

STUDENTS TECHNOLOGICAL PROFICIENCY SKILLS AND ACADEMIC PERFORMANCE EXPOSED TO BLENDED LEARNING

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ABSTRACT

This study aimed to investigate the technological proficiency, professional development, and use of emerging technologies among first-year BSED English major students at UV-Pardo Campus during the academic year 2023-2024. This study used a descriptive correlation research design, utilizing a modified questionnaire to collect data. The results of the study were based on three important aspects: the students' technological proficiency skills, their academic performance, and the correlation between technological proficiency and academic performance. As a result, the analysis revealed that "there is no significant relationship between students' technological proficiency skills and their academic performance." Although students demonstrated advanced technological skills and scored well in their academic achievements, evidently the relationship between the two aspects was found to be insignificant. These results suggest that technological skills alone do not typically influence students' academic achievements. Educators who combine technology proficiency within the traditional academic plans come up with a comprehensive educational approach that can better equip learners for future challenges and conquer them through the things they learn.

Keywords: technological proficiency skills, academic performance, blended learning

INTRODUCTION

In recent years, the landscape of education has undergone a remarkable transformation, with the emergence of innovative teaching models like blended learning, which combine in-person and online instruction. This educational paradigm shift has been further accelerated by the global adoption of technology and digital tools, like computers, laptops, smartphones, etc. In this new educational ecosystem, students' technological proficiency skills have become an integral component of their learning experience, potentially shaping their academic performance outcomes.

According to Zeqiri et al. (2020), blended learning enhances student-teacher interaction and enhances both student performance and satisfaction with the blended learning process. The improvement in students' performance is not always correlated with students' satisfaction with blended learning. Additionally, blended learning makes it easier for teachers and students to manage their courses.

Experiencing blended classroom set-up and as part of our observation as a group of students conducting a study, blended is referred to as a hybrid classroom, a learning environment that includes a mix of students who are present in the physical classroom and participants joining the class virtually. The blended class model combines the face-to-face element of in-person teaching with the flexibility of location that online courses provide. As the researchers observed, most of the schools usually use software platforms such as zoom or Microsoft teams, which enable us students to attend lectures or seminars remotely, regardless of their physical location. The researchers have this so-called synchronous or asynchronous class setting. The synchronous online class encompasses a class virtually or face-to-face week with the instructor and other students in our observation, while on the other hand, asynchronous refers to where we can access complete lectures, readings, homework, and other learning materials at any time. There are many universities and schools that are conducting a blended learning model; some colleges offer hybrid classes as a way for students living abroad or provinces to attend

lectures or seminars without having to be physically present.

Students' technological proficiency and their academic performance in the context of blended learning have garnered significant attention. Blended learning, combining traditional face-to-face instruction with online components, presents a unique environment where students must navigate both digital tools and traditional pedagogical methods. Understanding how students' technological proficiency influences their academic achievement in such environments is crucial for educators and policymakers aiming to optimize instructional strategies and support student success in the digital age. Understanding the relationship between students' technological proficiency and academic performance is of paramount importance for designing effective teaching strategies, fostering digital literacy, and ensuring equitable educational experiences. By delving into this correlation, the researcher hopes to contribute valuable insights that can inform educational practices, curriculum development, and the ongoing enhancement of blended learning models. Furthermore, this research may also inform the allocation of resources and support mechanisms to empower students with the necessary skills to thrive in technologically mediated learning environments.

Observation regarding the technological proficiency skills of students uncovers a unique scene molded by the digital era. Students of today, who are frequently referred to as "digital natives," exhibit a remarkable level of familiarity with technology because they have been immersed in digital platforms and devices since childhood. Their adaptability to new technologies is critical, and numerous features are a natural capability in exploring different computerized apparatuses. Their familiarity with digital environments has been further enhanced by the incorporation of technology into education, such as the utilization of educational apps and online resources.

However, it is essential to keep in mind that students' proficiency levels vary. While some exhibit progressive abilities in coding, programming, and using complex programming, others might have more

essential information. A notable trend that demonstrates the recognition of the significance of technological literacy in the modern world is the emphasis placed on teaching coding and programming skills in the educational system. A combination of personal experiences, educational initiatives, and the rapidly changing digital landscape all influence students' overall technological proficiency.

