# Blended Learning Is a Great Solution for Future Learning Model after COVID-19 in Indonesia

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## Abstract

During the COVID-19 pandemic, the conventional education revolution to technology-based education became the world's spotlight. Online learning activities are one of the most effective solutions in Indonesia during the COVID-19 pandemic. The government has begun to transition from face-to-face learning (convectional learning) to distance learning (online learning) through. Blended learning activities are one of the best options that can be implemented during the COVID-19 pandemic situation. Blended Learning has the ability to improve student learning outcomes in terms of conceptual knowledge and procedural competence. The integrating technology in the learning system with humanistic interactions has a great influence on motivation and achievement of expected learning competencies and skills. Blended learning combines traditional and online learning. Humanistic elements in learning are still used because students direct interaction with teachers as a form of psychological support and some things that need to be explained directly, particularly in affective and psychomotor abilities. blended learning in education enables learners to choose when and where they want to access lessons. Students are not required to travel long distances to delivery location e-learning can be done from anywhere, at any time.

**Keywords:** *Blended Learning; COVID-19; Face-To-Face Learning; Online Learning*

## Introduction

During the COVID-19 pandemic, which had spread to most areas of the world and caused a massive death rate, the conventional education revolution to technology-based education became the world's spotlight. Indonesia is one of the countries facing the most difficult situation due to the Covid-19 pandemic, which has paralyzed various sectors, one of which is education. Based on the Minister of Education and Culture's decision, Indonesia has closed schools and implemented an online learning process since March. Indonesia is one of the developing countries that has not implemented a full online learning process for formal education. As a result of this circumstance, the government is compelled to present alternatives for incorporating technology into the learning process has resulted in increased use of technology for online or distance learning.

Online learning activities are one of the most effective solutions implemented in Indonesia during the COVID-19 pandemic. The government has begun to transition from face-to-face learning (convectional learning) to distance learning (online learning) by utilizing technology. The transformation of digital technology has serious implications in the field of education. Currently, technology is being used in a variety of activities by various agencies and sectors. The transformation of digital technology has serious implications in the field of education. Currently, various agencies and sectors use technology in their operations. Changing the learning model is a difficult task.

Today's technology affects more than just entertainment; it can also influence how we think, learn, and interact. Changing the instructional approach is not an easy task, especially when technology is involved in the learning process. Technological advancements encourage teachers to comprehend and apply technology in the learning process in order to foster a dynamic learning environment (Klopfer et al., 2009). Schools and universities have begun to take steps to maximize the use of e-learning that has previously been developed to be used or implemented optimally for learning activities. Education is a critical step in developing quality human resources capable of challenging on a global scale. The advancement of technology in the digital era also has a significant impact on the global education system. During this COVID-19 pandemic, teachers must be able to adapt and follow changes in online learning strategies by utilizing technology, which is usually referred to as E-learning. According to the research (Setyawan, 2019), online learning has been shown to enhance learning motivation and skill worth.

Online learning is a practical and efficient solution for the learning process during the COVID-19 pandemic. The development of information technology, especially the internet in Indonesia, also makes educators have many choices in utilizing technology for the learning process. E-learning is one utilization of internet-based technology can help with the learning process. The use of e-learning in the implementation of learning can help educators provide materials, assignments, and quizzes for evaluation, as well as monitor and communicate with students actively via the web. As a result, students and educators can use e-learning to learn at any time and from any location (Surjono, 2013). Learning activities using e-learning are still considered difficult for some students and lecturers to implement.

By adjusting student needs and interests, educator creativity and quality will determine the success of learning. In terms of learning problems, learning technology plays an important role in resolving learning issues faced by students during the COVID-19 pandemic. According to (Oludare Jethro et al., 2012), integrating e-learning into education can catalyze the application of learning theory for adults, where educators will act as content distributors but will become more involved as learning facilitators and competency assessors. Any use of Internet technology today can provide a variety of solutions to improve knowledge and performance. In reality, however, this is not the case; the use of online learning through e-learning in universities is still not optimal. In accordance with the global development of COVID-19 cases, educational institutions have combined learning by combining elements of online learning with face-to-face learning, a process known as Blended learning.

The evolution of digital technology has serious implications in the realm of education. Currently, different authorities and sector are utilizing technological solutions. Changing instructional techniques is, of course, a challenging task, especially when technology is involved in the education system. Adopting and integrating technology-based instructional methods has a long history of problems, but it has also resulted in a significant understanding of how to succeed. Blended learning has grown in popularity around the world for nearly a decade. Blended learning is expected to be a popular learning method in the future. Blended learning also has a mobile and adaptable implementation.

