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Exploring the Educational Odyssey of Undergraduate Women's Perceptions on Blended Learning

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Abstract

Blended learning, the fusion of traditional in-person instruction with online teaching, is recognised as a fundamental change in the realm of education. Both the Sustainable Development Goals (SDGs) and the National Education Policy 2020 of India underscore the significance of providing inclusive and high-quality education to all individuals, irrespective of any form of discrimination. Furthermore, India's National Education Policy 2020 endeavours to foster digital literacy and equal educational opportunities for every student. Blended learning provides opportunities for students, especially females, to overcome barriers such as distance and social norms that restrict their access to education. The investigation scrutinised the viewpoints of female undergraduate students enrolled at the University of Delhi regarding the aspects of flexibility, interaction, engagement, and technology in the context of blended learning. The researcher employed a questionnaire as a means of analysing the objectives. The findings indicate an overall positive perception among female undergraduates of their learning encounters within the realm of blended learning.

Keywords*: Blended learning, Technology, Flexibility, Interaction and Engagement.*

INTRODUCTION

In the dynamic landscape of education, there is an imperative to explore innovative methodologies that seamlessly amalgamate traditional pedagogical principles. Blended learning, heralded as a transformative paradigm in education, assumes critical significance as the global focus intensifies on nurturing the intellectual capacities of forthcoming generations. This educational approach harmonises conventional classroom modalities with cutting-edge technologies to augment the overall learning experience. Blended learning is a combination of traditional approaches, which means offline learning as well as online learning with digital resources to cater to different learning styles, demonstrating the flexibility needed to equip students for the demands of a fast-changing educational environment.

Blended learning stands out as an inventive educational framework that integrates conventional in-person instruction with online components, deploying varied teaching models, delivery mechanisms, and technologies tailored to meet specific knowledge dissemination needs (Anthony et al., 2019). Although blended learning is not a novel concept, It has been a fixture in

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education for an extended period, particularly in domains such as distance education, which amalgamates distinct teaching methodologies and approaches (Pérez et al., 2011). Wong et al. (2014) described blended learning as the amalgamation of regular face-to-face interaction with online resources. Blended learning has gained popularity for its amalgamation of benefits derived from both online and traditional instructional methods (Sari & Karsen, 2016). Moreover, blended learning, often lauded for its capability to provide personalised learning experiences through the integration of face-to-face and online environments, is considered more efficacious than exclusive reliance on either traditional or online learning modalities (Kim and Bonk, 2006; Watson, 2008). Chou et al. (2018) illustrate students engaging with online content delivery, exercising control over the elements of time, place, path, and pace.

Furthermore, O'Flaherty and Phillips (2015) delineate a scenario where students receive face-to-face instruction within the classroom and participate in extracurricular activities using diverse technological resources. The merits of blended learning encompass expanded learning opportunities, heightened engagement, improved academic performance, increased student retention, and cost-effectiveness (Hilliard, 2015). Moreover, Lalima and Dangwal (2017) accentuate advantages such as increased classroom time for creative exercises, seamless integration of online learning without compromising traditional teaching elements, augmented communication avenues, and the cultivation of technological proficiency and digital fluency among students. The transformative potential of blended learning manifests in its adept leveraging of technology, fostering a community of inquiry, and facilitating active and meaningful learning experiences. Anthony et al. (2019) suggest that blended learning contributes to the redesign of course programmes, which improves student learning outcomes, including elevated grades, heightened content knowledge, and enhanced understanding of course content. Pinto-Llorente et al.'s (2016) underscore students' autonomy to regulate the pace of study and the ensuing development of digital fluency.

