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Analysis of Student and Teachers Perspective using Hybrid e-Learning Method

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	Abstract
	The technological development also enhances the usage in the educational world. The subpar performance of traditional classroom learning has raised significant concerns within the realm of teaching and learning. This conventional approach, characterized by the age-old "chalk and talk" method, has been replaced by the adoption of pure online learning, often referred to as e-learning. This educational method, which has its roots in distance education, has garnered substantial attention from public universities. However, for e-learning to be truly effective, it must be integrated with other forms of learning, including face-to-face instruction. This amalgamation of different learning modalities gives rise to a novel approach known as blended learning, which has proven to be the most efficient and effective educational system. Many enduring insights from this technology have been influenced by the rhetorical works of the past. As society propels itself deeper into the information age, the importance of blended learning in higher education is becoming increasingly prominent. Higher education institutions stand on the brink of a significant paradigm shift in the way knowledge and truth are disseminated. To comprehend this transition to new computer-mediated methods of knowledge delivery through blended learning experiences, it is crucial to grasp the perceptions held by both instructors and students. In this quantitative research study, a survey questionnaire was employed to gather feedback from faculty and students at a private institute. The survey aimed to capture their perceptions regarding the use, frequency, readiness, and satisfaction with web-based technology in a blended learning environment. To gain deeper insights into these perceptions, both quantitative and qualitative data were collected through an online survey distributed to faculty and students during the spring semester.
	Keywords: Blended learning, e-learning, face-to-face learning environments, Teacher Perspective, Students Perspectives

1. Introduction

Distance education stands as an alternative to traditional instruction, with its core principle centered on the ability to facilitate teaching and learning even when students and educators are not physically in the same location [1]. Moore and Kearsely (2011) elucidated the inception of distance education in their book, emphasizing that while many consider the internet as its starting point, the true origin can be traced back to teacher-student correspondence via letters. They categorized the evolution of distance education into five generations: correspondence, broadcast via radio and television, open universities, teleconferencing, and the Internet/Web. The fundamental concept underpinning distance education across all these generations remains consistent, focusing on the ability to teach and learn when students and instructors are geographically separated [2].

The proliferation of the Internet has greatly amplified the popularity of distance education and led to the emergence of new terms such as online learning, e-learning, and web-based learning. Online learning is defined as the utilization of the Internet for accessing learning materials and engaging with content, instructors, and fellow learners [3]. Numerous studies have been conducted to explore online learning, its various dimensions, and the variables that impact it, often in comparison to traditional face-to-face instruction. A significant ongoing debate revolves around whether students can achieve superior learning outcomes in online learning environments compared to traditional classrooms. In the early 2000s, blended learning gained prominence as an eclectic approach when scholars engaged in discussions about the optimal learning environment for students. Within blended learning, the central idea is to harness the strengths of both traditional and online approaches. Mitchell and Honore (2007) provide a definition of hybrid learning, characterizing it as a blend of face-to-face and online instruction that capitalizes on the strengths of both traditional and digital teaching methods [4]. Hybrid courses incorporate a mix of e-learning activities, such as online quizzes and discussions, alongside in-person classroom teaching. What sets hybrid courses apart from other online learning formats is their specific recommendation of a division ranging from 25% to 50% between face-to-face sessions and self-directed out-of-class work. According to Allen and Seaman (2007), web-facilitated courses typically involve more than 29% of instruction delivered online [5]. In contrast, blended or hybrid courses permit a broader range of online instruction, spanning from 30% to 79% of the overall instruction. Any online instruction surpassing this range would be classified as participation in a fully online course under this definition. Blended learning signifies the delivery of instruction through a variety of synchronous and asynchronous computer-mediated methods. This definition sharpens and refines the role of technology in the instructional process within blended learning. Computer-mediated delivery methods operate in conjunction with face-to-face instruction, without any strict constraints on the percentage of time allocated or the mode of delivery used. Consequently, unlike hybrid learning, blended learning represents a more refined approach to delivering instruction. Blended learning, often referred to as hybrid learning, is an educational approach that combines traditional face-to-face instruction with online learning methods [6, 7]. This approach can be thought of as a quadrant, with each quadrant representing a different combination of in-person and online components.

1. **Traditional Classroom-Centered (Quadrant I):** In this quadrant, the majority of instruction takes place in a traditional classroom setting. Online components are minimal and typically used for supplementary materials or communication. Teachers may use online resources like discussion boards, email, or a learning management system (LMS) to enhance classroom instruction. This quadrant is often used as an initial step towards incorporating technology in education.

