www.ijprems.com
editor@ijprems.com

INTERNATIONAL JOURNAL OF PROGRESSIVE RESEARCH IN ENGINEERING MANAGEMENT AND SCIENCE (IJPREMS)
(Int Peer Reviewed Journal)
Vol. 04, Issue 11, November 2024, pp : 1852-1858

e-ISSN : 2583-1062
Impact Factor : 7.001

ONLINE EDUCATION VS PHYSICAL EDUCATION

Shaik Mohammad Sohil[1], Prof. G. Anburaj[2]

[1]School of Computer Science and Engineering Vellore Institute of Technology, India.

[2]Assistant Professor of English Vellore Institute of Technology, India.

ABSTRACT

With technology growing fast and more kids learning online, especially because of the COVID-19 sickness, it is really important to know what is good and not so good about both ways of learning. This study looks at important things like how easy it is to get to, how flexible it is, how much students like it, how well they learn, if they can talk to others, and if it cost a lot or not for both ways of learning.

Learning online is very flexible. It lets kids learn from anywhere, and they can often go at their own speed. But it doesn't have the same face-to-face time and real-life activities that regular gym class gives. Traditional gym classes help kids talk to each other, work as a team, and learn important skills that are hard to learn online.

The study also looks at how different kids learn in each type of class. It checks how well students do, how happy they are, and if they stay in school. Also, it talks about how technology helps make learning better and thinks about the problems with not everyone having access to online learning, especially for kids who don't have much.

The study's results want to show a fair view of both online and real-life education. It points out that a mix of both types could give the best learning experience by using the good parts of each one.

Keywords: E-Learning, Blended Learning, Learning Flexibility,

Time Management in Education, Educational Outcomes.

1. INTRODUCTION

The fast growth of technology has changed many parts of our lives. One of the most changed areas is education. Online learning has become a popular choice instead of going to school in person. It gives students new ways to learn and find information. This change has made people talk a lot about which way of learning is better, online or in a classroom. As schools use more digital tools, it's important to know how these ways of learning are different. This helps us think about how we will learn in the future.

Online education allows students to access courses and materials remotely, offering flexibility to learn from any location. This mode is beneficial for those with work, family, or geographic constraints, enabling self-paced learning and adaptability. However, online education requires strong self-discipline, and the lack of in-person interaction can lead to feelings of isolation. These challenges may impact student motivation and engagement in online settings.

In contrast, physical education takes place in structured classroom settings, allowing for direct interaction between students and teachers. Face-to-face discussions, real-time feedback, and hands-on activities foster an interactive and engaging learning environment. The presence of peers also promotes social skills and collaboration, enhancing the learning experience. However, physical education may be less accessible due to financial or logistical barriers like commuting and strict schedules.

A key area of comparison between online and physical education is their impact on academic performance and learning outcomes. Studies show mixed results, with some indicating that online learners perform on par with or better than their in-person peers, while others suggest traditional settings support deeper learning. Outcomes often depend on factors like student motivation and access to resources, and hybrid or blended learning models are emerging as effective alternatives, balancing flexibility and engagement.

This paper aims to explore the strengths and limitations of both online and physical education through a comprehensive review of current literature and educational trends. By examining how each mode affects student engagement, social development, and academic success, this study seeks to provide a nuanced understanding of their respective impacts.

Aim:

This research aims to compare online and physical education in terms of effectiveness, student engagement, accessibility, cost, and social development. It seeks to evaluate how each mode influences learning outcomes and identify potential strengths and limitations. The study also explores whether a blended approach could enhance educational quality by combining the benefits of both methods, providing insights to inform educators and policymakers.

Problem Statement:

The rapid evolution of online education, accelerated by the COVID-19 pandemic, has challenged traditional views of physical (in-person) education as the primary method of instruction. While online education offers flexibility and

increased accessibility, questions remain regarding its effectiveness in delivering quality education, especially compared to the traditional classroom environment. Physical education fosters direct social interaction, hands-on learning, and the development of essential soft skills that may be less emphasized in virtual settings.

The advantages inherent to each educational modality—specifically, the convenience associated with online learning in contrast to the social and experiential benefits offered by physical learning environments—have not been comprehensively assessed against critical factors such as student engagement, learning outcomes, cost, accessibility, and the overall quality of the educational experience.

