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Exploring the Online and Blended Modes of Learning for Post-COVID-19: A Study of Higher Education Institutions

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Abstract: The advent of the COVID-19 pandemic brought a tectonic shift in the otherwise traditional education sector. The classroom teaching approach, which has been followed in educational institutions for a long time, suddenly shifted to include e-learning through virtual platforms. Technological savviness is no longer a choice. As institutions were contemplating opening their campuses to students, they faced a dilemma to include a mode of learning that could impact the students positively and increase their overall learning effectiveness. At the same time, a total online mode of learning was not inclusive enough for the learners without access to seamless internet connectivity. In this context, the present study aims to draw a comparison between the three modes of learning: face-to-face education, online learning, and blended learning. The difference in the three modes of learning was assessed on the content of the course, facilitation, perceived value, and learning effectiveness. The data for the study were collected from 119 students studying in Higher Education Institutions (HEIs). The study's findings suggest a significant difference between the three modes of learning in terms of facilitation, perceived value, and learning effectiveness. However, the results also suggest that there was no significant difference between the three modes in terms of content. While content creates a more substantial impact through some parameters in one particular mode of learning, it does not create a similar impact through others. The study also delves into a pairwise comparison of each construct's learning modes that have shown a significant difference. The results can guide institutions towards choosing a suitable mode of learning for the students by considering a holistic approach.

Keywords: blended learning; online learning; classroom learning; learning effectiveness; online education

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1. Introduction

The COVID-19 pandemic has resulted in a total shift in the traditional teaching-learning processes in education institutions. The educational landscape is changing, and educational institutions need to use their existing resources for transforming a major part of their formal education online by using virtual classes and other online tools. Because of COVID-19, it had become impossible to conduct classes in the traditional mode, and online teaching became a necessity. This unfreezing step provided an opportunity to motivate stakeholders and prepare for the impending change [1]. The sudden changes in the environment constrained the educational institutes to carry out their learning and engagement activities with the students in an online mode. To ensure continuity in learning, many educational institutions adopted online learning. Higher education institutions started using digital technologies, particularly web-based ones [2,3].

Although the pandemic impacted educational institutions drastically due to its unexpectedness, it also showed them an opportunity to discover deficiencies, reform the online education process, promote international collaboration, and build an online education network [4]. Online teaching has multiple advantages such as remote learning, comfort, and accessibility. In contrast, the disadvantages such as inefficiency and academic integrity

cannot be ignored. Institutes needed to train their faculty on using online modalities, evolving lesson plans with less cognitive load, and increasing interaction [5].

Technological developments and digitization have been transforming and impacting all industries and institutions [6] more rapidly, especially since the onset of the pandemic. These technological developments have propelled swift changes in higher education and have led to new delivery methods, learning modes, and styles. Blended learning is one such pedagogical concept, which is gaining traction [7]. The adoption of blended learning has been actively growing in higher education [8]. It is becoming the new traditional mode of learning in higher education [9] and is also being used in learning systems [10].

Blended learning is described as learning activities that involve a combination of face-to-face interactions and technologically mediated interactions between teachers, students, and learning resources [11]. It illustrates the integration of e-learning with the traditional classroom approach [12] and is considered a learning paradigm that involves more than one mode of teaching intending to enhance learning and teaching/training delivery [12]. Blended learning has been highlighted as multi-faceted in combining various modes such as pedagogical approaches, web-based technology, job tasks, and technologies used for instruction [13]. Hrastinski [14] called it an umbrella term that required more research to arrive at a proper definition and understanding. He called it a blend of "instructional methods, pedagogical approaches or technologies".

There is a general consent among teaching pioneers that blended learning is the combination of three primary modules, which are:

- Informal and formal classroom activities are conducted and monitored by a trained facilitator;
- That same facilitator provides pre-recorded lectures as an online learning module, often referred to as flipped sessions;
- Allocated and organized unconventional study time accompanied by the study material in the lectures and competence developed during the classroom experience.

There is a perpetual need for human adornment in enhancing exposure to learning. Blended learning is not just the natural progression towards extending the penetration of e-learning and online resources but also obliges the learner's independent needs [15]. Most students have distinctive learning ways, and a blended approach is more credible to those needs than a traditional classroom-teaching experience [16]. Incongruency in concepts, perceptions, transformation, and excellence has made academic teaching a challenging task. Technology integration has substantial supremacy on teaching methodologies for the expertise it provides to the learner [17]. This kind of innovation in higher education has a crucial footprint on the formation of the future and the ones who will be the makers of the future. Moreover, the generation at present and the ones in the coming times are at great comfort with online flexibility, be it in education or elsewhere [18]. This ease and comfort they feel would prompt them to opt for the ways where education comes to them to enable and enhance their learning effectiveness. It is also crucial to understand the use of blended learning in teaching as it differs in its pedagogy and one size may not fit all [19].

