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*Corresponding author:

Asst. Lect. Nadia Hamzah Kareem Almajtoom

University: University of Al-Qadisiyah College: College of Physical Education and Sport Sciences Email : nadia.hamzah@qu.edu.iq

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Quantitative Analysis of Teacher-Student Computer Mediated Discourse in University Education During the COVID-19 Pandemic

ABSTRACT

The investigation aimed to outline the characteristics and effectiveness of computer-mediated spoken communication between university teachers and students during the COVID-19 pandemic. The study used a quantitative method and gathered data from the population of 100 students at the university; SPSS was used for in-depth statistical analysis. While we believed that technology access, instructor preparedness, and effective communication were the most essential elements of student engagement in activities, we were still looking for a significant effect of these variables. The results were such that older people rated their communication efficiency negatively. Nevertheless, the study stresses that in the process of electronic learning, the accessibility to technology and the quality of communication is not the only criterion that should be considered when determining the engagement in the electronic learning context. The results hereof are highly important for the strategic development of distance learning approaches, as they reveal that the attention should go beyond the academic discussions of technology and communication and should be directed to the whole spectrum of factors that directly or indirectly affect learner engagement.

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التحليل الكمي للخطاب بوساطة الحاسوب بين المعلم والطالب في التعليم الجامعي خلال جائحة كوفيد-19 م.م نادية حمزة كريم المجتوم/ جامعة القادسية، كلية التربية البدنية وعلوم الرياضة الخلاصة:

يهدف التحقيق إلى تحديد خصائص وفعالية التواصل المنطوق بوساطة الحاسوب بين معلمي الجامعات والطلاب في جائحة COVID-19. وقد اعتمدت الدراسة طريقة كمية وجمعت بيانات من مجتمع 100 طالب في الجامعة. واعتمد SPSS للتحليل الإحصائي المتعمق. بينما كنا نعتقد أن الوصول إلى التكنولوجيا واستعداد المعلم والتواصل الفعال هي العناصر الأساسية لمشاركة الطلاب في الأنشطة، كنا لا نزال نبحث عن تأثير كبير لهذه المتغيرات. كانت النتائج أن كبار السن قيموا كفاءة الاتصال لديهم بشكل سلبي. ومع ذلك، تؤك الدراسة أنه في عملية التعلم الإلكتروني، فإن إمكانية الوصول إلى التكنولوجيا وجودة الاتصال ليست المعيار الوحيد الذي ينبغي مراعاته عند تحديد المشاركة في سياق التعلم الإلكتروني. وتعد نتائج هذا الأمر مهمة للغاية للتطوير الاستراتيجي لمناهج التعلم عن بعد؛ لأنها تكشف أن الاهتمام يجب أن يتجاوز المناقشات الأكاديمية للتكنولوجيا والاتصالات ويجب توجيهه إلى مجموعة كاملة من العوامل التي تؤثر بشكل مباشر أو غير مباشر في مشاركة المتعلم.

Introduction

The COVID-19 pandemic has brought an instant change in education and pedagogy, making schools and institutions to transition from the face-to-face classrooms to virtual platforms. The course has been fast and unique, with the implication for every level of learning and the creation of unusual methods of pedagogical involvement. Teachers and students had to adapt as they got to know the new digital environments, and the nature of teacher-student interaction was radically altered, especially in the way spoken discourse is conveyed on computer platforms.

The transition of many students to online education led to numerous problems. Differences in technology, different levels of digital literacy, and lack of "touch," which is often found while communicating in person, have all contributed to the way teachers and students communicate with each other. Conversely, this shift also presented opportunities: the possibility of more cooperative learning environments, enhanced usage of creative digital instruments, and the capacity to track as well as analyze educational interactions more precisely (Zhu et al., 2019).

Several key research questions guide this study: How does the oral-spoken discourse between the lecturer and the students change in online university classrooms during the pandemic? What will the students and teachers see as the main problem and benefits in these relationships? Considering the effects of such changes on student engagement and learning outcomes, what measures can be taken to enhance student engagement?