This insufficiency in understanding the comparative strengths and limitations of online versus physical education poses significant challenges for educators, educational institutions, and policymakers alike in their efforts to select and develop optimal teaching strategies. The present research endeavours to address these challenges through a systematic analysis of the impacts generated by both educational modalities. Ultimately, this investigation aims to provide evidence-based recommendations that will assist educational stakeholders in making informed decisions and enhancing learning experiences.

2. LITERATURE REVIEW

After referencing to about 5 research articles on the topic of comparing Online Education and Physical Education, the following findings can be highlighted. The debate between online and offline education encompasses various dimensions, including effectiveness, student engagement, and social interaction. While online education offers flexibility and accessibility, offline education is often associated with better academic outcomes and social skills development. The following sections delve into the key aspects of both educational modalities.

Effectiveness of Learning

- **Offline Education**: Studies indicate that offline learning tends to yield better academic performance and understanding of concepts, particularly in subjects like physics and medical coding, where face-to-face interaction enhances comprehension (Setiaji et al., 2023) (Aulia et al., 2023).
- **Online Education**: Although online education provides flexibility, many students report lower motivation and perceived learning outcomes compared to traditional methods (Knežević & Polak, 2024) (Mangla, 2023).

Student Engagement and Motivation

- **Engagement**: Offline education fosters stronger social interactions and engagement, which are crucial for motivation and academic resilience (Knežević & Polak, 2024) (Rai et al., 2024).
- **Motivation**: Online learners often struggle with maintaining motivation, leading to higher instances of academic stress and cheating (Knežević & Polak, 2024).

Accessibility and Flexibility

- **Online Education**: It offers personalized instruction and a global reach, making education more accessible to diverse populations (Rai et al., 2024).
- **Offline Education**: While less flexible, it provides essential resources and practical experiences that online platforms cannot replicate (Rai et al., 2024).

In contrast, some argue that online education can effectively cater to individual learning styles and schedules, potentially leading to improved outcomes for self-motivated learners. However, the lack of face-to-face interaction remains a significant drawback.

Result Analysis:

1. Academic Performance and Knowledge Retention

- **Physical Education**: Studies have consistently shown that in-person learning environments are beneficial for many students in terms of academic performance and knowledge retention. The structured nature of physical classrooms, where students adhere to scheduled classes and participate in real-time discussions, seems to enhance focus and commitment. The immediate availability of instructors for answering questions and clarifying doubts creates an interactive learning environment that supports understanding and retention. Furthermore, physical education environments allow for hands-on activities and practical exercises that can solidify theoretical concepts, particularly in subjects that benefit from experiential learning. This structure may be particularly effective for students who need external motivation and benefit from direct supervision and guidance.
- **Online Education**: While online education allows for similar academic content delivery, the degree of self-regulation required in fully online courses can impact student performance, especially for students who struggle with time management. However, when designed with engaging and interactive elements, such as quizzes,

multimedia, and regular assessments, online courses have shown promising results in terms of knowledge retention. Courses that use multimedia—such as video demonstrations, simulations, and interactive quizzes—enhance student engagement and reinforce learning, leading to improved academic outcomes. Online education may be particularly effective for students who are comfortable with self-paced learning and can manage their schedules independently, but it can pose challenges for those who rely on external support and face-to-face engagement.

2. Student Engagement and Interaction

- **Physical Education**: One of the most significant benefits of physical classrooms is the high level of student engagement that comes from face-to-face interaction. In a traditional classroom, students experience direct communication with peers and instructors, fostering a sense of community and belonging. Real-time interactions allow students to participate actively in discussions, debates, and group projects, encouraging immediate feedback and clarifications. The physical presence of instructors and peers can enhance motivation, as students may feel more accountable and encouraged to participate. Additionally, non-verbal cues, such as body language and facial expressions, contribute to a richer communication experience, which enhances understanding and strengthens social bonds. This sense of shared learning often leads to higher levels of satisfaction and deeper engagement.
- **Online Education**: Engagement in online education can vary significantly depending on course design and interaction features. Fully asynchronous courses, where students access materials at their convenience without live sessions, often report lower levels of engagement due to the isolated nature of the experience. However, synchronous online classes that include live lectures, breakout sessions, and collaborative projects can replicate some aspects of physical classrooms and foster higher engagement. Interactive features, such as discussion boards, virtual office hours, and group activities, are essential to creating an engaging online environment. Research suggests that online engagement improves when students have frequent opportunities for interaction, clear communication channels, and support resources. However, without face-to-face interaction, some students may still feel disconnected, which can impact participation and motivation over time.