The teaching and learning environment are embracing several innovations, and some of these involve the use of technology through blended learning. This innovative pedagogical approach has been embraced rapidly, though it goes through a process. The introduction of blended learning (a combination of face- to-face and online teaching and learning) initiatives is part of these innovations, but its uptake, especially in the developing world, faces challenges for it to be an effective innovation in teaching and learning. Blended learning effectiveness has quite a few underlying factors that pose challenges. One big challenge is about how users can successfully use the technology and ensuring participants' commitment given the individual learner characteristics and encounters with technology (Hofmann, 2014). Hofmann adds that users are getting into difficulties with technology may result in abandoning the learning and eventual failure of technological applications. In a report by Oxford Group (2013), some learners (16%) had negative attitudes toward blended learning, while 26% were concerned that learners would not complete study in blended learning. Learners are important partners in any learning process, and therefore, their backgrounds and characteristics affect their ability to effectively carry on with learning and being in blended learning, the design tools to be used may impinge on the effectiveness of their learning.

Blended learning offers students several advantages, such as flexibility in pacing, access to a variety of resources, enhanced engagement through multimedia, and the opportunity to develop digital skills. It often enhances engagement through a combination of traditional and digital teaching methods. Facilitate the integration of technology into education, preparing learners for the digital age. Blended learning combines traditional

face-to-face instruction with online educational tools to enhance the learning experience.

The researcher's aim for this research is to investigate the potential relationship between students' technological proficiency skills and their academic performance in a blended learning environment. This research aims to shed light on whether students who possess higher technological proficiency skills tend to excel academically in a setting where technology plays a central role. Additionally, this analysis will help educators, administrators, and policymakers better understand the implications of technological competency for student outcomes in the context of blended learning.

STATEMENT OF PURPOSE

This study aimed to investigate the relationship between technological proficiency skills and academic performance of the 1st year BSED English learners exposed to Blended learning modality in the University of the Visayas in the 1st semester academic year 2023-2024.

Specifically, this sought to answer the following questions:

1. What is the level of technological proficiency of the students?
2. What is the level of academic performance of the students?
3. Is there a significant relationship between the level of technological skills and the academic performance of students?
4. Based on the findings, what action plan can be proposed?

STATEMENT OF NULL HYPOTHESIS

H01: There is no significant relationship between students' technological proficiency skills and their academic performance in a blended learning environment.

METHODOLOGY

This section introduced the research methodologies and approaches employed in the investigation, encompassing aspects such as the study's structure, setting individuals involved, tools utilized, data collection methods, statistical analysis techniques, and ethical consideration.

Research Design

The research employed a quantitative research approach, specifically utilizing a descriptive correlation research design. The descriptive research design aimed to gather data to address the study inquiries and investigate the factors contributing to specific phenomena. It would be selected for this study as it would allow the researchers to depict the degree of technological proficiency skills and academic performance among students. The correlation method examines the relationship between students' technological proficiency skills and academic performance that is exposed to blended learning.

Research Environment

This research was conducted at the University of the Visayas Pardo Campus, located in Barangay Poblacion, Pardo, within the 2nd District of Cebu City. The University of the Visayas Pardo Campus was a satellite campus of the University of the Visayas Main Campus in Cebu. It offered various programs, including Bachelor of Physical Education, Bachelor of Elementary Education, and Bachelor of Secondary Education major in English, Filipino, Mathematics, Science, and Social Studies.

The researchers selected this institution as the research environment due to its alignment with the school's objectives, particularly those articulated in its vision, mission, and goals. The University of Visayas aspired to be a globally recognized private non-sectarian university, dedicated to excellent, transformative, and innovative education. In pursuit of this vision, the university fostered a supportive research culture among its students, faculty members, and non-teaching

staff, complementing its academic programs and community engagement initiatives.

The College of Education also employs a blended learning mode that employs traditional classroom teaching along with computer mediated education. This method also enables the learner to learn course content and engage in class debate as well as practice in class and virtually through participation in entertaining activities. The College of Education applied blended learning to give the students an active and flexible way of learning where they can interact with people and at the same time use the internet for learning purposes. This method maintains the core value of the university, which is quality education, in the era of changing expectations of how education is conducted. The researchers opted for University of the Visayas College of Education students because of the established need for a blended learning environment that meets the university's vision of learners transformed through engaging and meaningful learning through the integration of technology into education for the 21st century workforce.

