant difference exists with respect to the University College of Engineering (UCE) and University College of Science (UCS), University College of Arts and Social Sciences (UCASS).

c. Significant difference exists with respect to the University College of Arts and Social Sciences (UCASS) and University College of Engineering (UCE), University College of Education (UCEdn).

d. Significant difference exists with respect to the University College of Education (UCEdn), University College of Science (UCS), and the University College of Arts and Social Sciences (UCAS).

5. There is no gender-specific difference among the attitudes of undergraduates and post-graduates towards the blended learning model.

6. There is no specific difference among the attitudes of undergraduates with that of postgraduates with respect to their educational level, belonging to science, engineering, arts and social science, and education streams towards blended learning model.

Discussions

The results show no significant difference among students with respect to gender in their attitude towards the blended learning model, which is supported by Mahato et al. (2021) study that examined the Post-Graduate student's attitudes toward blended learning as for their Gender did not differ significantly; but with respect to their Streams (Arts, Science, and commerce) differs significantly. Similarly, the present study shows significant differences among the four streams chosen viz. Science, Engineering, Arts and Social Sciences, and Education, in view of Tamang and Naraginti (2022). With respect to Blended Learning assessment and evaluation, on online and offline modes of examination and feedback, the majority of the students opted for the offline mode due to its adherence and convenience; as Bindu and Bharathi (2022) had studied that the majority of students are already adjusted to traditional offline system and its easiness to pass. Adenekan and Jatto (2023); Das (2021); Tamang and Naraginti (2022); Aladwan et al. (2018); Bakeer (2018); Huang (2016); Falah and Chairuddin (2022) found the attitude of students and teachers towards hybrid learning as positive, effective and more viable compared to conventional learning and online learning; supports the present study. Falah and Chairuddin (2022); Ashraf et al. (2021); Singh (2020) reported that the majority of the students from underprivileged communities lack specialized digital devices, services, and resources. Hence, students had mixed reactions to the haves and have-nots of digital infrastructure over Blended Learning implementation. Falah and Chairuddin's (2022) study provided several shortages wherein access to the internet was the main problem along with teachers' deficiency in experiencing e-learning. So, university teachers are required to update, upgrade with the latest technological setups, and implement blended learning in educational transactions, as supported by studies by Munir et al. (2021), Ashraf et al. (2021), and Kintu et al. (2017).

Educational Implications

1. Students at higher education levels should be provided opportunities for learning through different models of blended learning.
2. Enhanced access to digital devices and increasing digital literacy among institutions teachers and students would ease in implementation of blended learning models.
3. Technological and digital communication infrastructure and greater connectivity between students and teachers should be improved at the institutional level.
4. Orientation Programs must be introduced for institution teachers to incorporate appropriate blended learning models in pedagogical approaches.
5. Changes in the part of curriculum transaction through blended learning models and appropriate allotment of credits should be implemented by the institution.
6. For the implementation of NEP-2020, it is crucial to integrate blended learning models to leverage technology for providing quality higher education to the masses.

Conclusion

Since the pandemic has already paved the way for technology to be a precursor in educational resilience, therefore it becomes imperative for teachers to exploit the plethora of resources available online and offline. Hence, the blended learning hybrid model taps the best of both, i.e. virtual and offline learning. Blended Learning is at its nascent stage. Therefore, university teachers should create appropriate blended learning environments and provide opportunities for students to explore the benefits of hybrid learning strategies.

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