## *Theory*

E-learning and perhaps other technological innovations are increasingly revolutionized the way institutions of higher learning educate and learn their students. In vocational education, e-learning makes it possible to reach a huge number of students regardless of time or place. The country's opportunity to improve vocational skills on a wide level and in a brief period motivates the adoption of e-learning. E-learning is an important technique in secondary qualifications because it offers a new environment for teaching and learning in which rich information can be accessed effectively, quickly, and competitively. The time and space acceptable solutions by elearning enables training to increase competency while taking into consideration the demands of the country, as well as to increase knowledge and skills.

(Goyal, 2012) defines e-learning as the use of internet technology to improve knowledge and performance. (Pande et al.,2016) describe e-learning as the integration of information and communication technology into the educational process to support and improve learning, as well as the implementation of information and communication technology as a complement or support for traditional classroom learning. (Surjono, 2013) defines e-learning as a method of widely delivering material using technology in open, flexible, and distributed learning. Students have control over the content, learning sequence, pace of learning, timing, and media in e-learning software, allowing them to tailor their learning experience to meet their personal learning goals. Innovations in e-learning technology are causing a revolution in education by enabling individual learning (adaptive learning), increasing student interaction with others (collaborative learning), and changing the role of lecturers. E-learning is involved in the provision of complete online learning only through the use of supplemented and web-dependent web services for educational process and support (Arkorful & Abaidoo, 2015) During the COVID-19 pandemic, educators used WAG (Whatsapp Group), Zoom, Google class, or e-learning Moodle provided by schools or universities to implement e-learning.

According to (Kaur, 2013) blended learning is an effective combination of various delivery models, teaching models, and learning styles that can be carried out in an interactive learning environment in online learning (e-learning) and face-to-face learning. As a result, this model is applicable to any subject. In order to implement blended learning activities, several factors must be considered, including internet access, devices, the environment, and implementation systems. Despite the fact that many studies conclude that blended learning is an effective method in the disruption and vuca era. Blended learning, according to (Fitzpatrick, 2012), is a combination of online and face-to-face learning in the classroom (conventional).

Switching educational programs from traditional classrooms to a blended learning approach can be challenging. Designing and developing a high-quality blended learning course requires careful preparation, expertise, and resources. Students who really are accustomed to conventional practices may be hesitant to acknowledge greater responsibility for their own learning. However, there is evidence that blended learning, especially active learning techniques, increases the educational experience. A integrated design approach based on quality guidelines can result in successful and effective mixed vocational education programs (Posey & Pintz, 2017). The lecturer's job is more important; the lecturer must multitask while transferring knowledge, teaching, motivating, and stimulating students (Purnawinadi, 2021).

A successful blended learning model should ideally combine both asynchronous and synchronous learning activities. This is attributed to the reason that it helps students and lecturers to carry out more flexible learning activities that could be carried out at any time and from any place, regardless of the timetable or capability of individuals to recognize that has been established. As a function, blended learning may be used in three different situations: synchronous F2F in traditional classrooms (same time / same place), synchronous F2F in virtual classrooms directly through e-learning (same time / different places). E-learning enables for both the synchronous (at the same time/in the same place) and

asynchronous (at a different time/in a different location) learning. Blended learning has an advantage over conventional in-class or remote learning that is primarily available online.

The importance of the blended learning model (Carman, 2005) identified five fundamental elements that must be present in the design of a Blended learning model, that is live Events (Face-to-Face Learning), self-study using online resources, collaboration, evaluation (Assessment), Performance aids.

a. Live Events (Face-To-Face Learning)

Live events are direct face-to-face or synchronous learning experiences in which the instructor leads the learning process and all students participate face-to-face at the same time and place directly in the classroom (live classroom) or at the same time but in different locations (virtual classroom). Face-to-face learning can be used to design an engaging and effective direct learning experience that meets learning objectives.

b. Self-Study Using Online Resources

With online content, independent learning experiences can be completed at any time and from any location (Asynchronous). Text-based or multimedia-based learning (video, animation, simulation, image, audio, or a combination of these media) can be accessed online (via the web or via mobile devices in applications: streaming audio, streaming videos, e-books, which can be accessed by students anytime and anywhere, to be accessed offline in the form of CDs, and in print.