Sustainable Development Goals (SDGs) 4 emphasise quality education to promote opportunities for lifelong learning and ensure inclusive and equitable education. Beside this, the National Education Policy 2020 of India underscores the significance of prioritising experiential and immersive learning, allowing students to progress at their own pace and accrue credits in the Academic Bank of Credits, thereby contributing to the policy's objectives of equitable educational opportunities (National Education Policy, 2020). The policy's goals are congruent with the potential of blended learning to deliver a flexible and convenient learning environment. Furthermore, a blended learning approach can enhance learning outcomes and experiences in blended learning by providing access, flexibility, interactivity, feedback, collaboration, engagement (Bath & Bourke, 2010; Saliba and Rankine, 2013,), motivation (Hwang et al., 2022), self-regulation, and personalisation (Bhagat & Chang, 2016). The instructor utilised blended learning to facilitate the students' progression to higher levels of Bloom's taxonomy. They provided scaffolding and support as needed, fostering meaningful conversations and debates that resulted in enhanced comprehension and the development of critical thinking, creative skills, and

critical thinking skills as well. This study aims to assess the perceptions of female undergraduate students about flexibility, engagement, interaction, and technology in blended learning, with the findings promising valuable insights for refining future pedagogical approaches.

CONTEXT OF THE STUDY

This research was conducted at the University of Delhi. This study primarily focused on undergraduate students, particularly female students.

NEED FOR THE STUDY

The relentless evolution of digital technologies has consistently pushed the boundaries of conventional learning, ushering in novel educational landscapes. These have given rise to innovative online learning ecosystems that provide students with progressive opportunities and materials. The infusion of technology into blended learning has undergone a profound metamorphosis in students' perceptions and engagement with their educational journeys. A multitude of studies have meticulously scrutinised diverse facets of this pedagogical methodology, commonly referred to as blended learning.

Bendania's (2011) investigation revealed students' favourable inclinations towards blended learning, with influencing factors encompassing prior experience, self-assurance, enjoyment, perceived utility, intention to utilise, motivation, and proficiency in information and communication technology (ICT) abilities. Leveraging interactive technologies, students engage in collaborative endeavours with peers (Carbonell et al., 2013), fostering a sense of cooperation and shared learning (Ferrer & Martínez, 2021). Akkoyunlu and Soylu (2006) reiterated these positive sentiments, emphasising the strong correlation between favourable perceptions and active student engagement in online discussion forums. Furthermore, the integration of technology into blended learning has exhibited a significant enhancement in students' academic performance. The availability and adaptability of online resources empower students (Dakduk et al., 2018) to delve deeper into their studies at their own pace and convenience (Poon, 2012). Students' positive perceptions of blended learning are intricately linked to the flexibility, convenience, reduced travel time, and meaningful face-to-face interactions facilitated by the educational framework (Wang, 2020).

However, there is a body of research uncovering less favourable opinions regarding the blended learning environment. Smyth et al. (2012) identified delayed feedback from teachers and poor internet connectivity as substantial drawbacks. Stracke (2007) underscored that poorly planned experiences may overwhelm students due to the imbalance between traditional and online modes, potentially leading to their disengagement from blended courses. Additionally, the exclusion of printed materials may alienate students who prefer tangible resources for learning. Exclusive reliance on computers for instruction can limit the accessibility and inclusivity of

blended courses, exacerbating negative student attitudes and potentially leading to withdrawals, primarily attributed to inadequate design (Sagarra & Zapata, 2008).

The National Education Policy (NEP) 2020 of India recognises the imperative of promoting gender inclusivity in education, underscoring its pivotal role in societal progress and empowerment. The United Nations' Sustainable Development Goal 4, which strives to ensure inclusive and equitable quality education for all, prioritises fair access and high educational standards. It endeavours to eradicate gender gaps in education by ensuring equal opportunities for females across all educational domains, with a specific focus on female education. The SDGs also place emphasis on creating a secure and supportive environment that encourages female participation in education. The interconnected nature of female education, national education policies, and the Sustainable Development Goals (SDGs) indicates a holistic strategy for constructing a fairer and more prosperous global society.

The synthesis of existing research indicates a notable gap in the literature, specifically pertaining to the perceptions and experiences of female students in blended learning education. This research provides an opportunity to examine the female students perceive blended learning. Their valuable insights for improving educational practices.