2. **Flipped Classroom (Quadrant II):** In Quadrant II, the balance between face-to-face and online instruction begins to shift. The "flipped classroom" model is a prime example of this quadrant. In a flipped classroom, students engage with course content online, often through video lectures or readings, prior to attending in-person classes. Classroom time is then dedicated to discussions, activities, and application of the material. This approach allows for more interactive and engaging in-class experiences.

3. **Rotation Model (Quadrant III):** The Rotation Model blends face-to-face and online instruction through a structured schedule. Students rotate between various learning stations, which can include traditional classroom activities, online lessons, and small group work. This quadrant provides flexibility in how students engage with course materials and can cater to different learning preferences. The rotation model can also facilitate personalized learning experiences.

4. **Online Lab Model (Quadrant IV):** Quadrant IV is characterized by a significant shift towards online instruction. In this model, students primarily engage with course content and activities online. Occasionally, they may attend in-person sessions, often in the form of labs, workshops, or hands-on activities. This

quadrant is commonly used in courses that require specific technical or practical skills. It allows students to benefit from the convenience of online learning while still gaining hands-on experience.

Figure.1. Four different quadrants of hybrid e-learning model.

Figure 1 represents the different quadrants of the hybrid e-learning models. Each quadrant offers distinct advantages and challenges:
a. *Flexibility:* Blended learning allows students to have some control over when and where they engage with course materials. This flexibility can accommodate diverse learning styles and schedules.
b. *Interaction:* Quadrants that involve in-person instruction promote face-to-face interactions among students and instructors, fostering discussion, collaboration, and a sense of community.
c. *Technology Integration*: Blended learning necessitates the effective use of technology. Educators must design and manage online resources, ensuring they align with learning objectives.
d. *Personalization*: Blended learning can be tailored to meet individual student needs. Instructors can provide additional support online or offer advanced content for those who excel.
e. *Assessment*: Assessing student progress may differ across quadrants. Instructors must adapt their assessment strategies to align with the chosen blended learning model.
f. *Access and Equity*: Educators must consider access to technology and ensure that all students can fully participate in online components.
g. *Professional Development*: Teachers may require training to effectively implement blended learning models, as they often involve a shift in instructional methods.

This paper aims to comprehensively examine blended learning by delving into its historical roots, its current status, and its potential future developments, offering valuable insights into this educational methodology. This research articles provides the students and teachers perspective for using the hybrid e-learning model. The results of the present study are based on the comprehensive analysis done through the questionnaire for students and teachers separately. The results clearly define the advantages and limitations of the blended learning methods. This study also provides the environment for students and teachers to suggest any modification required for blended learning and for its effective implementation.

2. Objective and Implementations

The disparity in technology familiarity and preferences between students and faculty is conspicuous as it affects their academic experiences. Within the context of blended learning, computer-mediated communication introduces a variety of innovative web-based learning tools that can be leveraged to address course design challenges and foster communication within a community of learners [8, 9]. The difficulty lies in discerning the most suitable learning technology to align with both faculty's teaching objectives and students' delivery method preferences. This challenge has the potential to complicate the learning experience for both parties. Ultimately, the study suggests that engagement between students and faculty in any online or blended

environment only occurs when both are motivated to log in. Implementing blended learning in an education system involves a deliberate process with clear objectives and well-defined steps. Here are the key objectives and steps to consider as shown in Figure.2.

Enhance Learning Outcomes: The primary objective of blended learning is to improve student learning outcomes by combining the strengths of both face-to-face and online instruction.

Increase Flexibility: Offer students more flexibility in terms of when and where they access learning materials, which can cater to different learning styles and schedules.

Promote Engagement: Foster active student engagement through interactive online activities and collaborative in-person sessions.

Personalize Learning: Tailor instruction to meet individual student needs by providing additional support, advanced content, or remedial materials.

Optimize Resources: Use technology to make the most efficient use of resources, such as classroom space, faculty time, and educational materials.