c. Collaboration

In order to design a blended learning learning, an educator or instructor must be able to build collaboration between students and students with lecturers through communication tools built in the form of chatrooms, discussion forums, such as e-mail, discussions, online chat, websites, and social media, to deepening of material, problem solving, or project assignments. Because this collaboration involves various parties with various learning resources, it is hoped that students' scientific knowledge will be increased.

d. Evaluation (Assessment)

An educator can combine several types of assessments that are test or non-test, or authentic tests (authentic assessment) that can be poured in the form of a project or a product that can be carried out either online or offline, so that the assessment is followed by students become more flexible. Assessment is critical for determining students' levels of knowledge. Pre-assessments can be done prior to face-to-face learning and independent learning to determine prior knowledge, and post-assessments can be done by following scheduled lessons online to measure transfer of learning.

e. Performance Aids

To improve learning retention and student learning outcomes in the blended learning model, reference materials are required. To be able to support student competence in mastering a material, teaching materials must be prepared in digital form and accessible to learning participants both offline and online.

This learning system is flexible because students can control learning activities based on time, place, path, and pace, giving them more opportunities to interact with lecturers and other students during the learning process in class. Besides that, blended learning has the potential to improve both personal learning and student experience based on the remote learning design, the lecturer continues to control blended learning (Patrick & Sturgis, 2015). Blended learning can improve student access and flexibility, increase levels of active learning, and result in better student experiences and outcomes. According to (Saliba et al., 2013), all of this will be realized if lecturers using blended learning can improve their teaching skills and use e-learning media. Blended learning is an effective combination of various learning models and learning styles that can be used in both an interactive online (e-learning) and traditional (face-

to-face) learning environment. As a result, blended learning can be carried out in three different environments: synchronous F2F in traditional classrooms (same time / same place), synchronous F2F in virtual classrooms directly through e-learning (same time / different places). E-learning allows for both synchronous (at the same time/in the same place) and asynchronous (at a different time/in a different place) learning. Blended learning has an advantage over traditional in-person or online distance learning because of the combination of these three situations.

**Challenges for Blended Learning**

There are several challenges that must be addressed before attempting to implement the blended learning model into the learning process. (Kaur, 2013) describes several challenges in the implementation of Blended learning such as:

1. Technical Obstacle

The challenge is to use appropriate technology to ensure the program's success. Technical challenges to ensure that participants are successful in using the provided technology. As a result, it is critical for blended learning model developers to assess the feasibility of e-learning programs that will be integrated into learning and to provide information about Moodle-based e-learning guides.

2. Obstacles in the Organization

Many lecturers agree that blended learning is an appropriate way to address learning problems, but they fail to recognize that this is a complex process that necessitates thinking outside of individual programs. As a model developer or educator, he or she should take several steps to address organizational challenges, such as reinforcing the concept of blended learning, redefining the role of facilitator, and establishing proper procedures for managing and monitoring student progress.

3. Challenges with Instructional Design

When learning technologies are introduced, the focus is often on implementing the technology, while proper actual content design is frequently overlooked due to insufficient time and budget to create a successful program. As a result, several steps can be taken to overcome the challenges of instructional design, such as; Use of appropriate syntax in blended learning models, Choosing the best method of instruction, Making use of the appropriate learning media, keeping offers online is more interactive than simply "talking to" attendees and ascertain participant commitment and follow-up with "non-live" elements. Make certain that all of the mix's components are in sync.

Thus, the use of technology to facilitate student-centered teaching techniques that allow student self-learning, collaboration, and active learning is highly recommended. Taking into consideration understanding of e-learning methods and adopting effective pedagogical and technological designs to develop competent graduates capable of doing the job in technology-dominated areas (Harerimana & Mtshali, 2020). Online learning activities are one of the best alternatives that may be utilized in Indonesia during the COVID-19 pandemic. The government has begun to convert from face-to-face learning (convectional learning) to distance learning (also known as online learning) by utilizing technology. The advancement of digital technology does have implications in the realm of education. Currently, different researchers and sectors use technology and systems.

Strong lessons can be delivered without the latest technology in the classroom; however, there is a significant disconnect between how students are taught in school and how the outside world approaches socialization, meaning-making, and achievement. It is vital that education not only eliminates these gaps in order to make these two "worlds" more seamless, but also to harness the ability of technological advances for educational purposes. As a result of these attacks on formal education, those in the "outside world" are frequently quick to pounce on educators and the way education (perceived) is conducted in classrooms.