The primary purpose of this study is to analyze and compare the three modes of learning namely face-to-face, online, and blended learning. To compare the three modes of learning factors such as content, facilitation, and perceived value have been considered for the study. The study aims to assess if the three modes of learning: face-to-face, online learning, and blended learning differ with respect to the identified factors. It further aims to observe the learning effectiveness of these learning modes. The study looks at students' perceptions to compare the effectiveness of these learning modes. The scope of the study does not cover the views of instructors and facilitators. The data were collected from different groups of students taking a college course between 2019 and 2021 and thus, the size of the sample limits the concept of the findings. The effectiveness of the different modes of learning can be diverse and choosing one correct approach to the different learning modes can be difficult. Additionally, there are challenges in engaging students because of attention span, multitasking, internet connectivity, and audio/video quality. Online

mediums have also created a situation of infodemic, i.e., an overload of information; it is challenging to decide about the sources to follow. It has also reduced physical support from peer groups and increased isolation. Not every student has access to seamless internet bandwidth and is tech-savvy.

The paper has the following research objectives:

1. To compare three different modes of learning, including face-to-face, online, and blended;
2. To study the impact of three modes of learning, including face-to-face, online, and blended, on learning effectiveness.

2. Literature Review

Blended learning can also be described as an approach for meeting the challenges of customized learning and development, catering to the needs of learners by incorporating the unconventional and technological advances provided by online learning and with sociability and participation offered by traditional formal learning [20]. Many analysts have convened a comprising agenda of evolutionary and progressive parameters for blended learning that can increase learning effectiveness [21,22]. Broadly, the study has discovered that blended learning helps not only in the betterment of individual accomplishment and contentment [23,24] but also in the development of individuals' knowledge of community [25] in comparison with traditional face-to-face learning. The course design adopted for blended learning should nurture peer learning, i.e., students' collaboration instead of being restricted just between facilitator and student. Facilitators can use individualized instruction more because of the integration of technology and blended learning. Facilitators believed that introducing more technology, training, and guidance motivated them to consolidate more blended learning activities such as applications, simulations, and online videos, into their classrooms. This added to the amount of variation in their classrooms and increased students' engagement with content independently.

In the generation of reinforced foundation standards, augmenting prospects for learners' accomplishment, and high levels of liability, it is increasingly evident that facilitators and learners profit from content-specific learning. Emphasis on content-specific education rises constantly. Transitions in teaching conventions and student learning are more prone to occur when facilitator professional development boosts facilitators' content knowledge and amplifies their readiness in content-specific pedagogy [26]. Critical decisions about content need to be formed but from a diverse context. With transit in focus from covering content to applying content, module or syllabus design also develops into less of a concern of deciding what to teach and more a concern of how to aid learning. Instead of just reciting explicit facts or data, educational institutions should instead adapt to an approach in which learners evolve key concepts that alter their reasoning. Generally cited as "threshold concepts," these analytical ideas can become the foundation on which courses and modules of higher educational institutions of blended learning can be structured [27]. Apart from the indispensable demands of the content itself, there are the learning obligations of learners individually, which alter over many dimensions [28]. It is not the content itself that can have a significant impact, but the skill to apply it. It may take years for facilitators to develop content in their knowledge set. Unless they can deliver content in face-to-face communication, which is a parameter of blended learning, it may not significantly affect learning effectiveness. Course content and structure can be loose or tightly structured depending on the type of learners or students. If learners are students who do not possess any self-determining learning skills or do not have any clue about the subject area, then it would be best to design a strong structure or course design to guide them initially. Likewise, if students have self-determining learning skills with a high degree of self-management such as that of higher education students, then course or content design should be loose and flexible for them to opt for. Another parameter can also be the class strength with large strength strong, and well-defined content is advisable to control the workload and increase accountability [29]. Thus, the advent of the composition of blended learning must be based

on informational strategies. Nonetheless, the informative events replicated the conclusion of learning theories to intensify communications between students, facilitators, and content. Those events are constructed to make it desirable for learners to proceed from their current level of competency to the accomplishment of the competency recognized as the target objective [30].

Pre-analysis stage compromising of content analysis is performed before implementing a blended learning course where many crucial issues are acknowledged including the learner's knowledge or competence, target audience, nature of the content, learning resources, subject field, and imperative skills. From this kind of content analysis, the data or instruction of the specific course can be determined. Content analysis is a mechanism for compiling and describing the contents of data written, involving steps such as creating significant divisions and making analytical connections between divisions. Content analysis can help determine the learning module's content and the choice of learning object [31].