Below mentioned are the Steps required to Implement Blended Learning in education system:

a. **Needs Assessment**: Identify the specific needs and goals for implementing blended learning. What are the learning objectives you want to achieve, and how can blended learning help?
b. **Technology Infrastructure**: Ensure the availability and reliability of the necessary technology infrastructure, including high-speed internet, learning management systems (LMS), and digital resources.
c. **Curriculum Design**: Redesign the curriculum to incorporate both online and in-person components. Determine which topics or activities are best suited for each mode.
d. **Content Development**: Create or adapt digital learning materials, such as videos, interactive modules, and quizzes, to support the online portion of the course.
e. **Faculty Training**: Provide professional development and training for faculty to help them become proficient in using technology and delivering blended instruction effectively.
f. **Student Orientation**: Offer orientation sessions or materials to help students navigate the online components of the course and understand expectations.
g. **Course Delivery**: Implement the redesigned course, ensuring a seamless integration of online and face-to-face components. Monitor student progress and engagement.
h. **Assessment Strategies**: Design assessment strategies that align with the blended format, including online quizzes, assignments, and in-person evaluations.
i. **Feedback and Iteration**: Continuously gather feedback from students and faculty about their experiences with blended learning. Use this feedback to make improvements.
j. **Support and Resources**: Provide technical support and resources for both faculty and students to address any issues or challenges that arise during the implementation.
k. **Data Analysis**: Collect and analyze data on student performance and engagement to assess the effectiveness of the blended learning approach.
l. **Scale and Expand**: Once successful, consider expanding blended learning to other courses or programs within the institution.
m. **Quality Assurance**: Establish quality assurance mechanisms to ensure that blended courses maintain high standards and consistency.
n. **Communication and Collaboration**: Encourage communication and collaboration among faculty members to share best practices and lessons learned in implementing blended learning.
o. **Evaluation and Improvement**: Regularly evaluate the overall impact of blended learning on learning outcomes and make continuous improvements based on assessment results and feedback.

Implementing blended learning is a dynamic process that requires ongoing evaluation and adaptation. It's essential to have a clear roadmap and involve all stakeholders, including faculty, students, and support staff, in the planning and execution of blended learning initiatives [10].
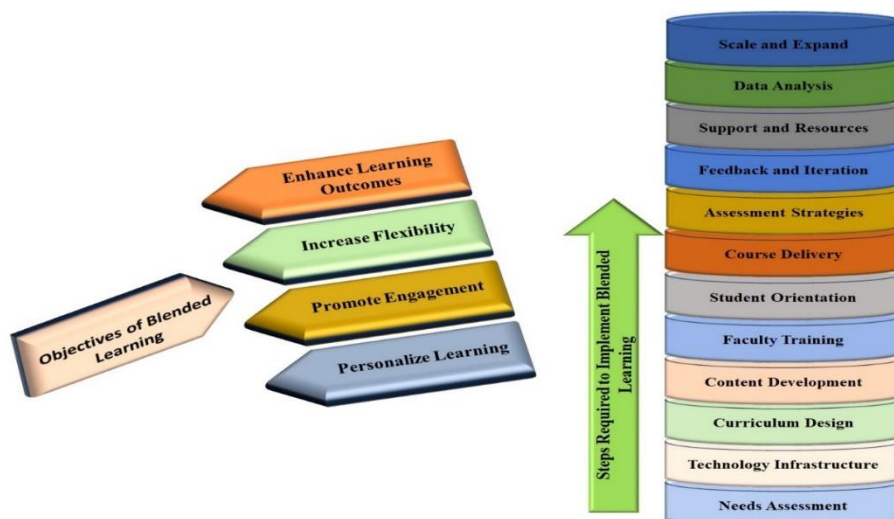
Figure.2. Objectives and Steps involved for implementation blended learning system in education center.

3. Methodology

This research employed a mixed-methods approach, combining quantitative methodology with complementary qualitative analysis, utilizing a survey research design [11]. The survey, tailored for the study, was meticulously crafted based on an extensive review of blended learning literature. The University's Institutional Research Department facilitated the distribution of two sets of questionnaires—one for students and the other for faculty. The questionnaires shared identical questions to gather uniform responses from both groups. Quantitative data obtained from the surveys were supplemented by pertinent qualitative inquiries. The questionnaire consisted of two parts, encompassing six quantitative, three open-ended, and four demographic questions. Convenience sampling was employed to select participants from both student and faculty populations. The survey was digitally configured for dissemination via the official email service [12]. The objective of this research study is twofold: (a) to assess and quantify student satisfaction in a blended learning program designed for at-risk students and (b) to evaluate the perspectives of both faculty and students regarding blended learning education. This article will delve into various aspects of the research, including research design, population, sampling plan, instrumentation, data collection methods, methods of data analysis, threats to validity, ethical considerations, evaluation of research methods, and inclusion/exclusion criteria pertinent to the action research study. Table 1, gives the sample questionnaire data through which analysis studies has been created.