The study is significant, as it can be used to provide data for future educational strategies and technologies (Zhang et al., 2020). The more educators familiarize themselves with the details of computer-mediated discourse in education during the crisis, the easier it will be for them to be prepared for both distance learning and hybrid forms that might become a common model for education in the years to come. The study aims not only to document and analyze the immediate consequences of the pandemic on the educational discourse but also to contribute to a general view

of the ways digital media can either strengthen or weaken effective teaching and learning. Our research will contribute to policy formation, education environments, and software design aimed at improving the use of digital spaces in learning.

Literature Review

Current literature points out different aspects of the digital conversation and how it affects educational outcomes while the students are in remote learning. Investigations reveal that the switch to online learning has provided a platform for continuity of education during global disturbances like the COVID-19 pandemic. However, at the same time, it has highlighted that technology suitability and accessibility are very crucial. Research suggests that the issue goes beyond merely having access to technology; it also pertains to the suitability of such technology to meet the educational requirements and abilities of all learners (Zawacki-Richter, 2021). Disparities in individual technological accessibility and the appropriateness of digital tools have been the key factors that have contributed to the emergence of differentiated learning outcomes during this time. The theoretical basis of research on digital discourse in education consists of several concepts from educational psychology and communication theories. One fundamental consideration is the role of instructional quality in the learners' outcomes, and this has been ascertained to be the most vital aspect. The key factor that differentiates successful online learning settings from others is to guarantee high instructional quality, which includes providing supportive teacher-student interactions. Social interactions like this can help create a favorable environment that enforces learning by promoting students' participation, which is one of the key factors in effective learning. The theory holds that active students will likely attain high academic performance and better emotional stability, and the teacher-student discourse is a power factor in educational achievements (Sullivan & Al Ariss, 2021). Although the influence of digital learning environments has been widely studied, more research needs to be done that reports specifically on the spoken communication between teachers and students during emergency remote teaching periods such as the COVID-19 pandemic. Most studies in the past formed the basis of either general computer learning outcomes or technical aspects of online education without delving into the details of teacher-student communication. More data on the quality of discourse is required to

find out how it affects students' engagement and learning, especially in a situation where unexpected remote learning strategies are to be followed (Shah et al., 2021). This research seeks to bridge these gaps by presenting a thorough analysis and empirical data on the characteristics of computer-mediated spoken discourse in educational platforms that have been affected by the pandemic.

Methodology

Research Design

This study is conducted by applying a quantitative research design with a structured questionnaire as a tool for consistently collecting data on the computer-mediated spoken discourse between teachers and students during the COVID-19 pandemic. This method empowers the mathematical representation of attitudes and opinions through the introduction of behavioral models. Unlike this, the statistical analysis can be used to illustrate the patterns as well as the correlations among the variables (Sepulveda-Escobar & Morrison, 2020). The quantitative research method was selected because it is the only method that can give objective results which can be generalized for the whole population. Using the internet as a tool, researchers can now evaluate the extent to which educational conversations have been impacted by online platforms and the influence of some factors such as communication effectiveness, engagement, and satisfaction.

Sample Size

The sample group which was the 100 students who were online learners during the COVID-19 pandemic will be the group of students. Participants were allocated through a stratified sampling system to ensure a uniform distribution of people across all categories of different years of study, majors, age, and genders. The implementation of this technique helps remove sampling biases and supports the drawing of conclusions with more generalized flavors. The criteria for student selection were students who participated in online learning due to the pandemic, were taking courses converted to online learning for at least one semester, and interacted with instructors through digital platforms.

Data Collection

Data were collected via an online questionnaire with a standardized format. This survey was multidimensional and consisted of Likert scale questions and open-ended responses. It was designed to

assess the quality of teacher-student discourse. High-quality data acquisition for the survey requires analyzing records of online sessions and getting real-time insight into communication patterns and interactions. The participants were informed about the study goal, and electronic consent was obtained beforehand from them through written means. All the responses were kept anonymous in order to guarantee that the norms of research ethics and confidentiality were preserved.