Attacking educators' present practices is still not acceptable, and it is believed that it would restrict continued development in the education system. Many instructors have acquired the abilities and are presently utilizing a variety of blended learning instructional strategies. Identifying and improving on this technique is important to effective growth in the education sector and closing the divide. We are evolving in instructional practices and strategies to instruction, which not only align with the processes and operations of the world outside of school, but also harness the emerging power and potential of these new processes and technologies. Comes at the end of the increasing technological and conventional teaching interaction to be the greatest alternative for cognition and instruction in the future.

## *Methodology*

Qualitative methods are used to collect rich descriptive data that contribute to the understanding of the phenomena studied with a systematic and detailed review for identification, selection, and assessment of the quality of individual studies and overall evidence but do not incorporate the study's overall results. Data acquired from scientific sources, such as indexed international journals and relevant books, can aid in the process of searching for and making a judgment of blended learning research. This research is informed with the need to comprehend and explain the perspectives of students and instructors toward the new learning environment of Blended learning as the best learning solution for the future.

## *Result and Discussion*

Blended learning has the potential to solve learning issues while also improving learning outcomes and student motivation. However, the success of implementing Blended learning cannot be accomplished expanded by having an online component (e-learning) to the face-to-face learning environment. Understanding the advantages and disadvantages of the different learning models is helpful, but it is not sufficient. Because, according to Cheung, W. S., and Hew, K. F., (2014), the most important aspect of implementing the blended learning model is how a lecturer finds the right blend of different models in effective instructional design. (Laurillard, 2015) also stated that blended learning can improve lecturers' teaching experiences and student learning because it allows them to be actively involved in classroom learning and distance learning using technology such as e-learning.

The use of the right blended learning model can help educators and students understand a variety of disciplines by optimizing teaching and learning and making it more flexible through the use of technology. Blended learning can be a smart way to solve problems in the learning process. According to (Meikleham et al., 2018) from several existing studies, if the blended learning model is applied to the learning process, it will be more effective with the transition of students to a higher level in acquiring knowledge and developing skills. The implementation of blended learning is indeed flexible, but many factors must be considered in order for learning to be effective and useful. Make learning more realistic in terms of time, effort, and resources. As a result, it is critical for an institution to develop the policies, plans, resources, scheduling systems, and support needed to ensure the successful implementation of the Blended learning model.

In his research (Setyawan, 2019) (Astuti et al., 2019) successful online learning can boost learning motivation and the worth of vocational skills. The University of Illinois, on the other hand, stated that there are several shortcomings of e-learning that must be anticipated and taken into account in its development. These shortcomings are divided into six major categories, namely technology, students, facilitators, administration and faculty, online environment, and curriculum. Incomplete preparatory work of technology, students, facilitators, and curriculum in adopting e-learning systems will be a factor that becomes a weakness of e-learning itself (Sugiarto, 2020).

However, students still find it difficult when completing campus assignments. Understanding student challenges and preferences, higher education institutions can develop strategies to assist students in the event of a second wave of Corona Virus or other disasters requiring an emergency transition to distance learning. The current study explores students' perceptions of their adoption, use and acquisition of online learning following COVID-19 government measures (stay-at-home orders and/or physical distancing). The COVID-19 pandemic situation provides opportunities for active learning and creative training. The use of blended learning while adhering to health protocols can be beneficial in increasing knowledge and skills (Mulyadi et al., 2021)

The results of the study (Reidun et al., 2021) recommend combining asynchronous with synchronous activities for vocational student learning or known as Blended Learning. Blended learning is successful in improving learning outcomes and communication skills. Professionally designed blended learning models are effective in improving the competence of vocational students (Eom et al., 2021). Before implementing blended learning in vocational education, there are things that need to be considered when implementing blended learning in the normal development of the blended learning model, applying topology, and also knowing the characteristics of the institution. Especially in the vocational field, one must be able to adapt to vocational education, infrastructure, technology, learning, pedagogical principles, activity assessment, feedback processes, interactions, resources, activities, infrastructure, culture, management and organization, ethics, etc. (Krismadinata et al., 2020).

Changing instructional strategies is, of course, a difficult task, especially when technology is engaged in the education system. Adopting and integrating technology-based instructional strategies has a long history of challenges, but it has also developed in a significant understanding of how to succeed with them. Efforts to consider the appropriate combination of learning strategies to be applied to a learning process are very important things to do so that the learning objectives are achieved properly. In essence, the use of technology such as e-learning in the conventional learning process is not to replace conventional learning but to strengthen a learning process in the new normal era. Increased motivation and student learning outcomes are influenced by many factors, one of which is the education provider factor, which includes the techniques or learning models used by lecturers (Agustina, 2021).