3.1. Methodology for Analyzing the Teacher's Perspective:
Identifying the type of courses taught by faculty proved challenging, as public records did not readily provide this information. Consequently, a brief email explaining the study's purpose was sent to all 50 faculty members at the end of the spring semester, accompanied by an invitation to participate. A follow-up reminder was sent two weeks later. Participation was contingent on faculty members teaching a blended learning course (30% to 70% online). To confirm this criterion, the initial survey question asked about the nature of the courses taught. Respondents not teaching blended courses were excluded from the final sample. Despite a low response rate, attributed to the timing of the request and the difficulty in identifying blended learning faculty, seven professors participated. Respondents who taught entirely online or less than 30% online were excluded from follow-up interviews.

3.2. Methodology for Analyzing the Student's Perspective:
All students with an active institutional email account were included as participants. An email from the institute, covering the same questions as the faculty survey, determined the most suitable time for releasing student questionnaires. The questionnaire featured an initial consent form on the first page, providing privacy information and requesting participation consent. Students could opt out or discontinue the questionnaire at any stage [13].

Quantitative data analysis in this research, complemented by qualitative data, addressed four research questions related to student and faculty perceptions of blended learning. Statistical analysis was conducted using an online survey tool, and Microsoft Excel was used to clean and prepare the data. Frequency and descriptive analysis were performed on quantitative questions, while open-ended questions underwent thematic analysis

to identify descriptive themes from student and faculty responses. A spreadsheet organized inputs from the three open-ended questions in both student and faculty questionnaires, extracting words from brief responses and identifying commonly mentioned words and expressions to provide descriptive data for both groups.

Table.1. Sample questionnaire used for collecting data to understand students and teachers perspective for using blended learning system.

Q.NO	Sample Questionnaire to Understand Students Perspective	Sample Questionnaire to Understand Teachers Perspective
1.	I am ready to follow the blended learning system	I am ready for Blended learning but needs training
2.	I am capable of learning through the blended learning system	Easy to set the wide range of questions for test and quizzes
3.	I can learn skills from blended learning system	Flexibility of time is good in blended learning system
4.	Blended learning is more preferable to e-learning fully	Students are least attentive and sincere in Blended learning
5.	I am ready to follow the challenges of blended learning	Blended learning enhances the learning knowledge and skills of the students
6.	I am comfortable in using technology in learning	Less participative students in Blended learning
7.	Blended learning enhanced the attention and engagement in class	Blended learning makes students motivated to complete the topics through module
8.	Formative assessment motivated to complete the topics through module	Students are pre prepared for the topics
9.	Pre-lecture online material is helpful to understand the lecture content	Putting pre-lecture online material is very tough and stressful for faculties
10.	Blended learning system increases the quick learning capability of students.	Stressful for conducting and evaluating the test in blended learning

4. Results and Discussion

The assessment rubric used to analyse results from a web-based search uncovered diverse institutional blended learning resources, varying in detail and quality. While some courses provided readily available information on content, details about the specific types of blends were less accessible. Such information might exist in internal documents but is currently unavailable to the public online. Nonetheless, the study identified resources supporting education with minimal access restrictions, and this section highlights some of the most intriguing and pertinent cases.

This study explores the correlation between student and teacher perceptions and achievements at an institution implementing a significant blended learning initiative. The institute adopted blended learning to boost enrollment by optimizing existing classroom space, offering greater convenience to commuter students, fostering increased student engagement, and enhancing learning outcomes. Ten research questions aligned with these objectives were formulated, and a questionnaire was designed to gauge perceptions in each area. The survey was administered to students enrolled in blended courses at the university, and data on final course grades and cumulative grade point averages were collected.

4.1. Analysis of Students Perspective

Blended learning, a pedagogical approach that seamlessly integrates traditional face-to-face instruction with online learning elements, has become a prominent fixture in contemporary education. This evolving educational model aims to combine the strengths of both in-person and digital learning, providing students with a more flexible and personalized educational experience [14, 15]. First section of this research article delves into the intricate landscape of blended learning from the lens of student perspectives, seeking to unravel the multifaceted aspects that shape their attitudes and experiences. There are some major parameters on the basic of the questionnaire has been developed to analysis the students' perspectives:

1. *Flexibility and Convenience:* One of the primary factors that captivates students in the realm of blended learning is the flexibility it offers. Unlike the rigid structures of traditional classrooms, blended learning allows students to tailor their learning experience to suit individual schedules and preferences. The ability to access course materials and engage in discussions online provides a level of convenience that resonates with the demands of modern student life. This flexibility empowers learners to take control of their education, fostering a sense of autonomy that is often absent in conventional classroom settings.