Data Analysis

The data analysis was carried out with the help of the SPSS (Statistical Package for the Social Sciences) program, which gave an opportunity to conduct both descriptive and inferential procedures. The descriptive statistics formed a basis for the initial analysis of the sample characteristics as well as the general direction of the data. Correlation coefficients through Pearson's correlation were obtained to get an idea about the relationships between different components of teacher-student interaction and students' self-perceived learning outcomes. Multiple regression analysis was utilized to identify the predictive power of variables such as communication effectiveness and technological adequacy on overall satisfaction with online learning. The t-tests and ANOVA were conducted to compare subgroup responses based on demographics and study fields, providing insights into how different groups experienced online education differently.

Results

Descriptive Statistics

Our demographic analysis indicated a youthful participant base, primarily aged between 18 and 24, with a mean age of 3.55 and diverse representation across gender and academic years. Students from various majors reported high technology access with limited variability (M = 1.26, SD = 0.441), suggesting consistent access across the sample.

	Descriptive Statistics								
	Ν	Minimum	Maximum	Mean	Std. Deviation				
Age	100	1	7	3.55	1.493				
Gender	100	1	3	1.60	.532				
Year of Study	100	1	5	3.01	1.453				
Major/Area of Study	100	1	5	3.28	1.422				
Technology Access	100	1	2	1.26	.441				

Table 1: Descriptive Statistics

Digital Tools Suitability	100	3	5	3.95	.833
Effective Communication	100	3	5	4.01	.798
Timely Feedback	100	3	5	4.01	.823
Instructor Preparedness	100	3	5	3.98	.853
Comfort in Discussion	100	3	5	4.05	.809
Facilitated Dialogue	100	3	5	3.96	.816
Addressing Queries	100	3	5	3.99	.859
Supportive Climate	100	3	5	4.07	.807
Engagement in Activities	100	3	5	4.03	.797
Interest in the Subject	100	3	5	4.13	.800
Matter					
Impact on Learning	100	3	5	4.07	.807
Outcomes					
Overall Satisfaction	100	3	5	3.96	.816
Support for Blended	100	3	5	3.95	.833
Learning					
Valid N (listwise)	100				

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Digital tools were generally deemed suitable for course activities (M = 3.95, SD = 0.833). Communication from instructors was effective (M = 4.01, SD = 0.798), and feedback was timely (M = 4.01, SD = 0.823), indicating a positive online learning environment. Instructor preparedness received a similarly favorable rating (M = 3.98, SD = 0.853), as did the supportive climate fostered during online classes (M = 4.07, SD = 0.807).

Engagement in activities and interest in subject matter was high (M = 4.03, SD = 0.797; M = 4.13, SD = 0.800, respectively), reflecting an effective transition to online learning. The overall satisfaction with online education during the pandemic had a slightly lower mean (M = 3.96, SD = 0.816), hinting at some areas for improvement. Nonetheless, the readiness for a blended learning model was apparent (M = 3.95, SD = 0.833), indicating an openness to the integration of online and traditional teaching methods post-pandemic.



Figure 1: Age Pie Chart

The age distribution of participants in the study displays a range across several categories. The largest segment of the sample falls into the 18-24 age group, reflecting the typical university-age population. Among the other significant parts of the age-group pie chart are the age groups 25-34 and 35-44, which may represent a representation of mature students, probably those who are studying further education or post-graduate studies. The most described groups are those aged under 18 and those aged 65 and older, with the first ones being less common in the university setting and the second ones representing the sample fitting.



Figure 2: Gender Pie Chart

The bar chart of the gender distribution shows a predominantly male population, with females being a minority group. In the last segment, a tiny fraction of the participants would rather not reveal their gender, and this accounts for a small portion of the total sample. These statistics give us a glimpse into the gender dynamics within the study, which could be representative of the specific academic disciplines or reflective of the university's general student population (Gopal et al., 2021). Such interpretations can be helpful in giving meaning and significance to the study results while situated within the context of demographic factors contributing to the computer-based teacher-student interactions during the pandemic.

Correlation Analysis

The study analysis, by means of correlation analysis, provides data regarding the interrelationships between demographic features and study variables and their possible influence on the perceptions of online learning quality and engagement.