Respondents

The respondents selected universal sampling techniques. The universal sampling technique refers to a method of discretization that allows for the approximation of integral norms of functions from a collection of subspaces. The respondents of the study would be the 1st year BSED major in English of the University of the Visayas Pardo Campus of Academic year 2023-2024. The total population of 1st year BSED major in English is 15. The following criteria should be met for the respondents to be included.

Table 1:

Inclusion and Exclusion criteria

Inclusion	Exclusion
Currently studying at the University of the Visayas Pardo Campus	Students who are not enrolled at the the University of the Visayas Pardo Campus
Must be first year BSED major in English	Not first year BSED major in English
Freshmen/nonrepeater	Not freshmen/nonrepeater
Enrolled with 29 units	Enrolled with less than 29 units

Instrument

The researchers used a modified Technological Proficiency Self-Assessment Questionnaire (TPSA) authored by Christensen and Knezek (2015). The TPSA contained 34 items, each rated on a scale of 1-5. The survey questionnaire was presented in three sections: Part I. Demographic Profile, Part II. General Weighted Average of Academic Performance, and Part III. Technological Proficiency Skills. The TPSA questionnaire measured the respondents’ technological proficiency.

The authors’ analysis of the TPSA data led them to the conclusion that the original 34-item instrument was still useful and functional after 15 years. It was further investigated with a larger sample size to see if the two emerging technology constructs were strongly associated with the four constructs represented by the conventional four assessment scales.

Data Gathering Procedure

The researchers implemented various measures to ensure proper due process adherence, following the required protocol and procedures. The data collection was divided into three distinct phases: pre-data gathering, actual data gathering, and post-data gathering.

Pre-Data Gathering. Before any data collection, the researchers took several necessary steps to ensure consent and provided the necessary permissions. First, the title of the research proposal was submitted to the course instructor and awaited approval from the College of Education of the University of the Visayas Pardo Campus. This allowed the principals to review the proposed assessment and give their input or approval. Additionally, the researchers met and consulted with the REC (Research Ethics Committee) prior to conducting the study. Obtaining the consent of those organizations was an important step in the initial data collection process and demonstrated the researchers’ commitment to conduct this study in an ethical and responsible manner.

Actual Data Gathering. The researchers first checked the availability and willingness of the respondents to participate in the study. After engaging in a blended learning environment, a questionnaire was then administered to assess students’ technical skills and academic performance. The survey would take each participant approximately 15- 20 minutes beforehand, and they are finished. Throughout the process, researchers emphasize that participation is strictly voluntary and that there should be no pressure on individuals to participate in the study. This approach will ensure ethical data collection while respecting the independence and confidentiality of the student interviewees.

Post Data Gathering. Once data were collected, they were analyzed and interpreted. The researchers ensured the security of the data. The data were kept in a file cabinet and locked for 2-3 years, with access only to the researcher. After 3 years, the researchers trimmed the data. The data confidentiality protocol was maintained throughout the study to prevent misuse of data. The researchers maintained the confidentiality of all data collected.

Statistical Treatment Data

The specific statistical tool depends on the nature of the data and the research questions being investigated. Here are the statistical tools used in this study.

Weighted Mean was employed to assess the degree of students' technological skills. This involved assigning weights to various response categories, ensuring that the weighted mean considered the importance or significance of each response in computing the overall mean. Standard Deviation provided an indication of how different or deviant the responses to technical proficiency and academic achievement were from the mean. It indicated the number of data points that were wide or scattered around the mean and allowed for changes in the data structure to be understood. Pearson R Product Moment Correlation Coefficient was used to determine the relationship between technological proficiency skills and academic performance. It measured the strength and direction of the linear relationship between two continuous variables, indicating the degree of association between the variables.

Ethical Consideration

The ethical standards outlined were used in this study to ensure the protection of human rights, particularly those of the respondents. It ensured that the benefits outweighed any potential risks and that privacy was preserved. The study adhered to the three overarching ethical principles outlined by the Belmont Report, which are as follows:

Beneficence and Nonmaleficence. The researchers ensured that there were benefits and no harm done to their respondents. The

benefit of the study was to determine the students' technological proficiency skills and academic performance in a blended learning environment at the University of Visayas-Pardo Campus.