2. *Engagement and Interactivity:* Blended learning environments strive to enhance student engagement through a dynamic interplay of face-to-face interactions and virtual activities. The integration of multimedia elements, interactive simulations, and collaborative online platforms contributes to a more immersive learning experience. Students often find that these diverse modes of engagement not only cater to different learning styles but also cultivate a sense of community and collaboration among peers. The blend of in-person discussions and online forums creates a rich tapestry of learning interactions, fostering a deeper understanding of course content.

3. *Personalized Learning Pathways:* Blended learning recognizes the diversity of student learning styles and abilities, offering the opportunity for a more personalized educational journey. With the availability of online resources, students can revisit lectures, explore supplementary materials, and progress through course content at their own pace. Adaptive learning technologies further contribute to personalization by tailoring the learning experience based on individual strengths and weaknesses. The ability to customize learning pathways not only accommodates diverse learning needs but also ensures that students are adequately challenged and supported throughout their academic journey.

4. *Assessment and Performance:* The impact of blended learning on student performance and assessment strategies is a critical aspect of the analysis. Some students appreciate the varied assessment methods employed in blended courses, including online quizzes, collaborative projects, and traditional exams. The integration of technology in assessments also aligns with the skills needed in the digital age. However, concerns may arise regarding the fairness and validity of assessments conducted online. A thorough examination of the correlation between student performance and the mode of blended learning delivery is essential for refining and optimizing assessment practices.

The data has been collected by using the questionnaire for the 100 students enrolled for the blending learning system at different institute related to different specialization. The question was based on the implementation and impact of blended learning on students. The survey was consisted of 10 multiple choice questions as shown in table 1. The answer was on linear scale analysis. The options were related to strongly agree, agree, neutral, disagree and strongly disagree at the scale of 5 to 1 respectively. Figure 3 represents the percentage of students responded for each question. The data collected clearly represents that there is very less percentage of students who opted for disagree and strongly disagree towards the implementation of blended learning in education. For more further analysis the mean, standard deviation and percentage belongs to agree is also been calculated. Table 2 clearly represent the calculated data and supports to the positive implementation of the blended learning from the student's perspective.
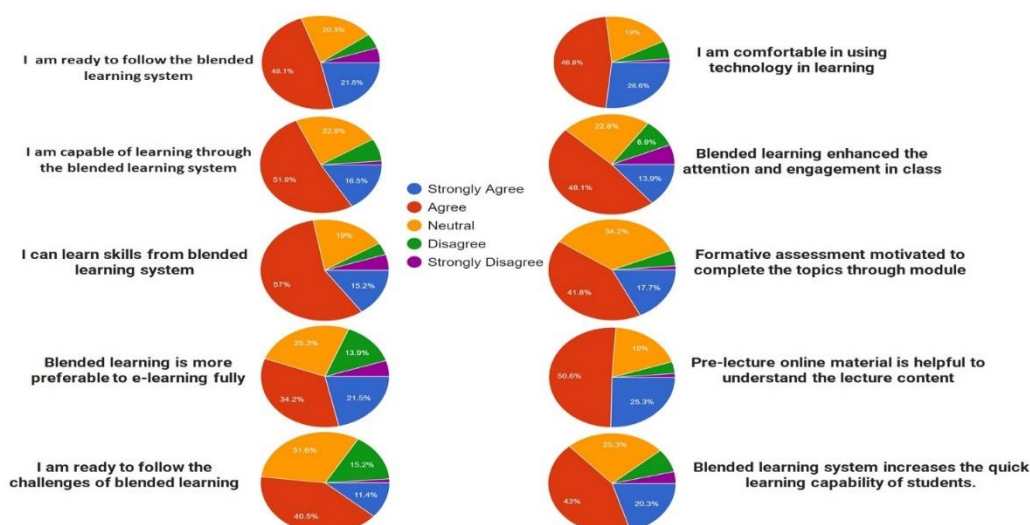

Figure. 3. Representation of student's percentage for accepting the implementation of blended learning.

Table.2. Relationship between student perceptions of acceptance and grades.