3. Accessibility and Flexibility

- **Physical Education**: Learning in schools is good because it helps kids pay attention and follow rules, but it can also be hard for some students. They have to go to classes at certain times and places, which can be tough for kids who have other things to do, like helping at home or working. Some students live a long way from school, too. Going to gym class means they have to travel, which can cost money and take a lot of time. This can make things harder for kids who need more flexible schedules. Also, regular classrooms might not work for kids with disabilities or health problems, and some kids might not have enough money to go to school in person.
- **Online Education**: Online learning is an easy way to study. It helps students who have to do other things, too. Students can use materials from anywhere that has internet. They can also learn when they want to. This is helpful for many people, like moms and dads who work, or for kids who might be sick or need extra help. But not everyone can use online learning. Some kids don't have good internet, computers, or quiet places to study. So, even though online learning should be easy for everyone, some kids can't use it well because they don't have the right tools or skills.

4. Social and Emotional Development

- **Physical Education**: Traditional classroom settings are essential for fostering social skills, emotional intelligence, and teamwork abilities. Students have daily opportunities for face-to-face interactions, group work, and peer discussions, which are crucial for developing interpersonal skills. These interactions enable students to build friendships, communicate effectively, and practice empathy—all skills that contribute to emotional and social development. The structured environment of physical classrooms also allows teachers to observe and support students' social growth, identifying and addressing any challenges they may face. Furthermore, in-person collaboration encourages active participation, debate, and problem-solving, all of which are important for building confidence and preparing students for real-world social dynamics.
- **Online Education**: In online education, social and emotional development can be more challenging due to the lack of face-to-face interaction. While some online courses include group projects and collaborative activities, the absence of physical presence can limit the depth of these connections. The digital format often restricts non-verbal communication, making it harder for students to read social cues and respond empathetically. However, some online programs integrate social learning features such as virtual breakout rooms, peer feedback, and collaborative forums, which can support social engagement. Although these tools are beneficial, they may not fully replicate the interpersonal experiences of physical classrooms. For students who value social interaction as part of their learning process, online education may fall short in providing the same level of emotional and social enrichment.

www.ijprems.com
editor@ijprems.com
INTERNATIONAL JOURNAL OF PROGRESSIVE RESEARCH IN ENGINEERING MANAGEMENT AND SCIENCE (IJPREMS)
(Int Peer Reviewed Journal)
Vol. 04, Issue 11, November 2024, pp : 1852-1858
e-ISSN : 2583-1062
Impact Factor : 7.001

5. Cost-Effectiveness

- **Physical Education**: The cost of physical education is generally higher due to infrastructure, facility maintenance, and on-campus resources. Traditional institutions require investments in physical spaces, equipment, and utilities, which contribute to the overall cost of education. For students, additional costs may include commuting, accommodation, and other expenses associated with on-campus attendance. However, many students feel that these costs are justified by the benefits of face-to-face learning, access to physical resources, and the social aspects of campus life. Financial aid and scholarships are often available to offset some of these expenses, but for many, the costs associated with physical education remain a barrier.
- **Online Education**: Online education is often considered more cost-effective for both institutions and students. Institutions save on facility-related expenses and can enrols larger student populations without physical space limitations. For students, online learning reduces costs associated with commuting, accommodation, and materials, as digital resources are often more affordable. However, the initial setup costs of creating high-quality online content and maintaining technical infrastructure can be significant for institutions. Furthermore, the cost-effectiveness of online education varies based on course design; high-quality online programs that include live interactions and multimedia resources may require more investment than basic online courses. Still, for many students, online education represents a more affordable option, particularly for those who would otherwise need to relocate or commute.