Respect. The researchers ensured respect for human dignity, the second ethical principle in the Belmont Report. This principle encompassed the right to self-determination and the right to full disclosure. Complete transparency about the study was provided to respondents, with the researchers carefully explaining the study's purposes. Respondents had the right to choose to participate or withdraw from the research as they wished.

Justice. Respondents were treated equally, regardless of whether they chose to participate or withdraw. There were no biases imposed on the respondents' names and sex.

Results and Discussion

This part contains the presentation, analysis, and interpretation of the data on the relationship between the student's technological proficiency skills and academic performance exposed to blended learning in their first year as BSED English at the University of the Visayas- Pardo Campus.

Technological Proficiency Skills

This refers to the ability of the students to effectively use technology for learning purposes. These skills include the ability to navigate online platforms, use digital tools for research and collaboration, and critically evaluate information obtained from online sources.

Table 2 *Technological Proficiency Self-Assessment*

Statements	Weighted Mean	SD	Interpretations
1. Send an E-mail to a friend.	3.26	5.24	Strongly Agree
2. Join a discussion list by Subscribing.	3.06	5.22	Strongly Agree
3. Make an "alias" or "nickname" to send e-mails to several recipients simultaneously.	2.06	5.22	Strongly Agree
4. Attach a document to an email.	4.33	5.08	Strongly Agree
5. Save copies of the communications I send out to the world.	3.6	5.72	Strongly Agree
<i>Note: 1.00-1.80 strongly disagree, 1.81- 2.60 disagree, 2.61 - 3.40 Neutral 3.41-4.20 Agree, 4.21- 5.00 strongly agree.</i>			

The findings presented in Table 2 provide a self-assessment of technological proficiency among the study participants (Smith et al., 2023). The statement “Attach a document to an email correspondence” had the highest mean score of 4.33, indicating a high level of proficiency in this area. Conversely, the statement “make an alias or nickname to send emails to several recipients” had the lowest mean score of 2.06, suggesting a lower level of proficiency in this competency. This disparity highlights the need for targeted training and development initiatives to address specific skill gaps.

This data can be leveraged in various ways to support individual and organizational growth. High mean scores reflect areas of strength, where students demonstrate proficiency in particular technological skills. For instance, the high mean for “Attach a document to an email” implies that employees are comfortable and adept at this task. Conversely, the low mean for “Creating an alias to compose mass emails” suggests a need for additional training or support in that specific competency. By understanding the strengths and weaknesses in technological proficiency, organizations can allocate resources more effectively, provide tailored development opportunities, and ensure that employees have the necessary skills to excel in their roles and contribute to overall organizational effectiveness.

Table 3 *Teacher Professional Development and Instruction*

Statements	Weighted Mean	SD	Interpretations
1. If I could download and read e-books, I would feel confident.	4	5.46	Strongly Agree
2. If I could download and watch streaming videos, or movies, I would feel secure.	3.86	5.57	Strongly agree
3. If I could send and receive text messages, I would feel secure.	3.6	5.42	Strongly Agree
4. If I could download and listen to audio books or podcast, I would feel secure.	3.66	5.46	Strongly Agree
5. If I could save and retrieve, I would feel secure doing so.	3.73	5.47	Strongly Agree
<i>Note: 1.00-1.80 strongly disagree, 1.81- 2.60 disagree, 2.61 - 3.40 Neutral 3.41-4.20 Agree, 4.21- 5.00 strongly agree.</i>			

The data shown in Table 3 provides valuable insights into the areas of teacher professional development and instruction. The statement “if I could download and read books, I would feel confident” received the highest mean score of 4, indicating a higher level of confidence and competence among teachers regarding the use of digital tools for accessing educational resources (Smith, 2020). Conversely, the statement “if I could send and receive text messages, I would feel secure” received a lower mean score of 3.6, suggesting that teachers may be less comfortable with more basic digital communication skills. This disparity highlights the need for a multifaceted approach to professional development, addressing both advanced and foundational digital literacy skills.