Questions	Mean	Standard Deviation	% of Agree
I am ready to follow the blended learning system	3.76	1.02	48.1
I am capable of learning through the blended learning system	3.73	0.87	51.9
I can learn skills from blended learning system	3.72	0.94	57
Blended learning is more preferable to e-learning fully	3.46	1.13	34.2
I am ready to follow the challenges of blended learning	3.45	0.93	40.5
I am comfortable in using technology in learning	3.90	0.91	46.8
Blended learning enhanced the attention and engagement in class	3.52	1.05	48.1
Formative assessment motivated to complete the topics through module	3.70	0.87	41.8
Pre-lecture online material is helpful to understand the lecture content	3.94	0.85	50.6
Blended learning system increases the quick learning capability of students.	3.87	0.88	43

4.2. Analysis of Teachers Perspective

Blended learning, the integration of traditional classroom teaching with online resources and activities, has become a prevalent educational approach in the 21st century. The second part of this research work deals with perspectives of teachers regarding the implementation and impact of blended learning in educational settings [16, 17]. There are major parameters described below on the basic of the questionnaire has been developed to analysis the teachers' perspectives:

a. *Evolution of Blended Learning:* Discuss the historical context of blended learning, highlighting its evolution from early experiments to the current sophisticated models. Emphasize the role of technology in transforming traditional teaching methods.

b. *Perceived Advantages:* Explore the perceived advantages of blended learning from a teacher's viewpoint. Include improved flexibility, personalized learning experiences, and enhanced student engagement. Discuss how teachers believe it fosters a more dynamic and interactive classroom environment.

c. *Challenges Faced by Teachers:* Examine the challenges teachers encounter while implementing blended learning. These challenges may include technological barriers, the need for additional training, and potential resistance from students or colleagues. Discuss how these challenges impact the effectiveness of blended learning.

d. *Technology Integration:* Analyze teachers' experiences with integrating technology into their teaching practices. Evaluate the effectiveness of various tools and platforms, as well as the level of technological support available to educators. Discuss the importance of a seamless integration process.

e. *Personalization of Learning:* Explore how blended learning allows for a more personalized learning experience for students. Discuss how teachers perceive the adaptability of the curriculum to cater to individual student needs and how this impacts student outcomes.

f. *Student Engagement and Motivation:* Examine teachers' observations regarding student engagement and motivation in a blended learning environment. Discuss strategies employed by teachers to maintain student interest and participation, as well as any observed changes in students' attitudes toward learning.

g. *Assessment and Evaluation:* Investigate teachers' perspectives on assessing and evaluating students in a blended learning setting. Discuss the challenges of assessing both online and offline components and explore how teachers adapt traditional assessment methods to the blended learning environment.

h. *Professional Development Needs:* Explore the ongoing need for professional development among teachers to effectively implement blended learning strategies. Discuss the types of training and support systems that teachers find most beneficial in enhancing their skills for blended teaching.

i. *Impact on Teaching Pedagogy:* Examine how blended learning influences teachers' pedagogical approaches. Discuss any shifts in teaching philosophy, methodologies, or the overall teaching and learning experience.