6. Effectiveness of Hybrid or Blended Learning Models

- **Blended Learning**: Hybrid or blended learning models, which combine online and physical education elements, are emerging as an effective compromise. In a hybrid model, students may attend in-person classes periodically while accessing course materials and completing assignments online. This structure allows students to benefit from the flexibility of online learning while still engaging in face-to-face interactions. Studies have shown that blended learning often leads to higher engagement, improved knowledge retention, and greater satisfaction, as it caters to different learning preferences. The hybrid model enables students to gain essential social experiences and immediate feedback from instructors, while also accommodating busy schedules and reducing commuting needs. However, successful hybrid models require careful planning to balance in-person and online components effectively, ensuring that both formats complement each other to enhance learning outcomes.

3. DISCUSSION ON RESULTS

The comparative analysis of online and physical education reveals that each format possesses distinct strengths and limitations, highlighting the complexity of meeting diverse educational needs. In examining academic performance, physical classrooms typically yield higher knowledge retention and performance outcomes, largely due to their structured environments. The in-person presence of instructors and peers provides direct, immediate support and accountability, which aids students in maintaining focus and comprehension. Online education, however, shows promising results in self-regulated students when interactive elements like multimedia, quizzes, and assessments are incorporated. This suggests that online learning can achieve similar academic success when adequately supported, though some students may still struggle with the self-discipline required for entirely independent study.

Student engagement and interaction are considerably enhanced in physical settings, where real-time communication fosters active participation and collaborative learning. The immediacy of feedback, coupled with the natural social interactions in a shared environment, supports higher levels of engagement and community-building, which may enhance learning motivation. Online courses, on the other hand, often lack these spontaneous interactions and may result in feelings of isolation, particularly in asynchronous setups. While synchronous online classes that offer live discussions and group activities can simulate some aspects of in-person engagement, the virtual nature of these interactions limits the depth of connections. This makes online engagement highly dependent on course design, with stronger outcomes seen in programs that use synchronous sessions, peer collaboration, and discussion boards effectively.

The accessibility and flexibility of online education stand out as significant advantages, especially for students balancing education with other commitments, like work or family. For students in remote areas or those who may face socio-economic barriers, the convenience of online education offers a means to access educational opportunities that would otherwise be out of reach. However, the digital divide remains a notable limitation. Students from underserved communities may lack reliable internet access or appropriate devices, which underscores a critical inequality in the accessibility of online education. While physical education environments are limited by rigid schedules and the need to attend in person, online education's limitations in technology access hinder its reach.

Social and emotional development also emerges as a critical area where physical classrooms have an edge, as students benefit from daily, face-to-face interactions that promote teamwork, communication, and empathy. These interactions

are integral to building relationships, fostering emotional intelligence, and enhancing interpersonal skills—qualities that are less easily nurtured in online environments. Although some online programs incorporate social learning tools like virtual breakout rooms or collaborative projects, these methods struggle to replicate the depth of connections formed in physical settings. Students who thrive on peer interaction and require a sense of community may find the online format lacking in opportunities for genuine, human connection.

From a cost perspective, online education proves to be more economical, reducing the expenses associated with physical facilities, commuting, and material costs. This cost-effectiveness benefits students who might find physical education financially prohibitive, though online institutions must still invest in robust digital infrastructure and interactive course materials. Conversely, physical education's reliance on on-campus resources and facilities often raises costs, though these resources contribute to the structured, engaging environment valued by many students.

A blended, or hybrid, model surfaces as a potential solution that combines the flexibility of online learning with the engagement benefits of physical classrooms. The findings suggest that hybrid education allows students to balance in-person guidance with the adaptability of digital resources, resulting in higher satisfaction and improved learning outcomes. Hybrid models offer a middle ground, providing students with flexibility while still delivering the benefits of face-to-face interaction, which could address the engagement and social gaps seen in fully online education. However, successful implementation of hybrid programs requires thoughtful planning and coordination to balance the advantages of each format without overburdening students.

In conclusion, the results indicate that neither online nor physical education alone can satisfy the full range of student needs. Physical education excels in fostering engagement and social skills, while online education provides unmatched accessibility and flexibility. Hybrid models emerge as the most comprehensive approach, blending the strengths of each mode and offering an educational experience that can adapt to diverse learning preferences. This adaptability is crucial for institutions seeking to accommodate both traditional and non-traditional students, making a strong case for integrating online and physical education in a way that capitalizes on the strengths of both to provide an inclusive, effective, and sustainable learning environment.