				С	orrelations					
		Age	Gende	Year of	Major/Are	Technolo	Digital	Effective	Timely	Instructor
			r	Study	a of Study	gy Access	Tools	Communi	Feedback	Prepared
							Suitability	cation		ness
Age	Pearson	1	.013	030	040	173	164	217*	005	039
	Correlation									

Table 2: Correlations

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	Sig. (2-tailed)		.900	.763	.693	.084	.102	.030	.964	.701
	N	100	100	100	100	100	100	100	100	100
Gender	Pearson	.013	1	073	158	.103	.160	014	129	.183
	Correlation									
	Sig. (2-tailed)	.900		.469	.117	.306	.113	.888	.200	.069
	N	100	100	100	100	100	100	100	100	100
Year of Study	Pearson	030	073	1	011	051	.017	.096	102	032
	Correlation									
	Sig. (2-tailed)	.763	.469		.912	.611	.866	.343	.315	.749
	N	100	100	100	100	100	100	100	100	100
Major/Area of	Pearson	040	158	011	1	.012	014	.078	011	045
Study	Correlation									
	Sig. (2-tailed)	.693	.117	.912		.909	.893	.442	.913	.654
	Ν	100	100	100	100	100	100	100	100	100
Technology	Pearson	173	.103	051	.012	1	.091	.079	063	.068
Access	Correlation									
	Sig. (2-tailed)	.084	.306	.611	.909		.369	.436	.534	.503
	N	100	100	100	100	100	100	100	100	100
Digital Tools	Pearson	164	.160	.017	014	.091	1	.046	161	.198*
Suitability	Correlation	' 73								
	Sig. (2-tailed)	.102	.113	.866	.893	.369		.647	.109	.049
	N	100	100	100	100	100	100	100	100	100
Effective	Pearson	217*	014	.096	.078	.079	.046	1	.031	.104
Communication	Correlation									
	Sig. (2-tailed)	.030	.888	.343	.442	.436	.647		.762	.302
	N	100	100	100	100	100	100	100	100	100
Timely Feedback	Pearson	005	129	102	011	063	161	.031	1	086
	Correlation									
	Sig. (2-tailed)	.964	.200	.315	.913	.534	.109	.762		.394
	N	100	100	100	100	100	100	100	100	100
Instructor	Pearson	039	.183	032	045	.068	.198*	.104	086	1
Preparedness	Correlation									
	Sig. (2-tailed)	.701	.069	.749	.654	.503	.049	.302	.394	
	Ν	100	100	100	100	100	100	100	100	100
*. Correlation is sig	nificant at the 0.05	5 level (2-	tailed).							

				Corre	lations					
		Comfort	Facilitate	Addressi	Supporti	Engage	Interest	Impact	Overall	Support
		in	d	ng	ve	ment in	in the	on	Satisfacti	for
		Discussi	Dialogue	Queries	Climate	Activitie	Subject	Learning	on	Blended
		on				S	Matter	Outcome		Learning
								S		
Comfort in	Pearson	1	074	.073	052	143	041	052	074	.079
Discussion	Correlation									
	Sig. (2-tailed)		.467	.468	.609	.155	.683	.609	.467	.436
	N	100	100	100	100	100	100	100	100	100
Facilitated	Pearson	074	1	058	.081	045	100	.081	1.000**	.012
Dialogue	Correlation									
	Sig. (2-tailed)	.467		.565	.423	.658	.320	.423	.000	.907
	N	100	100	100	100	100	100	100	100	100
Addressing	Pearson	.073	058	1	086	.045	072	086	058	156
Queries	Correlation									
	Sig. (2-tailed)	.468	.565	• 1 •1	.393	.659	.479	.393	.565	.121
a.	NG(2)	100	100	100	100	100	100	100	100	100
Supportive	Pearson	052	.081	086	1	003	.080	1.000**	.081	.050
Climate	Correlation									
	Sig. (2-tailed)	.609	.423	.393		.974	.431	.000	.423	.619
	N	100	100	100	100	100	100	100	100	100
Engagement in	Pearson	143	045	.045	003	1	.152	003	045	.063
Activities	Correlation									
	Sig. (2-tailed)	.155	.658	.659	.974		.130	.974	.658	.533
	N	100	100	100	100	100	100	100	100	100
Interest in the	Pearson	041	100	072	.080	.152	1	.080	100	020
Subject Matter	Correlation									
	Sig. (2-tailed)	.683	.320	.479	.431	.130		.431	.320	.840
	N	100	100	100	100	100	100	100	100	100
Impact on	Pearson	052	.081	086	1.000**	003	.080	1	.081	.050
Learning	Correlation									
Outcomes	Sig. (2-tailed)	.609	.423	.393	.000	.974	.431		.423	.619