j. *Recommendations and Future Outlook:* Based on the analysis, provide recommendations for improving the implementation of blended learning in educational settings. Discuss potential strategies for overcoming challenges and fostering a more supportive environment for teachers. Conclude with a reflection on the future outlook of blended learning in education.
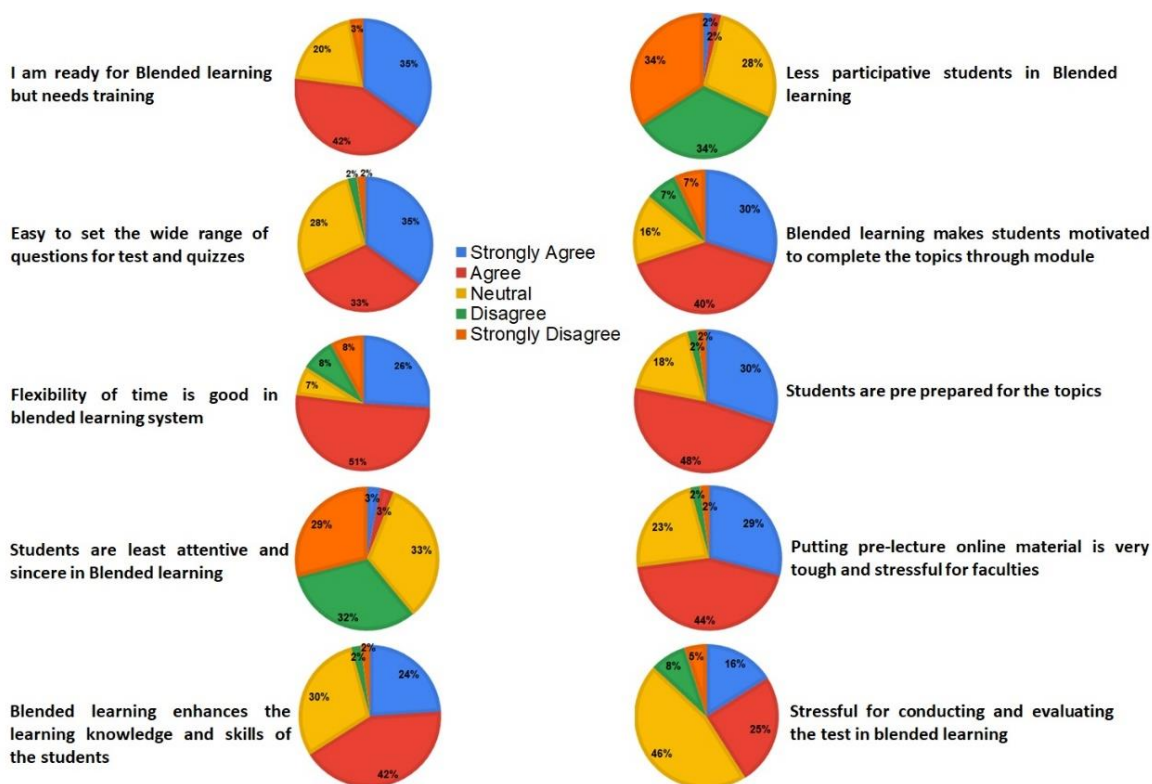
Figure. 4. Representation of teachers percentage for accepting the implementation of blended learning.

To gain insight into the teacher's viewpoint, a questionnaire was administered to 50 teachers utilizing the blended learning system across various institutes specializing in different fields. The questions focused on assessing the implementation and impact of blended learning on teachers. The survey comprised 10 multiple-choice questions, detailed in Table 2, and responses were analyzed on a linear scale ranging from strongly agree to strongly disagree, corresponding to values 5 to 1, respectively. Figure 4 illustrates the percentage of teachers' responses to each question. The collected data underscores that only a small percentage of teachers expressed disagreement or strong disagreement with the implementation of blended learning in education. To delve deeper into the analysis, the mean, standard deviation, and percentage of responses categorized as agree were calculated. Table 3 presents the computed data, affirming strong support for the positive implementation of blended learning from the teachers' perspective.

Table.3. Relationship between teachers perceptions of acceptance and grades.

Questions	Mean	Standard Deviation	% of Agree
I am ready for Blended learning but needs training	3.76	1.02	42
Easy to set the wide range of questions for test and quizzes	3.73	0.87	33
Flexibility of time is good in blended learning system	3.72	0.94	51
Students are least attentive and sincere in Blended learning	2.46	1.13	3
Blended learning enhances the learning knowledge and skills of the students	3.45	0.93	42
Less participative students in Blended learning	1.90	0.91	2
Blended learning makes students motivated to complete the topics through module	3.52	1.05	40
Students are pre prepared for the topics	3.70	0.87	48
Putting pre-lecture online material is very tough and stressful for faculties	2.94	0.85	44
Stressful for conducting and evaluating the test in blended learning	3.87	0.88	28

5. Future Perspectives

In the aera of modern education, where the corridors of traditional classrooms meet the vast avenues of digital possibilities, blended learning emerges as a guiding light, illuminating the path towards a future educational landscape that is dynamic, inclusive, and technologically empowered [18]. The fusion of conventional face-to-face instruction with the boundless capabilities of online resources is not merely a current trend but a transformative paradigm reshaping how we conceive, implement, and embrace education [19]. This essay delves into the future perspectives of blended learning, exploring its potential to redefine pedagogical

approaches, cater to diverse learning needs, and foster a learning environment that is not confined by physical boundaries. Following are the advantages of the implementation of the blended learning:

A. *The Technological Canvas:* As we stand on the cusp of a technological renaissance, blended learning is positioned as a canvas upon which the brushstrokes of innovation are painted. Artificial intelligence, virtual reality, and augmented reality are not just buzzwords but integral components that have the potential to redefine the educational experience. Blended learning, as a flexible framework, enables institutions to seamlessly integrate these technologies, providing students with immersive and interactive learning experiences that transcend the limitations of traditional classrooms. This integration enhances accessibility, making education a global enterprise that knows no geographical constraints.

