ANALYSIS OF PREDICTORS INFLUENCING STUDENT ENGAGEMENT IN BLENDED LEARNING MODALITY: PROPOSED STRATEGIC INTERVENTIONS

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Abstract

This comprehensive study explores various predictors influencing student engagement within the blended learning modality (BLM), which combines traditional classroom and online educational approaches. Utilizing a mixed-methods approach, this research identifies key predictors, including personal motivation, peer interactions, teacher quality, school environment, and family support, and assesses their impact on students' cognitive, behavioral, and affective engagement. The results highlight significant correlations, particularly underscoring the role of intrinsic motivation and teacher-student relationships in fostering a conducive learning environment. This study provides actionable insights and proposes strategic interventions aimed at enhancing student engagement, critical for educational success in the evolving landscape of digital learning.

Keywords and phrases: *Student engagement, blended learning, personal motivation, teacher quality, educational strategies, mixed-methods analysis*

Introduction

The global COVID-19 pandemic has necessitated an unprecedented shift toward blended learning modalities, blending face-to-face instruction with digital platforms (Bozkurt & Sharma, 2020). This paradigm shift has introduced new dynamics in the teaching-learning process, challenging traditional metrics of student engagement, such as attendance (Bond et al., 2020). This study aims to fill the gap in literature by providing an in-depth analysis of the factors influencing student engagement in BLM, drawing from Self-Determination Theory (SDT) as a theoretical framework. SDT posits that intrinsic motivation, driven by the satisfaction of basic psychological needs for autonomy, competence, and relatedness, is fundamental to fostering engagement (Ryan & Deci, 2020).

The concept of student engagement encompasses emotional, behavioral, and cognitive dimensions (Fredricks et al., 2021). This research investigates how these dimensions are influenced by factors such as personal motivation, peer influence, teacher quality, school environment, and family support. Understanding these relationships is crucial for developing targeted interventions that can enhance engagement, particularly in a blended learning context, where students' physical absence from traditional classrooms poses unique challenges (Zhang & Zhang, 2020).

Methods

This study employed a cross-sectional mixed-methods design, integrating quantitative and qualitative approaches to provide a holistic understanding of the predictors of student engagement. The sample comprised 139 junior high school students from St. Vincent's College Inc. (SVCI), encompassing a diverse range of socio-economic backgrounds and academic levels. Simple random sampling was used to select participants from Grades 7 to 9, while all Grade 10 students were included due to their pivotal role in the school system.

Two primary instruments were used: the Student Engagement in Schools Questionnaire (SESQ) and a custom predictor questionnaire. The SESQ, developed by Hart, Stewart, and Jimerson (2011), is a validated tool that measures affective, behavioral, and cognitive engagement. The predictor questionnaire, adapted from Sengsouliya et al. (2021), assessed factors such as personal motivation, peer influence, teacher quality, school environment, and family support. Both instruments were piloted and validated for this study's specific context.

Data were collected through a combination of online and face-to-face surveys, ensuring a high response rate. Descriptive statistics, including means, standard deviations, and frequency distributions, were calculated to profile the sample. Inferential statistics, such as the Mann-Whitney U test, Kruskal-Wallis H test, and Spearman Rho Correlation Coefficient, were employed to analyze the relationships between variables, with a significance level set at $p < .05$. All statistical analyses were performed using SPSS Version 25.0.

Ethical Considerations

Ethical considerations were central to the study's design and implementation. Informed consent was obtained from all participants, ensuring they were fully aware of the study's purpose, procedures, and potential risks. Data confidentiality was strictly maintained, with all identifying information anonymized in the analysis and reporting. The study adhered to the ethical guidelines set forth by the institutional review board and relevant national and international regulations.

Results

Demographic Profile

The study's demographic analysis revealed a predominance of female participants (58.3%) and a significant representation of Grade 10 students (58.3%). The majority of students' parents had attained higher education levels, indicating a relatively well-educated sample. Furthermore, most participants belonged to lower middle-class families or below, reflecting a diverse socio-economic background.

Predictors of Engagement

Personal Motivation: This emerged as a critical predictor, with a grand weighted mean of 4.18. Indicators such as goal-setting and comprehension of instructional material were particularly influential. These findings align with Ryan and Deci's (2020) assertion that intrinsic motivation is a key determinant of sustained engagement.

Peer Influence: Rated highly, with a grand weighted mean of 4.42, peer interactions were found to significantly affect engagement. The supportive role of peers in facilitating understanding and providing emotional support was evident, corroborating findings by Furrer, Skinner, and Pitzer (2021).

Teacher Quality: The most influential factor, with a grand weighted mean of 4.55, highlighting the importance of teacher behavior, teaching methods, and feedback in fostering a positive learning environment. These results are consistent with the literature emphasizing the critical role of teacher-student relationships in engagement (Martin, 2021).

School Environment: Rated as highly influential, with a grand weighted mean of 4.39. Factors such as the availability of extracurricular activities, adequate facilities, and positive staff interactions significantly contributed to engagement.

Family Support: This factor also played a substantial role, with a grand weighted mean of 4.40. The involvement and support of parents were crucial in maintaining engagement, particularly in the context of remote learning, where parental guidance can bridge the gap between home and school environments.

Engagement Levels

Affective Engagement: The study found a high level of affective engagement (mean = 3.41), reflecting positive emotional connections to teachers and the school environment. This aligns with the assertion that emotional engagement is vital for overall academic success (Fredricks et al., 2021).