	Ν	100	100	100	100	100	100	100	100	100
Overall	Pearson	074	1.000^{**}	058	.081	045	100	.081	1	.012
Satisfaction	Correlation									
	Sig. (2-tailed)	.467	.000	.565	.423	.658	.320	.423		.907
	N	100	100	100	100	100	100	100	100	100
Support for	Pearson	.079	.012	156	.050	.063	020	.050	.012	1
Blended	Correlation									
Learning	Sig. (2-tailed)	.436	.907	.121	.619	.533	.840	.619	.907	
	N	100	100	100	100	100	100	100	100	100
**. Correlation is s	ignificant at the	0.01 level (2	-tailed).							

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The correlation between effective communication and aging is quite negative (r = -0.217, p < 0.05), which demonstrates that as the age of participants rises, so does their perception of communication effectiveness. This suggests that older students have different expectations or preferences for communication in online learning environments compared to their younger counterparts. Gender and major/area of study do not show significant correlations with the variables measuring aspects of online learning quality, such as technology access, digital tools suitability, and instructor preparedness. This suggests that perceptions of these aspects are relatively consistent across genders and disciplines. Technology access had a small negative correlation with age (r = -0.173, p > 0.05), though not statistically significant, hinting at a possible trend where younger students may perceive their access to technology for learning slightly more favorably than older students. Digital tools suitability also showed a slight but non-significant trend of higher ratings with males (r = 0.160, p > 0.05) and less favorable perceptions with increasing age (r = -0.164, p > 0.05). In terms of the educational experience, instructor preparedness demonstrated a small positive correlation with gender (r = 0.183, p < 0.10), suggesting that there might be slight differences in how males perceive their instructors' preparedness compared to females. While most correlations between the study variables and measures of online learning quality are not statistically significant, this does not diminish their potential practical significance. In the context of the overall satisfaction and support for blended learning, no significant correlations emerged, implying that these sentiments are independent of the demographics and study variables considered (He et al., 2021). The lack of strong correlations indicates that perceptions of online learning quality might be

influenced more by individual experiences and less by demographic factors. This could be important for educators and policymakers who aim to create inclusive and effective online learning environments that cater to a diverse student body.

Regression Analysis

The regression analysis sought to understand the impact of several independent variables, specifically Instructor Preparedness, Technology Access, and Effective Communication, on the dependent variable, Student Engagement in Activities.

	Model Summary								
Model	R	R Square	Adjusted	R	Std. Error of the				
			Square		Estimate				
1	.097ª	.009	022		.806				
a. Predicto	ors: (Constant)	, Instructor Prep	paredness, Techno	olog	y Access, Effective				
Communi	cation								
b. Depend	ent Variable: H	Engagement in A	Activities						

The Model Summary indicates a low R-value of 0.097, suggesting a weak linear relationship between the predictors and the dependent variable. The R Square value of 0.009 implies that less than 1% of the variance in student engagement is accounted for by these variables, which is supported by the negative Adjusted R Square (-0.022), indicating that the model does not generalize well beyond the sample data.

Table 4: ANOVA

			ANOVA ^a			
Model		Sum of	df	Mean Square	F	Sig.
		Squares				
1	Regression	.588	3	.196	.302	.824 ^b
	Residual	62.322	96	.649		
	Total	62.910	99			
a. Depe	endent Variable:	Engagement in A	ctivities			
b. Pred	ictors: (Constan	t), Instructor Prepa	redness, Tec	hnology Access, l	Effective	
Comm	unication					

The ANOVA table further confirms the lack of a strong relationship, with a high significance value (Sig. = 0.824) well above the conventional 0.05 threshold for determining statistical significance.

This indicates that the regression model, with the predictors used, does not significantly explain the variation in engagement in activities among students.