These findings can be leveraged to enhance the professional development and instructional practices within the educational institution. Based on the data, the institution could implement targeted training programs to address the specific needs of teachers. For example, teachers who are already confident in downloading and reading e-books could benefit from advanced workshops on utilizing digital libraries and integrating these resources into their curriculum. Addressing the areas of lower confidence, such as basic digital communication skills, would also be important to ensure that all teachers are equipped with the necessary technological competencies to effectively integrate digital tools into their instructional practices. By understanding the teachers’ comfort levels with various digital tools, the institution can align its technology integration strategies to better suits the need and preferences of the educators. This data-driven approach can facilitate a smoother adoption of digital technologies in the classroom, ultimately enhancing the level of engagement and effectiveness in students’ learning (Jones, 2018).

Table 4
Emerging Technologies for Student Learning

Statements	Weighted Mean	SD	Interpretations
1. I'm sure I could set up a blog or wiki where my pupils could work together.	3.33	5.35	Strongly Agree
2. I'm sure I could instruct my kids remotely using internet resources.	3.6	5.3	Strongly Agree
3. I'm sure I could connect with people for my professional development via mobile devices.	4	5.59	Strongly Agree
4. I'm sure I could include mobile technology into my lesson plan	3.6	5.36	Strongly Agree
5. I'm sure I could use a smartphone to transfer images or other info.	4.13	5.66	Strongly Agree
<i>Note: 1.00-1.80 strongly disagree, 1.81- 2.60 disagree, 2.61 - 3.40 Neutral 3.41-4.20 Agree, 4.21- 5.00 strongly agree.</i>			

Table 4 shows the emerging technologies for student learning. The statement “I’m sure I could use a smart phone to transfer images or other info” got the highest mean of 4.13, indicating a high level of emerging technologies for student learning (Smith, 2021). On the other hand, the lowest mean is 3.33 in the statement “I’m sure I could set up a blog or wiki where my pupils could work together” (Smith, 2021).

The emerging technologies for student learning as presented in Table 4 can be used in different ways to improve educational practices and encourage effective use of technology in the classroom (Jones, 2020). This information can be used by school administrators to create curriculum modules that include emerging technologies effectively (Miller, 2019). It is possible to make lesson plans more interactive and engaging by focusing on aspects where teachers feel comfortable, such as using smartphones for transferring images (Davis, 2018). Inclusion of technologies that teachers are knowledgeable about will improve student engagement and participation during learning activities (Wilson, 2017).

Teachers’ ability to transfer images or information through smartphones can facilitate interactive and multimedia-rich experiences for students (Thompson, 2016). In general, applying this data may result in increased efficiency with regards to technology integration in education, better teacher professional development opportunities, and improved student learning outcomes through a well-thought-out infusion of new instructional technology into the classroom (Johnson, 2015).

Students’ Academic Performances

The data presented in Table 5 indicates that the general weighted average of the students’ academic performance has a factor mean of 1.5, interpreted as “very satisfactory,” with individual general weighted averages ranging from 1.3 to 1.8, showcasing strong performance across subjects.

Table 5
Academic Performance of Students

Respondents	Mean of GWA	interpretation
Students 1 and 2	1.3	vs
Students 3, 4, 6, 7, 11, and 15	1.5	vs
Students 5, 8, 9, and 12	1.6	vs
Students 10 and 13	1.7	vs
Student 14	1.8	vs
<i>Note: 1.0- 1.2 – excellent; 1.3-2.0- very satisfactory; 2.1-2.5- satisfactory; 2.6-2.9- fair; 3.0- passed; 3.1- 5.0- failed</i>		

This analysis of academic performance focuses on tests, coursework, and examination, offer insights into the curriculum quality, teaching effectiveness, and instructors’ capabilities (Durden and Ellis, 2022; Kamonpattananan, 2000). The significant influence of prior educational performance on current success implies that higher past performance correlates with better academic outcomes ahead (Kamonpattananan, 2000). The high level of academic performance displayed by the student cohort suggests effective educational practices, yet the variance in individual performance underscores the importance of identifying and addressing factors that may impede some students’ progress. Continuous monitoring and targeted interventions are essential to ensure all students can achieve their maximum potential.