The most crucial factor for the gain of blended learning is learners' satisfaction. Apart from learner satisfaction, assessing the accomplishment of a blended learning course also depends on learners' attitudes and anticipation. To ensure a successful implementation of any teaching–learning methodology, feedback from learners who play a critical role of the stakeholders is imperative.

Integration of online sessions with traditional academic curricula increases peer-to-peer learning and satisfaction. DeLacey and Leonard's research discovered that students' synergy with blended learning enriched their satisfaction and improved their learning through online sessions compared with traditional classroom teaching. There is a general perception among students, according to a study conducted in UAE [32], that course implementation in the form of blended learning was easy to follow and flexible to learn, which increased learning effectiveness and perceived value. However, there should be a logical connection between two primary components of the course, which are learning objectives and online activities. It should be blended in design, not just in delivery. Hence, it requires a deliberate approach to pedagogical design.

E-Learning facilitates students of higher educational institutions to acquire education while pursuing their personal goals and nurturing their careers [33]. It has been derived that when facilitators or tutors play a crucial role in motivating students, their perceived value or engagement with online learning and interaction increases rapidly. Interestingly, it was identified that when students perceive content to be intact, updated, relatable, and applicable, their online discussions increase.

The Facilitation factor differs quite significantly in the online and blended format of learning. However, it was analyzed that the learner group did not show any significant difference in the delivery format and way of facilitation. However, it offers a significant increase in actual and perceived learning before and after the program [9].

In the case of the MBA statistics course, it was found that students' perceptions in terms of clarity of medium, preparation, enthusiasm, and value were at par [34]. However, it also states that factors such as flexibility [35], adaptability, and variety are essential to attract, retain, and motivate learners, provided in the blended form of learning [36].

Blended learning also focuses on the learning experiences of the learners. Instructors and facilitators are encouraging the usage of blended learning as they believe that using various diverse delivery methods not only provides better student satisfaction but also provides them a better learning experience [37]. To develop such meaningful experiences, it is necessary to match the level of instruction to the level of the learner's competency and make sure to use similar features between the setting of application and learning [38].

Based on this literature review, the following hypotheses were generated:

H 1: *There is no significant difference in the value generated by content among the three modes of learning: face-to-face, online, and blended learning in higher education.*

H 2: *There is no significant difference in the value generated by facilitation among the three modes of learning: face-to-face, online, and blended learning in higher education.*

H 3: *There is no significant difference in the value perceived by students among the three modes of learning: face-to-face, online, and blended learning in higher education.*

H 4: *There is no significant difference in the learning effectiveness among the three modes of learning: face-to-face, online, and blended learning in higher education.*

Interventional studies involving animals or humans, and other studies that require ethical approval, must list the authority that provided approval and the corresponding ethical approval code.

3. Material and Methods

3.1. Survey Sample

The participants in the study were students studying in Higher Education Institutions. The participants of the study were pursuing their post-graduation degrees from various institutes. The sample size for the study was 119, considering 5% margin of error and 95% confidence interval. The questionnaire was sent to 175 respondents and 119 responses were found suitable for statistical analysis.

The methodology adopted for the research is provided in Figure 1.

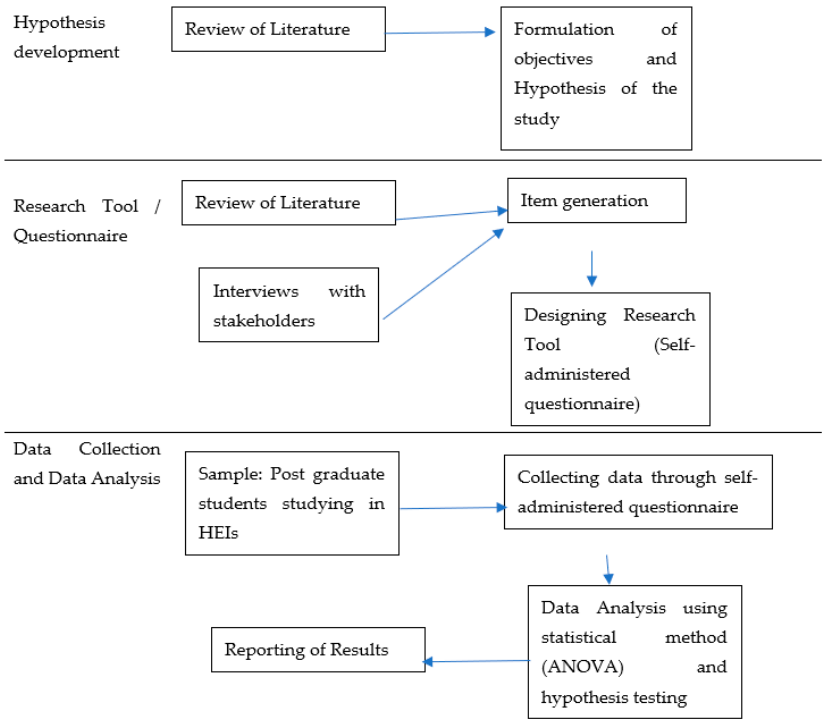

Figure 1. Research methodology.