	Coefficients									
Model		Unstandardized	Unstandardized Coefficients		t	Sig.				
				Coefficients						
		В	Std. Error	Beta						
1	(Constant)	4.363	.564		7.731	.000				
	Technology Access	139	.185	077	755	.452				
	Effective Communication	.011	.102	.011	.110	.913				
	Instructor Preparedness	051	.096	055	533	.595				
a. Depe	ndent Variable: Engagement	in Activities				•				

Table 5:	Coefficients
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Looking at the coefficients, none of the independent variables show a significant relationship with student engagement (Agustina & Cheng, 2020). Technology Access has a slightly negative, though not significant, coefficient (B = -0.139, p = 0.452), suggesting that, contrary to expectations, higher access to technology does not correspond to greater student engagement. Effective communication has a very small positive coefficient (B = 0.011, p = 0.913), indicating no meaningful impact on engagement. Similarly, Instructor Preparedness also appears to have a negligible influence on engagement (B = -0.051, p = 0.595).



Histogram Histogram

Figure 3: Histogram Engagement in Activities

The histogram analyzing standardized residuals reveals that the model's predictions for student engagement in activities are generally accurate but not without deviations. The average of the residuals hovers around zero, indicating adequate model performance. The fact that there are residuals outside the -1 and 1 thresholds, means that there most probably are omitted variables or non-linear factors that are not taken into consideration. (Dumford & Miller, 2018). The little, rightward skew means that the model does not represent the full engagement, indicating that there are some other factors that we have not accounted for that could possibly enhance engagement. The residuals' overall alignment with the normal distribution curve suggests that the model's assumptions of normality are reasonably met despite some inconsistencies.

Discussion

The Descriptive Statistics offer a foundational understanding of the sample demographic. With most participants in the 18-24 age bracket and a majority being male, the data reflects a common university demographic. The variability in the Year of Study and Major/Area of Study suggests that the findings may be broadly applicable across different academic levels and disciplines (Clary et al., 2022). Technology Access, a key variable for online learning, was rated highly among participants, indicating widespread accessibility among the student body. The regression analysis suggests that access alone is not a significant predictor of student engagement (B = -0.139, p = 0.452), pointing

Effective communication also did not emerge as a significant predictor of engagement (B = 0.011, p = 0.913), which may seem counterintuitive. This could imply that the quality of communication, as perceived by students, might translate into less active participation or involvement in online activities. It could reflect students' adaptation to the online learning mode, where communication takes varied forms, not all of which directly influence engagement levels.

towards the importance of how technology is used rather than its mere availability.

Instructor Preparedness, while intuitively critical for online learning success, similarly showed no significant predictive relationship with engagement (B = -0.051, p = 0.595). This hypothesis is a deviation from the normal expectation, which might be because students do not associate instructor readiness with engagement, and this may be due to the multifaceted nature of engagement or the resilience of students handling online learning (Bond & Bedenlier, 2019).

Correlation analysis showed a significant negative correlation between age and effective communication. This supports the idea that youngsters might be more prone to or satisfied with digital communication techniques.

The absence of influential predictors of engagement in the regression model emphasizes the intricacy of online learning dynamics (Ali, 2020). It emphasizes the contributions of unobserved variables like personal motivation, social interaction, or how the pandemic affected the mental health of university students, all of which can influence the level of student engagement.

Conclusion

This study has provided insight into the nuances of student engagement that are within online learning environments during the COVID-19 pandemic. It adds to the current knowledge by showing that though technology access, communication effectiveness, and instructor preparedness are important, they need to tell future engagement levels better. That is particularly significant, as it refutes some of the myths about what motivates students to participate actively in distance learning. It leads educators to reevaluate the factors that are critical in remote learning contexts. Given the limitations in predicting engagement from the variables studied, future research should delve deeper into the qualitative aspects of student experiences. There is a clear indication that factors beyond the scope of this study—perhaps the subjective nature of student motivation, the content and delivery of course material, or the psychosocial impacts of the pandemic—are influencing engagement. Longitudinal studies could provide insights into how engagement trends evolve as students and educators adapt to prolonged periods of online learning.