OBJECTIVE OF THE STUDY

1. To study the students' perceptions about blended learning in terms of:
    a) Flexibility
    b) Interaction-Engagement
    c) Technology
    d)

RESEARCH METHODOLOGY

This section encompasses details regarding sampling, data collection tools and techniques, and analysis.

SAMPLE

To gain a comprehensive understanding of methods to promote students' involvement in blended learning, this study employed a convenience sampling method to choose one hundred female undergraduate students from an institution affiliated with Delhi University.

TOOL AND TECHNIQUE

The data was collected through a self-administered questionnaire from various studies that included questions about the students' perceptions of blended learning. The questionnaire was divided into three sections in terms of flexibility, interaction-engagement, and technology. The survey consisted of nineteen items that were rated on a 5-point Likert scale, ranging from "strongly agree" to "strongly disagree." More precisely, there were a total of seven questions pertaining to flexibility, four questions about engagement and interaction, and eight questions regarding technology. The data was collected from undergraduate students via Google Forms (an online medium). A form was created to collect the data, which was then distributed to the students. A link to the Google form was shared on the WhatsApp group with girls' students pursuing undergraduate degrees.

Table 1
Items of blended learning in terms of flexibility

S. No.	Items
1	Blended learning allows me to access course material at my own pace.
2	My learning environment is flexible and well-balanced due to the combination of in-person and online components.
3	The option to engage in online discussions or activities at my convenience enhances the overall flexibility of blended courses.
4	Blended learning facilitates more time for me to study.
5	Blended learning offers me the convenience of accessing course materials at a time that is convenient for me.
6	Blended learning enables me to maintain motivation and actively participate in the course based on my individual preferences and lifestyle.
7	The flexibility of blended learning has a beneficial effect on my ability to fulfil both personal and academic obligations.

Table 2
Items of blended learning in terms of interaction-engagement

S. No.	Items
1	Blended learning allows me to spend more time interacting with my classmates, which contributes positively to my learning experience.
2	Blended learning allows me to spend more time interacting with my teachers.
3	Blended learning allows me to interact socially with my peers and teachers through online discussion forums.
4	Feedback and reflection opportunities in blended courses contribute to a more socially engaging learning environment.

Table 3
Items of blended learning in terms of Technology

S. No.	Items
1	Blended learning technology enhances the learning experience by increasing engagement and interactivity.
2	By utilizing online platforms and tools, blended learning enables me to study at my own pace and review materials an unlimited number of times.
3	Blended learning allows me to utilize interactive multimedia components, such as video lectures and simulations, which augment my comprehension of course concepts.
4	Blended learning provides online assessments and quizzes that enhance my learning and comprehension of the material.
5	Blended learning empowers me to take ownership of my education by accessing course materials and resources online.
6	I am proficient in utilizing the necessary technology for blended learning activities.
7	The incorporation of technology in blended courses improves my capacity to engage in collaborative work with my peers.
8	The incorporation of technology in blended learning enhances my overall academic achievement.

DATA ANALYSIS AND INTERPRETATION

The researcher collected the data by creating an offline form. The data was then subjected to analysis, which was conducted with the assistance of SPSS software to determine the mean and standard deviation. The results, analysed by SPSS, were presented in tables. Additionally, the researchers determined the lower and upper limits of the Likert-type scale, consisting of five points, to correspond with the range of the cells.

FINDINGS AND DISCUSSION

The findings of the study are presented here:

Objective 1.a. **To study the students' perceptions about blended learning in terms of flexibility.**

The purpose of this objective is to investigate how students perceive blended learning as facilitating flexibility in their learning.