3.2. Research Instrument

The study aimed to compare the different learning modes, including face-to-face learning, online learning, and blended learning, by analyzing the primary data. The study used a survey method to collect data. The data were collected through a self-administered questionnaire to compare the three modes of learning. The questionnaire included various constructs such as content, facilitation, perceived value, and overall learning effectiveness. The research instrument included 7 items on content, 6 items on facilitation, 8 items on perceived value, 7 items on learning effectiveness were included in the questionnaire. The items for the study were collected through a literature review and personal interviews. The interviews were taken with 4 faculty members, 10 students, and 2 employees handling IT infrastructure to include items relevant to the study. The platforms used to conduct the interviews were Google Meet, Zoom, and Microsoft Teams, and in some cases through phone calls. The interviews ranged for a duration of 30 to 50 min. The details are given in Table 1.

Table 1. Research instrument.

Factor	Items	Source
Content	Usefulness of subject matter	[38]
	Updated content	[39]
	Discussion on Contemporary topics	Personal Interview (Faculty and Students)
	Comprehensive content	[40]
	Delivery of the content	Personal Interview (Students)
	Assessments conducted	Personal Interview (Students)
	Course provides feedback	Personal Interviews (students), [40,41]
Facilitation	Availability of the resources	[42,43], Personal Interview (Student and IT)
	Confidence in using the infrastructure	Personal Interview (Student)
	Ease of understanding	[44], Personal Interview (Student, Faculty)
	A feeling of being actively involved	[45]
	Support during learning	Personal Interview (Student)
	Discussion and interaction	[46], Personal Interview (Student)
Perceived value	Helpful	[38]
	Achieve career objectives	Personal Interview (Student)
	Investing time is beneficial	[41,44,45]
	Recommend it to others	[46,47]
	Provides confidence	[46]
	Relevant and useful	Personal Interview (Faculty and Staff),
	Better clarity of the concepts	[46–49]
	Increased motivation	[41]
Learning effectiveness	Application of the concepts to a business situation	Personal Interview (student)
	Retain knowledge better	[50–52]
	Improved knowledge	[40]
	Improved skills	[40]
	Developed critical thinking	[52,53]
	Developed analytical skills	[54,55], Personal Interview (Faculty)
	Feel engaged to the content	[56]

A self-administered questionnaire was sent to the participants to collect the data. The demographic details of the participants such as age, gender, and year (first year of college or second year) studied were included in the questionnaire. A 5-point Likert scale was used to measure the variables. The response of the participants was measured from 1, strongly disagree, to 5, strongly agree. The questionnaire was found to be reliable by calculating Cronbach's alpha value to be 0.88.

4. Results

The comparison between face-to-face learning, online learning, and blended learning was drawn by running an ANOVA (Table 2) to determine if there was a significant difference among these three modes in terms of the content delivered, facilitation, the value perceived, and the overall learning effectiveness of the students. This method of analysis is used to understand how the different variables are perceived concerning the modes of learning. It shows whether there is a difference in the variables with respect to the different modes of learning. The ANOVA method has applications in behavioural science, manufacturing, and engineering applications [57].

Table 2. ANOVA results for the construct.

Construct		Sum of Squares	df	Mean Square	F	Sig
Content	Between Groups	0.444	2	0.222	0.784	0.457
	Within Groups	100.134	354	0.283		
	Total	100.578	356			
Facilitation	Between Groups	2.192	2	1.096	4.350	0.014
	Within Groups	89.207	354	0.252		
	Total	91.399	356			
Perceived Value	Between Groups	4.597	2	2.298	6.484	0.002
	Within Groups	125.480	354	0.354		
	Total	130.077	356			
Learning Effectiveness	Between Groups	4.744	2	2.372	7.991	0.000
	Within Groups	105.086	354	0.297		
	Total	109.831	356			

The majority of the respondents of the study were male (n = 74) followed by females (n = 45). Majority of the respondents were in the first year of their education (n = 65) and in terms of age majority of the respondents were from 21 years to 30 years of age (n = 83).