Further investigation is also warranted into the non-linear relationships between technology use and engagement. The exploration of how different demographic groups experience online learning could reveal important insights, especially when considering the significant negative correlation between age and effective communication found in this study. The role of external stressors, individual learning preferences, and the development of a sense of community in digital platforms emerge as potential areas for future inquiry. This study serves as a stepping stone, suggesting a pivot towards a more nuanced understanding of the online educational experience. It emphasizes the need for a multifaceted approach to fostering engagement, one that moves beyond mere access to technology and towards creating meaningful, interactive, and supportive learning environments that resonate with a diverse student body.

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Appendices

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Descriptive Statistics

	Des	criptive Stat	istics			
	Ν	Minimum	Maximum	Mean	Std. Deviation	
Age	100	1	7	3.55	1.493	
Gender	100	1	3	1.60	.532	
Year of Study	100	1	5	3.01	1.453	
Major/Area of Study	100	1	5	3.28	1.422	
Technology Access	100	1	2	1.26	.441	
Digital Tools Suitability	100	3	5	3.95	.833	
Effective Communication	100	3	5	4.01	.798	
Timely Feedback	100	3	5	4.01	.823	
Instructor Preparedness	100	3	5	3.98	.853	
Comfort in Discussion	100	3	5	4.05	.809	
Facilitated Dialogue	100	3	5	3.96	.816	
Addressing Queries	100	3	5	3.99	.859	
Supportive Climate	100	3	5	4.07	.807	
Engagement in Activities	100	3	5	4.03	.797	
Interest in Subject Matter	100	3	5	4.13	.800	
Impact on Learning	100	3	5	4.07	.807	
Outcomes	4			1.4.1.6	6 . 6	
Overall Satisfaction	100	3	5	3.96	.816	
Support for Blended	100	3	5	3.95	.833	く
Learning		••				
Valid N (listwise)	100					





Correlation Analysis

Correlations										
		Age	Gende	Year of	Major/Are	Technolo	Digital	Effective	Timely	Instructor
			r	Study	a of Study	gy Access	Tools	Communi	Feedback	Prepared
							Suitability	cation		ness
Age	Pearson	1	.013	030	040	173	164	217*	005	039
	Correlation									
	Sig. (2-tailed)		.900	.763	.693	.084	.102	.030	.964	.701
	N	100	100	100	100	100	100	100	100	100
Gender	Pearson	.013	1	073	158	.103	.160	014	129	.183
	Correlation									
	Sig. (2-tailed)	.900		.469	.117	.306	.113	.888	.200	.069
	N	100	100	100	100	100	100	100	100	100
Year of Study	Pearson	030	073	1	011	051	.017	.096	102	032
	Correlation									
	Sig. (2-tailed)	.763	.469		.912	.611	.866	.343	.315	.749
	N	100	100	100	100	100	100	100	100	100
Major/Area of	Pearson	040	158	011	•1	.012	014	.078	011	045
Study 4	Correlation	991			Jull	سفه و	ueu :	ه د رب		
••	Sig. (2-tailed)	.693	.117	.912		.909	.893	.442	.913	.654
	Ν	100	100	100	100	100	100	100	100	100
Technology	Pearson	173	.103	051	.012	1	.091	.079	063	.068
Access	Correlation									
	Sig. (2-tailed)	.084	.306	.611	.909		.369	.436	.534	.503
	N	100	100	100	100	100	100	100	100	100
Digital Tools	Pearson	164	.160	.017	014	.091	1	.046	161	.198*
Suitability	Correlation									
	Sig. (2-tailed)	.102	.113	.866	.893	.369		.647	.109	.049
	N	100	100	100	100	100	100	100	100	100
Effective	Pearson	217*	014	.096	.078	.079	.046	1	.031	.104
Communication	Correlation									
	Sig. (2-tailed)	.030	.888	.343	.442	.436	.647		.762	.302
	Ν	100	100	100	100	100	100	100	100	100
Timely Feedback	Pearson	005	129	102	011	063	161	.031	1	086
	Correlation									
	Sig. (2-tailed)	.964	.200	.315	.913	.534	.109	.762		.394
	Ν	100	100	100	100	100	100	100	100	100

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Instructor	Pearson	039	.183	032	045	.068	.198*	.104	086	1
Preparedness	Correlation									
	Sig. (2-tailed)	.701	.069	.749	.654	.503	.049	.302	.394	
	Ν	100	100	100	100	100	100	100	100	100
*. Correlation is significant at the 0.05 level (2-tailed).										