Unexpected Findings:

A surprising thing was that learning online, even though it is flexible, sometimes made students feel more stressed. This is because they had to work by themselves and didn't get help right away. Many students felt lonely and had trouble managing their time. On the other hand, physical education classes, which are more organized and have students talking to each other, seemed to help students feel better than expected. It helped them feel less stressed because they could see each other in person and have a routine. This shows that having a set place to learn with friends is very important for students to feel good and do well in school. It goes against the idea that just being flexible makes stress go away.

4. CONCLUSION

In conclusion, the comparative analysis of online and physical education reveals that each mode has distinct strengths and limitations, catering to different aspects of the learning experience. Physical education offers higher engagement, structured routines, and critical social interactions that support academic success and mental well-being, making it particularly effective for fostering community and skill development. Conversely, online education provides unmatched flexibility and accessibility, making it a valuable option for students needing to balance education with other commitments or for those in remote locations. However, the self-directed nature of online learning can sometimes lead to challenges in engagement, motivation, and stress management, especially for students who thrive in interactive environments.

The findings suggest that a hybrid model, combining the flexibility of online learning with the engagement and structure of in-person classes, could optimize learning outcomes and better meet diverse student needs. By integrating both approaches, educational institutions can create more inclusive, adaptable learning environments that enhance accessibility while maintaining the critical social and academic benefits of traditional classrooms. Overall, the research emphasizes that a balanced approach—leveraging the strengths of both online and physical education—offers a more effective and resilient education model for the future.

5. REFERENCE

[1] Martina Knežević, Nicoletta Polak (2024) – "(On the other side of the screen: predictors of academic stress and resilience during online education)" 320-345.

[2] Rai, Shreya Kakubal , Oswal Isha Jitendra, Manav Sakariya, Simran Mathew, Zoya Amina Khaleel (2024) "A Critical Study on Transformation of Conventional Offline Learning to Online Education" 690-712.

[3] Bayu Setiaji, Fathiyya Mufida, Anita Dwi Puspitasar (2023) "Comparison of the Effectiveness of Online Physics Learning and Offline Physics Learning" 45-65.

[4] Shafa Nurul Aulia, Ananda Hermanto, Puteri Fannya, Dina Sonia, Noor Rahmah Yulia (2023)
[5] "Differences in the Effectiveness of Online Methods and Offline Methods in Disease Classification and Coding Courses" 100-123.
[6] Neelam Raipuria Mangla (2023) "Different Aspects of Online and Offline Education in Undergraduate Students" 73-90.
[7] https://typeset.io/journals/international-journal-of-applied-research-3bu36g0d (2023) "A comparison of the effectiveness of online and offline learning" 1-4.
[8] Afam Uzorka (2024) "Perspectives on Online Education in Higher Education" 10-23.
[9] Putri Ulfa Kamalia, Norida Canda Sakti, Riza Yonisa Kurniawan (2022)
[10] "Comparative Study of Student Learning Outcomes in Online and Offline Learning during the Pandemic" 12-23.
[11] MOHANKUMARI C, JAYA SHRI R R (2022) "The statistical comparison between online and offline education" 10-22.
[12] Allen, I. E., & Seaman, J. (2017). Digital learning compass: Distance education enrolment report 2017. Babson Survey Research Group.
[13] Bernard, R. M., et al. (2009). A meta-analysis of three types of interaction treatments in distance education. Review of Educational Research, 79(3), 1243–1289.
[14] Chickering, A. W., & Ehrmann, S. C. (1996). Implementing the seven principles: Technology as lever. AAHE Bulletin, 49(2), 3–6.
[15] Means, B., et al. (2013). The effectiveness of online and blended learning: A meta-analysis of the empirical literature. Teachers College Record.
[16] Nguyen, T. (2015). The effectiveness of online learning: Beyond no significant difference and future horizons. MERLOT Journal of Online Learning and Teaching, 11(2), 309-319.
[17] Russell, T. L. (1999). The no significant difference phenomenon. North Carolina State University.
[18] Xu, D., & Jaggars, S. S. (2014). Performance gaps between online and face-to-face courses. The Journal of Higher Education, 85(5), 633–659.
[19] Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. The Internet and Higher Education, 2(2-3), 87-105.
[20] Shea, P., et al. (2006). A study of effective instructor practices in online learning. Journal of Asynchronous Learning Networks, 10(3), 5-22.
[21] Young, S., & Bruce, M. A. (2011). Classroom community and student engagement in online courses. MERLOT Journal of Online Learning and Teaching, 7(2), 219-230.
[22] Tichavsky, L. P., et al. (2015). "It's just nice having a real teacher": Student perceptions of online versus face-to-face instruction. International Journal for the Scholarship of Teaching and Learning, 9(2), Article 2.
[23] Zhu, C. (2012). Student satisfaction, performance, and knowledge construction in online collaborative learning. Educational Technology & Society, 15(1), 127-136.
[24] Swan, K. (2001). Virtual interaction: Design factors affecting student satisfaction and perceived learning. Distance Education, 22(1), 306-331.
[25] Anderson, T. (2003). Getting the mix right: An updated and theoretical rationale for interaction. The International Review of Research in Open and Distributed Learning, 4(2).
[26] Al-Qahtani, A. A., & Higgins, S. E. (2013). Effects of traditional, blended and e-learning on students' achievement in higher education. Journal of Computer Assisted Learning, 29(3), 220-234.
[27] Bernard, R. M., et al. (2004). How does distance education compare with classroom instruction? A meta-analysis of the empirical literature. Review of Educational Research, 74(3), 379-439.
[28] Clark, R. E. (1983). Reconsidering research on learning from media. Review of Educational Research, 53(4), 445-459.
[29] Sitzmann, T., et al. (2006). The comparative effectiveness of web-based and classroom instruction: A meta-analysis. Personnel Psychology, 59(3), 623-664.
[30] Cobb, P. (2009). Cognitive conflict and the challenge of real-world problem-solving. Journal of Research on Educational Effectiveness, 2(2), 81-92.
[31] Murphy, R., et al. (2014). Research on the effectiveness of online learning: A comparison of online and blended learning with traditional instruction. SRI International.
[32] Lim, D. H., & Morris, M. L. (2009). Learner and instructional factors influencing learning outcomes within a blended learning environment. Educational Technology & Society, 12(4), 282-293.
[33] Moore, M. G. (1993). Theory of transactional distance. In Theoretical principles of distance education (pp. 22-38). Routledge.