The significant value, p, was greater than 0.05 in the case of content (p = 0.45) and less than 0.05 in the case of facilitation (p = 0.14), perceived value (0.02), and learning effectiveness (p = 0.00). Thus, there is a significant difference among the three modes in terms of facilitation, perceived value, and overall learning effectiveness (Table 3). There is no significant difference between the three modes in terms of the content delivered. Hypotheses 2, 3, and 4 are rejected, and hypothesis 1 is accepted.

Table 3. Demographic profile of the respondents.

Details	Title 2	Title 3	Percentage
Gender	Male	74	62
	Female	45	37
	Prefer Not to say	0	0
Age	21–25 years	83	69
	26 years–30 years	28	24
	30 years and above	8	7
Year	First year	65	55
	Final Year	54	45

Upon conducting the Tukey test to establish a pairwise comparison, it was found that in terms of facilitation, there is a significant difference between face-to-face and blended learning ($p = 0.01$). While there is no statistically significant difference between face-to-face and online learning ($p = 0.387$), and online learning and blended learning ($p = 0.236$). In terms of perceived value, there is a significant difference between face-to-face learning and online learning ($p = 0.032$) and face-to-face and blended learning ($p = 0.002$). There is no statistically significant difference between online learning and blended learning ($p = 1.000$). In terms of learning effectiveness, there is a significant difference between face-to-face and blended learning ($p = 0.02$) and online learning and blended learning ($p = 0.002$). There is no statistically significant difference between face-to-face learning and online learning ($p = 1.000$).

5. Discussion

The study results provide insights into the three learning modes in terms of content, facilitation, perceived value, and learning effectiveness. These factors were significantly different among the three modes: face-to-face learning, online learning, and blended learning. In contrast, the content was not found to be significantly different among the three (Table 1). Facilitation, which involves the program's structure, active involvement of participants, and feedback received during the course, is significantly higher in blended learning, especially compared with face-to-face learning [58]. There was not much difference between online and blended learning in terms of facilitation [9].

Courses delivered as a part of blended learning were easy to follow and helped students pursue their career objectives, which increased the perceived value and learning effectiveness. The same kind of behavior was observed towards online learning as well, to some extent. Many students also recommend the course, which developed their skills and knowledge and helped to apply them to real-life problems [32]. All three modes of learning are well-versed with content needs on a few parameters, while they differ on other parameters. The COVID-19 pandemic provided a chance to develop new online resources and engage in further academic collaborations for better reach. The challenges that time constraints can place on the superiority and usefulness of these resources need to be handled proactively as it may reduce student engagement or diminish student–teacher relationships [59].

6. Conclusions and Future Research Agenda

Higher education is now using blended learning techniques in many areas to achieve higher learning effectiveness among students. One cannot ignore the significant impact of face-to-face learning and online learning on students. It is thus highly critical to identify which mode of learning is best suited for the institutes based on the existing resources and the subject matter being covered. In addition, there are inequalities manifest in educational systems. Students from marginalized sections of society may not have access to proper technological infrastructure, leading to their inability to reap the benefit of an online mode of learning. At the same time, we cannot ignore its importance as it improves access to education for unserved populations. Here, blended learning can come to the rescue. Another important aspect is the inevitable need for institutions to shift to blended modes of learning to improve learning effectiveness among students.

The pandemic has created a sellers' market [60]. The EdTech industry took this crisis as an opportunity to obtain control over public education. These organizations were able to create a situation where there was little state governance, and dominant technical platforms had centralized power. This ultimately started challenging education as a public good [61]. To avoid excess commercialization and to ensure its reach to every student, blended learning can play a pivotal role here. This necessitates more comprehensive societal dialogue regarding the purpose of education, the kind of society, and the role of technology in it is required. The discussion should be constant as we have learned that business as usual does not work, and work is undergoing change ontologically, epistemologically, and axiologically. The potential of blended learning lies in its ability to improve the overall

learning experience for both the students and their teachers. Despite its challenges in making learning possible for all learners due to multiple reasons, it provides a scope of creating more opportunities for the stakeholders to brainstorm over how it can be optimized for everyone. Education must be accessible to all. Digital transition needs to be a collective effort on the national and local levels in which the government, students, teachers, and parents need to mobilize their efforts to shape the new transformations. Technology is a great enabler and combined with traditional learning methods, can provide a balanced approach to optimize learning for all sections of students. While the dominant focus of blended learning is technology-based, the flexibility that it offers in integrating the other dimensions to suit the need of the learners and provide maximum inclusivity is its underlying strength. Future studies can focus on the comparison of the various types of blended learning as per the learner requirements from multiple cohorts. Variables such as age, gender, learner characteristics, technological competence, and attitude to blended learning can be studied for a more comprehensive understanding.