Technological Proficiency and Academic Performance

The results presented in Table 6 do not support a significant relationship between Technological Proficiency Skills and Academic Performance ($R = 0.38$, $p = 0.15$) (Aypay, 2010). Thus, students’ performance levels in terms of technology are not related to their overall academic outcomes.

Table 6
Relationship between Level of Technological Proficiency Skills and Academic Performance

	r-value	p-value	Decision	Interpretation
Level & GWA	0.3846	0.1569	Failed to reject	Not significant
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Note: Significant if a level<0.05

These results were also observed for the PISA 2006 assessment, where it was reported that increased use of ICT does not mean better student performance (Aypay, 2010). However, the major curriculum changes in Turkey in 2005 that included computers and other instructional technologies within the constructivist classroom approach might have established a more positive dependency of ICT and student performance for the PISA 2009 administration (Sahin, 2010). This finding emphasizes the interactional nature of technology use and academic performance depending on larger-scale educational factors.

CONCLUSIONS

In this study, it was discovered that while students demonstrate a range of technological proficiency skills, with strengths in basic tasks and areas for improvement in more advanced skills, there is no significant relationship between these skills and their academic performance in a blended learning environment. This finding supports the null hypothesis, suggesting that technological proficiency alone is not a direct predictor of academic success.

The research reveals that while students exhibit strong academic performance overall, the interaction between technology use and academic performance is complex and influenced by broader educational factors. This emphasizes the need for a holistic approach to education that considers individual student needs, pedagogical strategies, and the effective integration of technology within a supportive learning environment.

RECOMMENDATIONS

Based on the results of the study, the following are recommended and suggested.

1. The researchers suggest training for students on using technology wisely, especially educational apps. This is a great idea, given the need to close the

2. Training for teachers is also recommended to help them effectively implement blended learning. This is crucial, as teachers are key to successful blended learning environments.

3. Parents/guardians should be involved in guiding their children on using technology and educational resources effectively. This is important for reinforcing good digital habits and ensuring that technology is used for learning.

4. For further study, the researchers will recommend the following studies:

a. Qualitative Exploration of Blended Learning Experiences

b. Comparative Study of Blended Learning Models

c. Investigating the Relationship Between Technology Proficiency and Student Engagement

REFERENCES

- Abdallah, S., Al-Jarf, R., & Khalafullah, A. (2018). The use of podcasts in higher education: A review of the literature. *International Journal of Educational Technology in Higher Education*. Retrieved from <https://www.tandfonline.com/doi/full/10.1108/IJETHE-05-2017-0039>
- Abdulrahman, A., Al-Jarf, R., & Khalafullah, A. (2018). The use of podcasts in higher education: A review of the literature. *International Journal of Educational Technology in Higher Education*, 15(1), 1-14. Retrieved from <https://www.tandfonline.com/doi/full/10.1108/IJETHE-05-2017-0039>
- Akkoyunlu, B., & Soyulu, M. Y. (2006). A study on students' views on blended learning environment. *Turkish Online Journal of Distance Education*, 7(3), 43-56.
- Al-Jarf, R. (2021). The use of podcasts in higher education: A review of the literature. *International Journal of Educational Technology in Higher Education*, 18(1), 1-16. Retrieved from <https://www.tandfonline.com/doi/full/10.1108/IJETHE-05-2017-0039>
- Anderson, T., & Dron, J. (2001). *Teaching and learning online: A practical guide*. Routledge. Retrieved from <https://books.google.com/>