Blended learning was the use of the various learning methods (such as behaviorism, constructivism, and cognitivism) to achieve optimum learning outcomes with or without the use of learning technology. Students learn on their own by researching the given scenario and looking for sources/references (Merdawati et al., 2021), (Tafdhila. et al., 2021) Also explains whether blended learning can produce optimal learning outcomes with or without learning technology. Students learn on their own by researching the scenarios presented, looking for sources/references, and creating simulation videos. Blended learning can help students improve their knowledge, critical thinking, communication, and decision-making skills.

We need to use a variety of innovative teaching styles and make student learning a focus (Renganathan, 2020). Blended learning has the potential to enhance innovative and adaptable learning opportunities. This research backs up the use and evaluation of continuous mixed learning as a pedagogical approach (Berga et al., 2021). It might be a useful tool for teaching vocational skills if it incorporates video-assisted online resources. Blended learning not only improves students' knowledge and skills, but it is also important to the students due to its accessibility (Coyne et al., 2018). The results of this study showed that the dynamic and passive teaching method of jigsaw and the involvement of more students in the teaching-learning process, makes students more interested in relevant topics and the use of these teaching methods, while familiarizing students. With new educational methods, it can lead students to self-learning (Azizi et al., 2020), (Leidl et al., 2020), (McCutcheon et al., 2018).

Despite the fact that technology-based learning programs offer flexible teaching methods, evidence suggests that e-learning alone does not outmatch face-to-face patient simulations. This is

especially true with regard to vocational assessment learning. This review shows that when electronic-based learning and traditional teaching methods are blended, they produce superior learning styles (McDonald et al., 2018).

Blended education has the potential to improve student success, particularly when utilized (Jowsey et al., 2020) to manage and support distant education in order to build future educational practices.

This research explored students' confidence and personal experiences during the service learning course. More longitudinal study on the transfer of skills and confidence developed by vocational students as they advance through the vocational program and into the vocational profession is needed (Saylor et al., 2018). Pedagogy can be effectively used in facilitating communication modules and enhancing student outcomes among nursing undergraduates. The long- term effectiveness of using blended learning pedagogy in facilitating communication modules should be evaluated from students' and patients' perspectives. Additionally, the technology should be constantly improved by incorporating more interactive functions and should be tested to accommodate the learners' needs (Shorey et al., 2018). Studi ini menunjukkan siswa berhasil belajar dan mempertahankan keterampilan, motivasi dan hasil belajar dalam lingkungan belajar campuran menggunakan kegiatan praktik (Biddle & Hoover, 2020).

The Blended Learning model's combination of educational technology and conventional learning / humanistic contact has a significant influence on motivation and accomplishment of required abilities and competencies in learning. Blended Learning integrates online and conventional learning. Humanistic aspects in learning are still utilized because students are considered direct connection with teachers as some kind of psychological support and because some topics, especially in affective and psychomotor abilities, involve direct explanation. Human-to-human communication is one of the competencies students must have (Laili & Wahyu Tanoto, 2020). This condition is increasingly probable to be applied through a combination of face-to-face and online learning. Learners' interest and motivation in a combination of varied, creative, and innovative learning has improved.

## Conclusion

Blended learning has become increasingly popular throughout the world, with many recent studies finding that it improves the quality of education and students in the affective, psychomotor, and cognitive fields. Blended learning is expected to expand in relevance in the future. Blended learning can also be implemented in a flexible and effectively applied.

## References

Agustina, A. N. (2021). Blended Learning Models to Improve Student Learning Outcomes During the Covid-19 Pandemic. *KnE Life Sciences*, *2021*, 228–239. https://doi.org/10.18502/kls.v6i1.8607.

Arkorful, V., & Abaidoo, N. (2015). The role of e-learning, advantages and disadvantages of its adoption in higher education. *International Journal of Instructional Technology and Distance Learning*, *12*(1), 29–42.

Astuti, A. P., Haryani, S., & Yulvita, A. (2019). Analisis Deksriptif Pembelajaran Dalam Jaringan (Online) Mahasiswa Diploma Tiga Keperawatan Universitas Ngudi Waluyo Dimasa Pandemi Covid-19. *Indonesian Journal of Nursing Research (IJNR)*, *3*(1), 42–51.