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References

1. Mishra, L.; Gupta, T.; Shree, A. Online Teaching-Learning in Higher Education during Lockdown Period of COVID-19 Pandemic. *Int. J. Educ. Res. Open* **2020**, *1*, 100012. [CrossRef] [PubMed]
2. Boelens, R.; Voet, M.; De Wever, B. The Design of Blended Learning in Response to Student Diversity in Higher Education: Instructors' Views and Use of Differentiated Instruction in Blended Learning. *Comput. Educ.* **2018**, *120*, 197–212. [CrossRef]
3. Dziuban, C.; Graham, C.R.; Moskal, P.D.; Norberg, A.; Sicilia, N. Blended Learning: The New Normal and Emerging Technologies. *Int. J. Educ. Technol. High. Educ.* **2018**, *15*, 3. [CrossRef]
4. Sun, L.; Tang, Y.; Zuo, W. Coronavirus Pushes Education Online. *Nat. Mater.* **2020**, *19*, 687. [CrossRef] [PubMed]
5. Mukhtar, K.; Javed, K.; Arooj, M.; Sethi, A. Advantages, Limitations and Recommendations for Online Learning during COVID-19 Pandemic Era. *Pak. J. Med. Sci.* **2020**, *36*, S27–S31. [CrossRef] [PubMed]
6. Ramakrisnan, P.; Yahya, Y.B.; Hasrol, M.N.H.; Aziz, A.A. Blended Learning: A Suitable Framework for E-Learning in Higher Education. *Procedia-Soc. Behav. Sci.* **2012**, *67*, 513–526. [CrossRef]
7. Singh, J.; Steele, K.; Singh, L. Combining the best of online and face-to-face learning: Hybrid and blended learning approach for COVID-19, post vaccine, & post-pandemic world. *J. Educ. Technol. Syst.* **2021**, *50*, 140–171. [CrossRef]
8. Spring, K.J.; Graham, C.R. Blended Learning Citation Patterns and Publication Networks across Seven Worldwide Regions. *Australas. J. Educ. Technol.* **2016**, *33*(2), 1–27. [CrossRef]
9. Ross, B.; Gage, K. Global Perspectives on Blending Learning. In *The Handbook of Blended Learning*; Pfeiffer: San Francisco, CA, USA, 2006; pp. 155–168.
10. Norberg, A.; Dziuban, C.D.; Moskal, P.D. A Time-based Blended Learning Model. *Horizon* **2011**, *19*, 207–216. [CrossRef]
11. Bliuc, A.-M.; Goodyear, P.; Ellis, R.A. Research Focus and Methodological Choices in Studies into Students' Experiences of Blended Learning in Higher Education. *Internet High. Educ.* **2007**, *10*, 231–244. [CrossRef]
12. López-Pérez, M.V.; Pérez-López, M.C.; Rodríguez-Ariza, L. Blended Learning in Higher Education: Students' Perceptions and Their Relation to Outcomes. *Comput. Educ.* **2011**, *56*, 818–826. [CrossRef]
13. Driscoll, M. Blended learning: Let's get beyond the hype. *E-Learning* **2002**, *1*, 1–3.
14. Hrastinski, S. What do we mean by blended learning? *Tech.Trends.* **2019**, *63*, 564–569. [CrossRef]
15. Garrison, D.R.; Kanuka, H. Blended Learning: Uncovering Its Transformative Potential in Higher Education. *Internet High. Educ.* **2004**, *7*, 95–105. [CrossRef]
16. Singh, H. Building Effective Blended Learning Programs. *Educ. Technol.* **2003**, *43*, 51–54.
17. Graham, C.R. *Blended Learning Systems: Definition, Current Trends, and Future Directions*; Bonk, C.J., Graham, C.R., Eds.; Pfeiffer: San Francisco, CA, USA, 2006.