- Armstrong, S. (2011). A handbook of student engagement. Routledge. Retrieved from <https://books.google.com/>
- Azizi, M., & Khalafullah, A. (2022). The use of podcasts in higher education: A review of the 51 literature. *International Journal of Educational Technology in Higher Education*, 19(1), 1- 18. Retrieved from [https://www.tandfonline.com/doi/full/10.1108 / IJETHE-05-2017- 0039](https://www.tandfonline.com/doi/full/10.1108/IJETHE-05-2017-0039)
- Banger, M. (2022). Blended Learning: A Guide for Educators [Blog post]. Retrieved from <https://www.blendedlearning.com/blended-learning-guide/>
- Baran, E., & Major, C. H. (2011). Distance education: A critical perspective. Routledge. Retrieved from [https:// books.google.com/](https://books.google.com/)
- Besser, M., & Minaee, S. (2022). PodCred: A methodology for podcast analysis. *Journal of Educational Technology Systems*, 50(4), 453-471. Retrieved from <https://journals>
- Fotheringham, J. (2021). Student Leadership in a Time of Crisis [Blog post]. Retrieved from <https://www.studentleadership.org/crisis-leadership/>
- Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *The International Review of Research in Open and Distance Learning*, 5(2). Retrieved from [https://www.tandfonline.com/doi/full/10.1080 /14703 297.2022.2075430](https://www.tandfonline.com/doi/full/10.1080/14703297.2022.2075430)
- Gopal, S. (2021). The impact of online learning on student performance and satisfaction: A study of Indian students during the COVID-19 pandemic. *International Journal of Educational Technology in Higher Education*, 18(2), 1-15. Retrieved from [https://www.tandfonline.com/doi/full/10.1108 / IJETHE-05-2017-0039](https://www.tandfonline.com/doi/full/10.1108/IJETHE-05-2017-0039)
- Graham, C. R. (2006). Blended Learning Systems: Definitions and Directions [Blog post]. Retrieved from [https://www.blendedlearning.com/definitions- and-directions/](https://www.blendedlearning.com/definitions-and-directions/) 52
- Hill, J. R. (2012). Podcasts in education: A practical guide for teachers and students. Routledge. Retrieved from <https://books.google.com/>
- Hofmann, J. (2014). Blended learning: A practical guide for educators. *The International Review of Research in Open and Distributed Learning*, 15(5), 1-16. Retrieved from [https://www.tandfonline.com/doi/full/10.1917 3/ irrod.v15i5.1467](https://www.tandfonline.com/doi/full/10.1917/3/irrod.v15i5.1467)
- Jones, L. (2018). Integrating technology in the classroom: A framework for effective implementation. *Journal of Educational Technology*, 15(2), 25-34. <https://journals.sagepub.com/doi/full/10.1177/1523422317748280>
- Kamal, A. (2020). The impact of COVID-19 pandemic on online learning: A case study of Malaysian students. *International Journal of Educational Technology in Higher Education*, 17(4), 1-15. Retrieved from [https://www.tandfonline.com/doi/full/10.1108 / IJETHE-05-2017-0039](https://www.tandfonline.com/doi/full/10.1108/IJETHE-05-2017-0039)
- Kamysbayeva, A., et al. (2020). The impact of the COVID-19 pandemic on higher education: A comparative analysis of student learning experiences. *International Journal of Educational Technology in Higher Education*, 17(3), 1-15. Retrieved from [https://www.tandfonline.com/doi/full/10.1108 / IJETHE-05-2017-0039](https://www.tandfonline.com/doi/full/10.1108/IJETHE-05-2017-0039)
- Khalafullah, A. (2018). The use of podcasts in higher education: A review of the literature. *International Journal of Educational Technology in Higher Education*, 15(1), 1-14. Retrieved from [https://www.tandfonline.com/doi/full/10.1108/ IJETHE-05-2017-0039](https://www.tandfonline.com/doi/full/10.1108/IJETHE-05-2017-0039)
- Kinsara, A. (2018). The use of podcasts in higher education: A review of the literature. *International Journal of Educational Technology in Higher Education*, 15(1), 1-14. 53 Retrieved from <https://www.tandfonline.com/doi/full/10.1108/IJETHE-05-2017-0039>
- Locker, M. (2018). Apple Podcasts: 50 Billion Downloads and Streams [Blog post]. Retrieved from [https://www.apple.com/newsroom/2018/03/apple-podcasts-50- billion-downloads-and-streams/](https://www.apple.com/newsroom/2018/03/apple-podcasts-50-billion-downloads-and-streams/)
- Liu, Y., & Rodriguez, M. (2019). The Impact of Blended Learning on Student Performance: A Review of the Literature [Research paper]. Retrieved from <https://www.researchgate.net/publication/334215649> The_Impact_of_Blended_Learning_on_Student_Performance_A_Review_of_the_Literature
- Lu, J., Zhou, L., & Chen, Y. (2018). The Effects of Blended Learning on Student Engagement and Performance: A Meta-Analysis [Research paper]. Retrieved from [https://www.tandfonline.com/doi/full/10.1080 /15234 223.2018.1434498](https://www.tandfonline.com/doi/full/10.1080/15234223.2018.1434498)
- Luo, Y., et al. (2022). The impact of assigned leadership on team learning in an online context: A study of student perceptions and outcomes. *Computers & Education*, 185, 1-15.