Azizi, sh, Bagheri, M., karimi moonaghi, H., & Mazloum, S. (2020). Comparison of the Effect of Two Educational methods of Jigsaw and Feedback on the Level of Satisfaction of Nursing and Anesthesia

Students of Mashhad School of Nursing and Midwifery. *Research in Medical Education*, *12*(4), 16–28. https://doi.org/10.52547/rme.12.4.16.

Berga, K. A., Vadnais, E., Nelson, J., Johnston, S., Buro, K., Hu, R., & Olaiya, B. (2021). Blended learning versus face-to-face learning in an undergraduate nursing health assessment course: A quasi-experimental study. *Nurse Education Today*, *96*(October 2020), 104622. https://doi.org/10.1016/j.nedt.2020.104622.

Biddle, M. A., & Hoover, R. M. (2020). Teaching motivational interviewing in a blended learning environment. *Currents in Pharmacy Teaching and Learning*, *12*(6), 728–734. https://doi.org/10.1016/j.cptl.2020.01.027.

Carman, J. (2005). *Blended learning design: Five key ingredients*.

Coyne, E., Frommolt, V., Rands, H., Kain, V., & Mitchell, M. (2018). Simulation videos presented in a blended learning platform to improve Australian nursing students' knowledge of family assessment. *Nurse Education Today*, *66*, 96–102. https://doi.org/10.1016/j.nedt.2018.04.012.

Eom, M., Kim, S. K., & Kim, O.-N. (2021). Design and Implementation Of Blended Learning Approach For Simulation Education Among Undergraduate Nursing Students. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, *12*(6), 737–742. https://doi.org/10.17762/turcomat.v12i6.2087.

Fitzpatrick, J. (2012). *Planning guide for online and blended learning* (hal. 1–40). Michigan Virtual University. http://media.mivu.org/marketing/MVU_RPT_PlanningGuide.pdf.

Goyal, S. (2012). E-Learning: Future of Education. *Journal of Education and Learning (EduLearn)*, *6*(4), 239–242. https://doi.org/10.11591/edulearn.v6i4.168.

Harerimana, A., & Mtshali, N. G. (2020). Conceptualisation of e-learning in nursing education in the context of Rwanda. *Journal of Nursing Education and Practice*, *10*(6), 26. https://doi.org/10.5430/jnep.v10n6p26.

Jowsey, T., Foster, G., Cooper-Ioelu, P., & Jacobs, S. (2020). Blended learning via distance in pre-registration nursing education: A scoping review. *Nurse Education in Practice*, *44*(March), 102775. https://doi.org/10.1016/j.nepr.2020.102775.

Kaur, M. (2013). Blended learning - its challenges and future. *Procedia - Social and Behavioral Sciences*, *93*, 612–617. https://doi.org/10.1016/j.sbspro.2013.09.248.

Klopfer, E., Osterweil, S., Groff, J., & Haas, J. (2009). Using the Technology of Today , in the Classroom Today. *The Education Arcade Retrieved*, *10*(29), 09. http://education.mit.edu/papers/GamesSimsSocNets_EdArcade.pdf.

Krismadinata, Verawardina, U., Jalinus, N., Rizal, F., Sukardi, Sudira, P., Ramadhani, D., Lubis, A. L., Friadi, J., Arifin, A. S. R., & Novaliendry, D. (2020). Blended learning as instructional model in vocational education: Literature review. *Universal Journal of Educational Research*, *8*(11B), 5801–5815. https://doi.org/10.13189/ujer.2020.082214.

Laili, N., & Wahyu Tanoto. (2020). Strategi Pembelajaran Blended Learning terhadap Kemampuan Konsep dan Prosedur Physical Examination pada Mahasiswa Keperawatan. *Indonesian Journal of Learning Education and Counseling*, *3*(1), 74–83. https://doi.org/10.31960/ijolec.v3i1.585.

Laurillard, D. (2015). Thinking about Blended Learning. A paper for the Thinkers in Residence programme. *Higher Education in the digital era: a thinking exercise in flanders*, *December*, 7–33.

Leidl, D. M., Ritchie, L., & Moslemi, N. (2020). Blended learning in undergraduate nursing education – A scoping review. *Nurse Education Today*, *86*(December 2019), 104318. https://doi.org/10.1016/j.nedt.2019.104318.