18. Sher, A. Assessing the Relationship of Student-Instructor and Student-Student Interaction to Student Learning and Satisfaction in Web-Based Online Learning Environment. *J. Interact. Online Learn.* **2009**, *8*, 102–120.
19. Divaharan, S.; Chia, A. Blended Learning Reimagined: Teaching and Learning in Challenging Contexts. *Educ. Sci.* **2022**, *12*, 648. [CrossRef]
20. Shantakumari, N.; Sajith, P. Blended Learning: The Student Viewpoint. *Ann. Med. Health Sci. Res.* **2015**, *5*, 323–328. [CrossRef]
21. Sosa Díaz, M.J.; Guerra Antequera, J.; Cerezo Pizarro, M. Flipped Classroom in the Context of Higher Education: Learning, Satisfaction and Interaction. *Educ. Sci.* **2021**, *11*, 416. [CrossRef]
22. Picciano, A.G. Beyond Student Perceptions: Issues of Interaction, Presence, and Performance in an Online Course. *J. Asynchronous Learn. Netw.* **2019**, *6*, 21–40. [CrossRef]
23. Dziuban, C.; Moskal, P. A Course Is a Course Is a Course: Factor Invariance in Student Evaluation of Online, Blended and Face-to-Face Learning Environments. *Internet High. Educ.* **2011**, *14*, 236–241. [CrossRef]
24. Means, B.; Toyama, Y.; Murphy, R.; Baki, M. The Effectiveness of Online and Blended Learning: A Meta-Analysis of the Empirical Literature. *Teach. Coll. Rec.* **2013**, *115*, 1–47. [CrossRef]
25. Rovai, A.P.; Jordan, H. Blended Learning and Sense of Community: A Comparative Analysis with Traditional and Fully Online Graduate Courses. *Int. Rev. Res. Open Distrib. Learn.* **2004**, *5*, 1–13. [CrossRef]
26. Garet, M.S.; Porter, A.C.; Desimone, L.; Birman, B.F.; Yoon, K.S. What Makes Professional Development Effective? *Results from a National Sample of Teachers. Am. Educ. Res. J.* **2001**, *38*, 915–945. [CrossRef]
27. MEd, N.M. More Content Doesn't Equal More Learning. Available online: https://www.facultyfocus.com/articles/curriculum-development/more-content-doesnt-equal-more-learning/ (accessed on 1 December 2022).
28. Weimer, M. Positioning Scholarly Work on Teaching and Learning. *Int. J. Scholarsh. Teach. Learn.* **2008**, *2*, 4. [CrossRef]
29. Tony, S.M. What Makes Hotel ICON a Teaching Hotel? In *The Routledge Handbook of Tourism and Hospitality Education*; Routledge: Abingdon, UK, 2014; pp. 537–550.
30. Gagne, R.M.; Wager, W.W.; Golas, K.C.; Keller, J.M.; Russell, J.D. Principles of Instructional Design, 5th Edition. *Perform. Improv.* **2005**, *44*, 44–46. [CrossRef]
31. Cohen, L.; Manion, L.; Morrison, K.; Wyse, D. *A Guide to Teaching Practice*; Routledge: Abingdon, UK, 2010.
32. Borstorff, P.C.; Lowe, S.K. Student Perceptions and Opinions toward E-Learning in the College Environment. *Acad. Educ. Leadersh. J.* **2007**, *11*, 13–29.
33. Grandzol, J.R. Teaching MBA Statistics Online: A Pedagogically Sound Process Approach. *J. Educ. Bus.* **2004**, *79*, 237–244. [CrossRef]
34. Dinu, L.M.; Baykoca, A.; Dommett, E.J.; Mehta, K.J.; Everett, S.; Foster, J.L.H.; Byrom, N.C. Student Perceptions of Online Education during COVID-19 Lockdowns: Direct and Indirect Effects on Learning. *Educ. Sci.* **2022**, *12*, 813. [CrossRef]
35. Chen, C.C.; Jones, K.T. Blended Learning vs. Traditional Classroom Settings: Assessing Effectiveness and Student Perceptions in an MBA Accounting Course. *J. Educ. Online* **2007**, *4*, 1–15.
36. Lim, D.H.; Morris, M.L. Learner and instructional factors influencing learning outcomes within a blended learning environment. *J. Educ. Technol. Soc.* **2009**, *12*, 282–293.
37. Baldwin, T.T.; Ford, J.K. Transfer of Training: A Review and Directions for Future Research. *Pers. Psychol.* **1988**, *41*, 63–105. [CrossRef]
38. Ja'ashan, M.M.N.H. Perceptions and Attitudes Towards Blended Learning for English Courses: A Case Study of Students At. *Engl. Lang. Teach.* **2015**, *8*, 40–50. [CrossRef]
39. Blended Learning Is Proving More Effective Than Traditional Education. Available online: https://news.elearninginside.com/blended-learning-is-proving-more-effective-than-traditional-education (accessed on 20 December 2022).
40. Effective Teaching Strategies: The Importance of Marrying Content and Process. Available online: https://www.facultyfocus.com/articles/effective-teaching-strategies/effective-teaching-strategies-the-importance-of-marrying-content-and-process/ (accessed on 20 December 2022).
41. Ng, P.; Tsoi, R.H.L.; Fong, J.; Kwan, R.; Wang, F.L. A Study on the Students' Perception of Adopting Blended Learning at Sub-Degree Level. In *Hybrid Learning: A New Frontier*; ICHL 2008; Fong, J., Kwan, R., Wang, F.L., Eds.; City University of Hong Kong: Hong Kong, 2008; pp. 78–88.
42. Wright, C.R. Criteria for Evaluating the Quality of Online Courses. *Alta. Distance Educ. Train. Assoc.* **2003**, *16*, 185–200.
43. Venkatesh, V.; Morris, M.G.; Davis, G.B.; Davis, F.D. User Acceptance of Information Technology: Toward a Unified View. *MIS Q* **2003**, *27*, 425. [CrossRef]
44. Lim, D.H.; Morris, M.L.; Kupritz, V.W. Online vs. Blended Learning: Differences in Instructional Outcomes and Learner Satisfaction. *J. Asynchronous Learn. Netw.* **2019**, *11*, 27–42. [CrossRef]
45. Blended Learning and Its Impact on Higher Education Worldwide. Available online: https://www.edtechreview.in/trends-insights/insights/blended-learning-in-higher-education/ (accessed on 24 November 2022).
46. Parasuraman, A.; Zeithaml, V.A.; Berry, L.L. Servqual: A Multiple-Item Scale for Measuring Consumer Perc. *J. Retail.* **1988**, *64*, 12–40.
47. Tam, J.L.M. Customer Satisfaction, Service Quality and Perceived Value: An Integrative Model. *J. Mark. Manag.* **2004**, *20*, 897–917. [CrossRef]