Table 4
Students' response regarding the flexibility in the blended learning

Items S. No.	Mean	Standard Deviation
1	4.27	0.62
2	4.04	0.91
3	4.21	0.77
4	4.17	0.82
5	4.25	0.83
6	4.06	0.81
7	3.93	1.02
Overall	**4.13**	**0.84**

The blended learning enables students to independently access course material at their preferred speed (mean = 4.27; SD = 0.62), suggesting a strong agree among participants. The mean results expressed by respondents strongly agree, while the standard deviation indicates a high level of consistency. The availability of participating in online conversations or activities at my own convenience improves the overall flexibility of blended courses (mean = 4.21; SD = 0.77). The mean value indicates substantial agreement among the respondents. The standard deviation indicates that the statement has a modest amount of consistency. This aligns with the findings of Kintu et al. (2017), emphasising the facilitative role of students' self-paced engagement in online activities and the essential content provided by discussion boards as per their needs.

Blended learning provides students with the flexibility to access course materials at a time that suits them (mean = 4.25; SD = 0.83) and facilitates having more time to study, which indicates its efficacy (mean = 4.17; SD = 0.82). The mean score indicates that the respondent agrees with the respective statement, and the standard deviation of both statements reflects a moderate level of consistency in their responses. The findings are consistent with the study of Pleines (2020); Rehn et al. (2016) show that asynchronous media allows for a great deal of flexibility in terms of both geography and time, and it also gives students the opportunity to reflect, which can lead to a more profound comprehension of the material.

The mean values show that blended learning facilitates students in maintaining motivation and actively engaging in the course at their own pace, which has elicited positive reactions (mean = 4.06; SD = 0.81). The standard deviation indicates a reasonable level of consistency, with some degree of variability in their responses. Corroborating findings from Littlejohn et al. (2012) and Garrison and Arbaugh (2007) underscore the association between strong intrinsic motivation and the likelihood of sustained engagement in online courses.

The respondent agrees that a combination of in-person and online components in their learning environment creates a flexible and well-balanced setting (mean = 4.04; SD = 0.91). The respondent agrees with the assertion about the flexibility of blended learning for personal and academic responsibilities (mean = 3.93; SD = 1.02). This observation aligns with Khawaja et al.'s (2013) research, emphasising the advantages of a flexible and comprehensive environment in blended learning. The aggregate average for all assertions is 4.13, with a standard deviation of 0.84. The respondents agree on blended learning, with a moderate level of agreement across different aspects.

Objective 1.b. **To study the students' perceptions about blended learning in terms of interaction-engagement.**

The purpose of this objective is to investigate how students perceive engagement and interaction in blended learning.

Table 5
Students' response regarding the engagement and interaction in Blended Learning

Item S. No.	Mean	Standard Deviation
1	3.52	1.14
2	3.78	1.21
3	3.58	1.29
4	3.41	1.17
Overall	3.57	1.21

Blended learning enables students to allocate a greater amount of time to engaging with their instructors (mean = 3.78; SD = 1.21). while the online discussion forums facilitated social interaction (mean = 3.58; SD = 1.29). The mean of both statements shows a positive consensus; the larger standard deviation signifies significant variation in responses, suggesting varied perceptions among students. The statement "Blended learning enables increased engagement with peers, thereby enhancing the overall learning experience" elicited varied reactions (mean = 3.52; SD = 1.14). These findings indicate that students have different perceptions on how blended learning affects their interactions with classmates. The feedback and reflection opportunities in blended programmes enhance the social engagement of the learning environment (mean = 3.41; SD = 1.17). This result is in line with a study by Francis and Shannon (2013), feedback improves comprehension, tackles difficulties, and promotes active participation.

The mean is marginally lower in relation to other assertions, suggesting a weaker level of agreement, while the standard deviation indicates a moderate level of diversity in responses. a significantly high standard deviation of 1.21, the overall average for all assertions is 3.57. This indicates a moderate level of consistency in students' impressions of social interaction in blended learning environments; however, there is noticeable heterogeneity in their perceptions. These results are consistent with the study by Swan (2001); Eom et al. (2006) revealed that the quality

and frequency of engagement and interactions in blended learning have significantly impacted student engagement and overall academic success. The interactions between student-teacher play a crucial role in creating a helpful and participatory learning environment.