Correlations										
		Comfort	Facilitate	Addressi	Supporti	Engage	Interest	Impact	Overall	Support
		in	d	ng	ve	ment in	in	on	Satisfacti	for
		Discussi	Dialogue	Queries	Climate	Activitie	Subject	Learning	on	Blended
		on				8	Matter	Outcome		Learning
								s		
Comfort in	Pearson	1	074	.073	052	143	041	052	074	.079
Discussion	Correlation									
	Sig. (2-tailed)		.467	.468	.609	.155	.683	.609	.467	.436
	N	100	100	100	100	100	100	100	100	100
Facilitated	Pearson	074	1	058	.081	045	100	.081	1.000**	.012
Dialogue	Correlation	لوم ا	عاور	بالبات	ullg	den	ے لکھا)))0	مجل	
00	Sig. (2-tailed)	.467		.565	.423	.658	.320	.423	.000	.907
	N	100	100	100	100	100	100	100	100	100
Addressing	Pearson	.073	058	1	086	.045	072	086	058	156
Queries	Correlation									
	Sig. (2-tailed)	.468	.565		.393	.659	.479	.393	.565	.121
	N	100	100	100	100	100	100	100	100	100
Supportive	Pearson	052	.081	086	1	003	.080	1.000**	.081	.050
Climate	Correlation									
	Sig. (2-tailed)	.609	.423	.393		.974	.431	.000	.423	.619
	N	100	100	100	100	100	100	100	100	100
Engagement in	Pearson	143	045	.045	003	1	.152	003	045	.063
Activities	Correlation									
	Sig. (2-tailed)	.155	.658	.659	.974		.130	.974	.658	.533
	N	100	100	100	100	100	100	100	100	100

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Interest in	Pearson	041	100	072	.080	.152	1	.080	100	020
Subject Matter	Correlation									
	Sig. (2-tailed)	.683	.320	.479	.431	.130		.431	.320	.840
	N	100	100	100	100	100	100	100	100	100
Impact on	Pearson	052	.081	086	1.000**	003	.080	1	.081	.050
Learning	Correlation									
Outcomes	Sig. (2-tailed)	.609	.423	.393	.000	.974	.431		.423	.619
	N	100	100	100	100	100	100	100	100	100
Overall	Pearson	074	1.000**	058	.081	045	100	.081	1	.012
Satisfaction	Correlation									
	Sig. (2-tailed)	.467	.000	.565	.423	.658	.320	.423		.907
	N	100	100	100	100	100	100	100	100	100
Support for	Pearson	.079	.012	156	.050	.063	020	.050	.012	1
Blended	Correlation									
Learning	Sig. (2-tailed)	.436	.907	.121	.619	.533	.840	.619	.907	
2.	N	100	100	100	100	100	100	100	100	100
**. Correlation is significant at the 0.01 level (2-tailed).										

Regression Analysis

Model Summary									
Model	R	R Square	Adjusted R	Std. Error of the					
			Square	Estimate					
1	.097ª	.009	022	.806					
a. Predictors: (Constant), Instructor Preparedness, Technology Access, Effective									
Communication									
b. Dependent Variable: Engagement in Activities									

ANOVA ^a									
Model		Sum of	df	Mean Square	F	Sig.			
		Squares							
1	Regression	.588	3	.196	.302	.824 ^b			
	Residual	62.322	96	.649					
	Total	62.910	99						
a. Dependent Variable: Engagement in Activities									
b. Pred	b. Predictors: (Constant), Instructor Preparedness, Technology Access, Effective								
Comm	unication								

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Coefficients										
Model		Unstandardized	d Coefficients	Standardized	t	Sig.				
				Coefficients						
		В	Std. Error	Beta						
1	(Constant)	4.363	.564		7.731	.000				
	Technology Access	139	.185	077	755	.452				
	Effective Communication	.011	.102	.011	.110	.913				
	Instructor Preparedness	051	.096	055	533	.595				
a. Depe	a. Dependent Variable: Engagement in Activities									