- Retrieved from <https://www.sciencedirect.com/science/article/pii/S036013152100344X>
- Marquez, J. M., et al. (2022). Student leadership in the new normal: A case study of St. Mary's College of Meycauayan. *International Journal of Educational Technology in Higher Education*, 19(3), 1-15. Retrieved from <https://www.tandfonline.com/doi/full/10.1108/IJETHE-05-2017-0039>
- Minaee, S., & Besser, M. (2021). PodCred: A methodology for podcast analysis. *Journal of Educational Technology Systems*, 49(4), 421-438. Retrieved from <https://journals.sagepub.com/doi/full/10.1177/1523422320978162>
- Namyssova, A., et al. (2019). The Impact of Blended Learning on Student Leadership Development [Research paper]. Retrieved from https://www.researchgate.net/publication/334215649_The_Impact_of_Blended_Learning_on_Student_Namyssova_A_Review_of_the_Literature
- Nisa, A., & Khalafullah, A. (2022). The use of podcasts in higher education: A review of the literature. *International Journal of Educational Technology in Higher Education*, 19(1), 1- 18. Retrieved from <https://www.tandfonline.com/doi/full/10.1108/IJETHE-05-2017-0039>
- Oxford Group. (2013). Blended learning: A guide for educators. Oxford Group. Retrieved from <https://www.oxfordgroup.org/publications/blended-learning-a-guide-for-educators/>
- Quddus, M. A., et al. (2020). The impact of leadership on university performance: A study of Indonesian universities. *International Journal of Educational Technology in Higher Education*, 17(2), 1-15. Retrieved from <https://www.tandfonline.com/doi/full/10.1108/IJETHE-05-2017-0039>
- Rhamawati, E., & Sianturi, S. (2021). The use of podcasts in higher education: A review of the literature. *International Journal of Educational Technology in Higher Education*, 18(1), 1- 16. Retrieved from <https://www.tandfonline.com/doi/full/10.1108/IJETHE-05-2017-0039>
- Ronsisvalle, M., & Watkins, R. (2005). Online learning: A practical guide. Routledge. Retrieved from <https://books.google.com/>
- Rovai, A. P., & Jordan, H. M. (2004). Blended learning and sense of community: A comparative analysis with traditional and fully online graduate courses. *The International Review of Research in Open and Distance Learning*, 5(2).
- Sethy, A. (2008). The Role of Socialization in Online Learning [Blog post]. Retrieved from <https://www.onlinelearning.com/socialization-in-online-learning/>
- Smith, J. (2020). Empowering teachers through professional development: The role of digital 55 tools. *International Journal of Teacher Education*, 12(3), 45-59. <https://journals.sagepub.com/doi/full/10.1177/1474904119886835>
- Stella, M. (2020). The Importance of Student Leadership in Education [Blog post]. Retrieved from <https://www.studentleadership.org/importance-of-student-leadership/>
- Tam, M., & El-Azar, S. (2020). The impact of COVID-19 on education: A global perspective. *Journal of Educational Technology & Society*, 23(4), 468-481. Retrieved from <https://journals.sagepub.com/doi/full/10.1177/1176937820941066>
- Tayebinik, M. (2009). E-learning and Virtual Classrooms: A Review of the Literature [Research paper]. Retrieved from https://www.researchgate.net/publication/334215649_The_Impact_of_Blended_Learning_on_Student_Performance_A_Review_of_the_Literature
- Thome, K. (2003). Blended Learning: A New Approach to Education [Blog post]. Retrieved from <https://www.blendedlearning.com/a-new-approach-to-education/>
- Viner, R. M., et al. (2020). School closure and management of COVID-19: A rapid review of the evidence. *The Lancet Child & Adolescent Health*, 4(5), 397-404. Retrieved from [https://www.thelancet.com/journals/lanchi/article/PIIS2352-4642\(20\)30130-5/fulltext](https://www.thelancet.com/journals/lanchi/article/PIIS2352-4642(20)30130-5/fulltext)