Objective 1.c. **To study the students' perceptions about blended learning in terms of technology.**

The purpose of this objective is to investigate how students perceive the use of technology in blended learning.

Table 6
Students' response regarding the technology in Blended Learning

Item S. No.	Mean	Standard Deviation
1	3.62	1.10
2	3.74	0.88
3	3.64	1.05
4	3.76	0.97
5	3.61	1.03
6	3.82	1.06
7	3.89	0.98
8	3.86	0.95
Overall	**3.74**	**1.01**

The students are in consensus about the influence of technology on collaborative work (mean = 3.89; SD = 0.98). This, in turn, has contributed to their overall academic accomplishment (mean = 3.86; SD = 0.95). The mean indicates that students agree with these assertions, and the standard deviation indicates an almost consistent opinion that technology has a beneficial impact on collaborative efforts and overall academic success in blended learning. This aligns with earlier research done by El-Ghareeb and Riad (2011); Khawaja et al. (2013), which found similar positive results regarding the impact of technology on collaborative work and academic achievement. In addition, to optimise its potential advantages, technology must be capably integrated into teaching methods.

The students who acknowledge their proficiency in utilising the required technology for their learning activities (mean = 3.82; SD = 1.06) are empowered to assume responsibility for their own education by accessing course materials and resources online (mean = 3.61; SD = 1.03). The standard deviation of both statements indicates a certain level of heterogeneity in students' perceptions of their abilities to assume responsibility for their education through blended learning. The students have the freedom to study at their desired speed and can revisit the content as many times as they want (mean = 3.74; SD = 0.88). In addition, online evaluations and quizzes contribute to my learning and understanding of the content (mean = 3.76; SD = 0.97). The mean value indicates a favourable perception, while the standard deviation reflects a high level of consistency and agreement among the respondents. Previous studies by El-Ghareeb and

Riad (2011); Garrison and Arbaugh (2007); Khawaja et al. (2013); and Swan (2001) have also found similar perceptions that blended learning can cater to the individual needs and preferences of students while promoting their understanding and engagement with the content.

The students concur with the assertion that incorporating multimedia elements (mean = 3.64; SD = 1.05) improves their learning experience by fostering greater engagement and interactivity (mean = 3.62; SD = 1.10). The mean value suggests that the respondent agrees with this, whereas the standard deviation reveals the extent of variation in students' perceptions. The study by Garrison and Arbaugh (2007) found that the involvement of students with their peers, lecturers, and content was positively influenced by the blended learning environment.

The collective average for all assertions is 3.74, with a standard deviation of 1.01. This indicates a considerable degree of uniformity in students' interpretations of blended learning technology. Although there is an optimistic perception, there is some variation in perceptions, especially when it comes to factors like involvement and assuming responsibility for one's education. The use of technology in blended learning can have a positive impact on learner satisfaction. The overall result, consistent with the study of Naaj et al. (2012), highlighted the significance of using technological tools and materials in teaching and learning activities.

CONCLUSION

The research findings underscore the students' cognizance of the manifold advantages offered by blended learning, particularly emphasising the flexibility it affords, the opportunity for self-paced study, and the integration of multimedia components. Notably, positive commentary regarding collaborative work, academic achievements, and the overall learning experience underscores the promising potential benefits intrinsic to blended learning environments. Conversely, there exists a discernible consensus among individuals regarding the capacity of blended learning to enhance engagement and interaction. Students have different levels of agreement about how blended learning helps them make friends. This suggests that the usefulness of these parts depends on the preferences and experiences of each student. However, it is imperative to acknowledge the subset of students who articulate the challenges and constraints associated with these domains. Notably, difficulties in establishing robust relationships with peers in an online setting and the potential for students to feel overwhelmed by the volume of required online discussions emerge as salient concerns. The comprehensive examination of students' perceptions pertaining to blended learning technologies reveals an optimistic and nuanced perception on adaptability, collaborative dynamics, and academic success.

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