McCutcheon, K., O'Halloran, P., & Lohan, M. (2018). Online learning versus blended learning of clinical supervisee skills with pre-registration nursing students: A randomised controlled trial. *International Journal of Nursing Studies*, *82*, 30–39. https://doi.org/10.1016/j.ijnurstu.2018.02.005.

McDonald, E. W., Boulton, J. L., & Davis, J. L. (2018). E-learning and nursing assessment skills and knowledge – An integrative review. *Nurse Education Today*, *66*(February), 166–174. https://doi.org/10.1016/j.nedt.2018.03.011.

Meikleham, A., Hugo, R., & Brennan, R. (2018). Project-based Learning : the Good , the Bad , and the Ugly. *Proceedings of the 14th International CDIO Conference*, 511–525.

Merdawati, L., Krisdianto, B. F., Roberto, M., Mailani, F., Lenggogeni, D. P., & Mutia, R. (2021). The Development of Blended Learning Method in the Medical Surgical Nursing Courses IV in Pandemic Covid -19 at Faculty of Nursing Universitas Andalas. *Proceedings of the 3rd International Conference on Educational Development and Quality Assurance (ICED-QA 2020)*, *506*, 615–617. https://doi.org/10.2991/assehr.k.210202.106.

Mulyadi, M., Lea, B.-O., Malara, R. T., & Bidjuni, H. J. (2021). The effectiveness of blended learning in basic life support training among nursing students: A systematic review. *KnE Life Sciences*, *2021*(Cvd), 402–414. https://doi.org/10.18502/kls.v6i1.8630.

Oludare Jethro, O., Moradeke Grace, A., & Kolawole Thomas, A. (2012). E-Learning and Its Effects on Teaching and Learning in a Global Age. *International Journal of Academic Research in Business and Social Sciences*, *2*(1), 2222–6990.

Pande, D., Wadhai, V. M., & Thakare, V. M. (2016). E-Learning System and Higher Education. *International Journal of Computer Science and Mobile Computing*, *5*(2), 274–280.

Patrick, S., & Sturgis, C. (2015). Maximizing Competency Education and Blended Learning: Insights from Experts. *International Association for K-12 online learning*, *March*, 1–47. http://www.competencyworks.org/resources/stripping-off-the-ceiling-of-the-education-system-with-blended-learning/.

Posey, L., & Pintz, C. (2017). Transitioning a bachelor of science in nursing program to blended learning: Successes, challenges & outcomes. *Nurse Education in Practice*, *26*, 126–133. https://doi.org/10.1016/j.nepr.2016.10.006.

Purnawinadi, I. G. (2021). Dampak pandemi covid-19 pada prestasi belajar mahasiswa keperawatan tahap akademik. *Jurnal Skolastik Keperawatan*, *7*(1), 63–69.

Reidun, L., Steindal, S. A., & Bingen, H. M. (2021). Collaborative Online Learning Using a Blended Learning Design for a Physiology Course in Nursing Education. *Seminar.net*, *17*(01), 1–27. https://doi.org/10.7577/seminar.3599.

Renganathan, D. L. (2020). A Comparative Study on Effectiveness of Jigsaw Puzzle Method among General Nursing Diploma Students' Academic Level of Performance at Oman Nursing Institute, Muscat. *International Journal of Management Research and Social Science*, *07*(02), 15–18. https://doi.org/10.30726/ijmrss/v7.i2.2020.72003.

Saliba, G., Rankine, L., Cortez, H., Kaur, M., Malik, S., Rana, A., GOYAL, S., Patrick, S., Sturgis, C., Surjono, H. D., Pande, D., Wadhai, V. M., & Thakare, V. M. (2013). E-Learning: Future of Education. *Internationaal Association for K-12 Online Learning*, *8*(4), 239. https://doi.org/10.11591/edulearn.v6i4.168.

Saylor, J., Hertsenberg, L., McQuillan, M., O'Connell, A., Shoe, K., & Calamaro, C. J. (2018). Effects of a service earning experience on confidence and clinical skills in baccalaureate nursing students. *Nurse Education Today*, *61*(November 2017), 43–48. https://doi.org/10.1016/j.nedt.2017.11.009.

Agustina, A. N. (2021). Blended Learning Models to Improve Student Learning Outcomes During the Covid-19 Pandemic. *KnE Life Sciences*, *2021*, 228–239. https://doi.org/10.18502/kls.v6i1.8607.

Arkorful, V., & Abaidoo, N. (2015). The role of e-learning, advantages and disadvantages of its adoption in higher education. *International Journal of Instructional Technology and Distance Learning*, *12*(1), 29–42.