Behavioral Engagement: The mean score of 2.90 indicated moderate engagement, characterized by participation in school activities and adherence to school norms. This suggests room for improvement in fostering more active participation.

Cognitive Engagement: A mean score of 3.22 indicated moderate cognitive engagement, reflecting students' effort in understanding and processing academic content. This aspect is critical for deep learning and academic success (Wang, Degol, & Henry, 2019).

Discussion

The study's findings underscore the complex interplay between intrinsic and extrinsic factors in influencing student engagement in BLM. The significant role of personal motivation, as posited by SDT, highlights the importance of fostering intrinsic motivation through autonomy-supportive teaching practices (Ryan & Deci, 2020). Teacher quality emerged as the most critical factor, emphasizing the need for continuous professional development to equip teachers with the skills necessary for effective BLM delivery (Dumford & Miller, 2018).

Peer influence and family support also significantly impacted engagement, highlighting the need for a supportive social network. The study suggests that schools should facilitate peer interactions and parental involvement through structured programs and initiatives. The school environment, including facilities and extracurricular activities, also plays a crucial role in creating a conducive learning atmosphere. The findings align with previous research suggesting that a positive school climate can enhance student engagement and overall academic performance (Hattie & Zierer, 2019).

Conclusions

This study comprehensively examined the factors influencing student engagement in blended learning modalities, particularly in the context of a global shift towards digital education. The findings underscore the pivotal role of personal motivation, teacher quality, and the school environment in fostering student engagement. Personal motivation emerged as a significant predictor, indicating that students who possess clear learning goals and self-driven interest are more likely to engage actively in their studies. This aligns with Self-Determination Theory, which emphasizes the importance of intrinsic motivation in sustaining long-term engagement (Ryan & Deci, 2020).

Teacher quality was identified as the most influential factor, highlighting the critical role of effective teaching practices, constructive feedback, and positive teacher-student relationships. These findings suggest that educators who can create a supportive and inclusive classroom environment, even in a digital context, significantly enhance students' willingness to participate and engage. The school environment, including the availability of resources, extracurricular activities, and overall school culture, also plays a crucial role in shaping students' engagement levels. A positive and resource-rich environment can significantly boost students' academic and social experiences, thus fostering greater engagement.

The moderate impact of peer and family factors suggests that while these elements contribute to engagement, they are not as influential as intrinsic factors or institutional quality. However, their importance should not be underestimated, particularly in a blended learning context where social interactions are limited, and family support becomes crucial.

Recommendations

Based on the study's findings, several specific recommendations are proposed to enhance student engagement in blended learning settings within the context of St. Vincent's College Inc.

Enhancing intrinsic motivation among students is crucial. Schools and educators should focus on strategies that foster intrinsic motivation, such as setting clear academic goals, promoting self-regulation, and providing opportunities for students to pursue their interests. Encouraging student autonomy and providing choices in learning activities can also significantly enhance motivation.

Improving teacher quality is another essential step. Implementing professional development programs to enhance teachers' pedagogical skills, particularly in online and blended learning environments, is critical. Training should focus on effective communication, innovative teaching methods, and strategies for building strong relationships with students. Regular feedback from students can help teachers adapt their methods to better meet students' needs.

Optimizing the school environment can further boost engagement. Schools should strive to create a supportive and resource-rich environment by providing adequate technological resources, access to extracurricular activities, and fostering a positive school culture. Investments in digital infrastructure and training for both students and staff are essential to ensure smooth transitions between physical and online learning environments.

Encouraging parental involvement is also vital. Schools should engage parents and guardians in the educational process, especially in a blended learning setup where home support can significantly impact student engagement. Providing workshops and resources to help parents support their children's learning at home can bridge the gap between home and school environments.

Facilitating peer interactions remains important, even though the impact was found to be moderate. Schools should create opportunities for peer interaction through group projects, online forums, and other collaborative activities that allow students to connect and support each other.

Focusing on these specific and immediate interventions can significantly enhance student engagement within the blended learning environment at St. Vincent's College Inc. This approach will ensure that the recommendations are practical and directly applicable, avoiding broader contexts that may dilute the immediate impact of these strategies.

By prioritizing these targeted approaches, St. Vincent's College Inc. can enhance the mental health and productivity of its students, contributing to a more resilient and engaged academic community. This aligns with Sustainable Development Goals (SDGs) by promoting mental health and well-being (SDG 3), ensuring quality education (SDG 4), and reducing inequalities (SDG 10). Emphasizing these specific strategies within the immediate context of the institution will foster a supportive environment that enhances overall student engagement and success.

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Disclosure: Use of AI Tools

In compliance with Threshold's guidelines for the ethical use of artificial intelligence (AI) and automated tools in academic research, the authors disclose the use of OpenAI's ChatGPT for enhancing the quality and clarity of the manuscript. ChatGPT was utilized to assist in refining the language, structure, and formatting of the text, ensuring a high level of academic rigor and coherence. The authors confirm that all data analysis, critical interpretations, and conclusions presented in this manuscript were conducted independently by the research team. The AI tool was employed strictly for editorial assistance and did not influence the scientific content or ethical considerations of the study. All intellectual contributions from the AI tool are in accordance with the authors' original intentions and have been reviewed and approved by all co-authors. The use of ChatGPT complies with Threshold's ethical standards and guidelines for transparent reporting of AI involvement in research. The authors remain fully responsible for the integrity and accuracy of the content presented in this paper.

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