[34] Guri-Rosenblit, S. (2005). 'Distance education' and 'e-learning': Not the same thing. Higher Education, 49(4), 467-493.
[35] Hodges, C., et al. (2020). The difference between emergency remote teaching and online learning. Educause Review.
[36] Bolliger, D. U., & Wasilik, O. (2009). Factors influencing faculty satisfaction with online teaching and learning in higher education. Distance Education, 30(1), 103-116.
[37] Anderson, T., & Elloumi, F. (2004). Theory and practice of online learning. Athabasca University Press.
[38] Garrison, D. R. (2007). Online community of inquiry review: Social, cognitive, and teaching presence issues. Journal of Asynchronous Learning Networks, 11(1), 61-72.
[39] Dabbagh, N. (2007). The online learner: Characteristics and pedagogical implications. Contemporary Issues in Technology and Teacher Education, 7(3), 217-226.
[40] Hrastinski, S. (2008). Asynchronous and synchronous e-learning. Educause Quarterly, 4, 51-55.
[41] Northrup, P. T. (2002). Online learners' preferences for interaction. Quarterly Review of Distance Education, 3(2), 219-226.
[42] Rovai, A. P. (2002). Sense of community, perceived cognitive learning, and persistence in asynchronous learning networks. The Internet and Higher Education, 5(4), 319-332.
[43] Li, Q., & Ma, X. (2011). Online learning community: A virtual environment for emotional and social interactions. Journal of Educational Technology Development and Exchange, 4(1), 35-44.
[44] Watson, J., & Murin, A. (2014). Blended learning: The evolution of online and face-to-face education from 2008–2015. Evergreen Education Group.
[45] Staker, H., & Horn, M. B. (2012). Classifying K-12 blended learning. Innosight Institute.
[46] Graham, C. R. (2006). Blended learning systems: Definition, current trends, and future directions. Handbook of Blended Learning: Global Perspectives, Local Designs, 3-21.
[47] Halverson, L. R., et al. (2014). A thematic analysis of the most highly cited scholarship in the first decade of blended learning research. The Internet and Higher Education, 20, 20-34.
[48] Bonk, C. J., & Graham, C. R. (2012). The handbook of blended learning: Global perspectives, local designs. John Wiley & Sons.