48. Shahsavar, T.; Sudzina, F. Student Satisfaction and Loyalty in Denmark: Application of EPSI Methodology. *PLoS ONE* **2017**, *12*, e0189576. [CrossRef]
49. Zajacova, A.; Lynch, S.M.; Espenshade, T.J. Self-Efficacy, Stress, and Academic Success in College. *Res. High. Educ.* **2005**, *46*, 677–706. [CrossRef]
50. Floyd, K.S.; Harrington, S.; Santiago, J. The Effect of Engagement and Perceived Course Value on Deep and Surface Learning Strategies. *Inf. Sci.* **2009**, *12*, 181–190. [CrossRef]
51. Jung, I.; Choi, S.; Lim, C.; Leem, J. Effects of Different Types of Interaction on Learning Achievement, Satisfaction and Participation in Web-Based Instruction. *Innov. Educ. Teach. Int.* **2002**, *39*, 153–162. [CrossRef]
52. Maloney, S.; Haas, R.; Keating, J.L.; Molloy, E.; Jolly, B.; Sims, J.; Morgan, P.; Haines, T. Effectiveness of Web-Based versus Face-to-Face Delivery of Education in Prescription of Falls-Prevention Exercise to Health Professionals: Randomized Trial. *J. Med. Internet Res.* **2011**, *13*, e116. [CrossRef]
53. Kim, Y.; Park, Y.; Choi, J. A Study on the Adoption of IoT Smart Home Service: Using Value-Based Adoption Model. *Total Qual. Manage. Bus. Excel.* **2017**, *28*, 1149–1165. [CrossRef]
54. Maqableh, M.; Alia, M. Evaluation Online Learning of Undergraduate Students under Lockdown amidst COVID-19 Pandemic: The Online Learning Experience and Students' Satisfaction. *Child. Youth Serv. Rev.* **2021**, *128*, 106160. [CrossRef]
55. Davis, F.D. Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Q.* **1989**, 319–340. [CrossRef]
56. Ostertagová, E.; Ostertag, O.; Kováč, J. Methodology and Application of the Kruskal-Wallis Test. *Appl. Mech. Mater.* **2014**, *611*, 115–120. [CrossRef]
57. Rahmana, A.A.N.; Husseinb, N.; Aluwic, A.H. Satisfaction on Blended Learning in a Public Higher Education Institution: What Factors Matter? *Procedia Soc. Behav. Sci.* **2015**, 768–775. [CrossRef]
58. Longhurst, G.J.; Stone, D.M.; Dulohery, K.; Scully, D.; Campbell, T.; Smith, C.F. Strength, Weakness, Opportunity, Threat (SWOT) Analysis of the Adaptations to Anatomical Education in the United Kingdom and Republic of Ireland in Response to the COVID-19 Pandemic. *Anat. Sci. Educ.* **2020**, *13*, 301–311. [CrossRef]
59. Teräs, M.; Suoranta, J.; Teräs, H.; Curcher, M. Post-Covid-19 Education and Education Technology 'Solutionism': A Seller's Market. *Post Digit. Sci. Educ.* **2020**, *2*, 863–878. [CrossRef]
60. Hillman, T.; Rensfeldt, A.B.; Ivarsson, J. Brave New Platforms: A Possible Platform Future for Highly Decentralised Schooling. *Learn. Media Technol.* **2020**, *45*, 7–16. [CrossRef]
61. Tesar, M. Future Studies: Reimagining Our Educational Futures in the Post-COVID-19 World. *Policy Futures Educ.* **2021**, *19*, 1–6. [CrossRef]