B. *Personalized Learning Odyssey*: The future of blended learning is intricately woven with the concept of personalized learning paths. With the advent of adaptive learning technologies, educational content can be tailored to the unique needs and pace of each student. This departure from the one-size-fits-all model allows for a more nuanced and effective approach to education, where students are active participants in their learning journey. By accommodating diverse learning styles and preferences, blended learning sets the stage for a more engaged and successful student body.

C. *Flexibility: A Pillar of Learning Liberation:* Flexibility in learning is a cornerstone of the future educational landscape, and blended learning is at the forefront of this liberation. The rigid boundaries of traditional education, confined within the walls of physical classrooms, are giving way to a more dynamic system. Students are no longer tethered to a fixed timetable; they can access resources, engage in discussions, and complete assignments at their convenience. This adaptability is particularly advantageous for working professionals and non-traditional students, blurring the lines between formal education and the demands of the modern world.

D. *Active Engagement and Collaborative Learning:* Beyond the solitary pursuit of knowledge, the future of blended learning envisions a realm of active engagement and collaborative learning. Online platforms and collaborative tools facilitate real-time communication and interaction among students, transcending the limitations of physical proximity. This collaborative approach not only cultivates a sense of community but also mirrors the collaborative work environments that students are likely to encounter in their future careers [20]. The ability to work on projects, share ideas, and learn from peers in a virtual space enhances the richness of the educational experience.

E. *Data-Driven Educational Constellations:* Blended learning, with its digital footprint, generates a wealth of data related to student performance, engagement, and learning patterns. The future educational landscape is characterized by a shift towards data-driven decision-making. The analysis of this data offers valuable insights into the effectiveness of instructional strategies, enabling educators to tailor their approaches based on evidence. Predictive analytics can identify students at risk of falling behind, paving the way for timely intervention and personalized support.

F. *Lifelong Learning and Professional Evolution:* As the landscape of work undergoes seismic shifts, the future requires individuals to embrace lifelong learning. Blended learning stands as a beacon for continuous education and professional development. Individuals, regardless of their stage in life or career, can access relevant courses and resources to upskill or reskill. Moreover, institutions and organizations can harness the power of blended learning to create bespoke training programs that cater to the specific needs of their workforce, ensuring adaptability in the face of evolving industry demands.

G. *Challenges and Ethical Considerations:* However, amidst the promises of a bright future, challenges and ethical considerations emerge on the horizon. Ensuring equitable access to technology, safeguarding data privacy, and developing fair and effective assessment methods for online learning are critical concerns. Moreover, the need for continuous professional development for educators is paramount to ensure that they can adeptly integrate technology into their teaching practices and create meaningful learning experiences.

The future perspectives of blended learning have a vibrant canvas of educational frontiers. Blended learning is not merely a transitional phase; it is a catalyst for a profound and lasting transformation in the realm of education. As technology continues to evolve and societal needs change, blended learning provides the flexibility, personalization, and collaborative spirit needed to navigate the complexities of tomorrow. To unlock its full potential, a collaborative effort among educators, policymakers, and technologists is imperative. As we stand at the threshold of an educational renaissance, blended learning beckons us to chart a course into unexplored territories, where the horizons are not confined by physical walls but extend to the limitless possibilities of the digital age.

6. Conclusion

A blended learning system refers to an educational approach that combines traditional face-to-face classroom instruction with online learning activities. This hybrid model aims to leverage the strengths of both in-person and digital learning methods, creating a more flexible and personalized educational experience. The term "blended learning" is often used interchangeably with terms like hybrid learning or mixed-mode learning. The present research work deals with the student's perspective and teachers' perspective towards the implementation of blended learning system. The overall research analysis was based on the data questionnaire separately for students and teachers related to the advantages and disadvantages of the blended learning. The survey results clearly demonstrates that the student perspective is quite clearly towards the usage and implementation of the blended learning. But still its not easy to say that 100% students are in favour of this. But majority agrees for this change and sees as a positive future. Whereas the teacher's perspective data represents that it will still need some time for the teachers to fully accept this change. As this changes also leads to the learning of new technology, fewer section of teachers is afraid to get fail in that. Therefore, the overall results of this study concludes that not immediately but surely blended learning is having great future towards the learning system.

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