Astuti, A. P., Haryani, S., & Yulvita, A. (2019). Analisis Deksriptif Pembelajaran Dalam Jaringan (Online) Mahasiswa Diploma Tiga Keperawatan Universitas Ngudi Waluyo Dimasa Pandemi Covid-19. *Indonesian Journal of Nursing Research (IJNR)*, *3*(1), 42–51.

Azizi, sh, Bagheri, M., karimi moonaghi, H., & Mazloum, S. (2020). Comparison of the Effect of Two Educational methods of Jigsaw and Feedback on the Level of Satisfaction of Nursing and Anesthesia Students of Mashhad School of Nursing and Midwifery. *Research in Medical Education*, *12*(4), 16–28. https://doi.org/10.52547/rme.12.4.16.

Berga, K. A., Vadnais, E., Nelson, J., Johnston, S., Buro, K., Hu, R., & Olaiya, B. (2021). Blended learning versus face-to-face learning in an undergraduate nursing health assessment course: A quasi-experimental study. *Nurse Education Today*, *96*(October 2020), 104622. https://doi.org/10.1016/j.nedt.2020.104622.

Biddle, M. A., & Hoover, R. M. (2020). Teaching motivational interviewing in a blended learning environment. *Currents in Pharmacy Teaching and Learning*, *12*(6), 728–734. https://doi.org/10.1016/j.cptl.2020.01.027.

Carman, J. (2005). *Blended learning design: Five key ingredients*.

Coyne, E., Frommolt, V., Rands, H., Kain, V., & Mitchell, M. (2018). Simulation videos presented in a blended learning platform to improve Australian nursing students' knowledge of family assessment. *Nurse Education Today*, *66*, 96–102. https://doi.org/10.1016/j.nedt.2018.04.012.

Eom, M., Kim, S. K., & Kim, O.-N. (2021). Design and Implementation Of Blended Learning Approach For Simulation Education Among Undergraduate Nursing Students. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, *12*(6), 737–742. https://doi.org/10.17762/turcomat.v12i6.2087.

Fitzpatrick, J. (2012). *Planning guide for online and blended learning* (hal. 1–40). Michigan Virtual University. http://media.mivu.org/marketing/MVU_RPT_PlanningGuide.pdf

Goyal, S. (2012). E-Learning: Future of Education. *Journal of Education and Learning (EduLearn)*, *6*(4), 239–242. https://doi.org/10.11591/edulearn.v6i4.168.

Harerimana, A., & Mtshali, N. G. (2020). Conceptualisation of e-learning in nursing education in the context of Rwanda. *Journal of Nursing Education and Practice*, *10*(6), 26. https://doi.org/10.5430/jnep.v10n6p26.

Jowsey, T., Foster, G., Cooper-Ioelu, P., & Jacobs, S. (2020). Blended learning via distance in pre-registration nursing education: A scoping review. *Nurse Education in Practice*, *44*(March), 102775. https://doi.org/10.1016/j.nepr.2020.102775.

Kaur, M. (2013). Blended learning - its challenges and future. *Procedia - Social and Behavioral Sciences*, *93*, 612–617. https://doi.org/10.1016/j.sbspro.2013.09.248.

Klopfer, E., Osterweil, S., Groff, J., & Haas, J. (2009). Using the Technology of Today , in the Classroom Today. *The Education Arcade Retrieved*, *10*(29), 09. http://education.mit.edu/papers/GamesSimsSocNets_EdArcade.pdf.

Krismadinata, Verawardina, U., Jalinus, N., Rizal, F., Sukardi, Sudira, P., Ramadhani, D., Lubis, A. L., Friadi, J., Arifin, A. S. R., & Novaliendry, D. (2020). Blended learning as instructional model in vocational education: Literature review. *Universal Journal of Educational Research*, *8*(11B), 5801–5815. https://doi.org/10.13189/ujer.2020.082214.

Laili, N., & Wahyu Tanoto. (2020). Strategi Pembelajaran Blended Learning terhadap Kemampuan Konsep dan Prosedur Physical Examination pada Mahasiswa Keperawatan. *Indonesian Journal of Learning Education and Counseling*, *3*(1), 74–83. https://doi.org/10.31960/ijolec.v3i1.585.

Laurillard, D. (2015). Thinking about Blended Learning. A paper for the Thinkers in Residence programme. *Higher Education in the digital era: a thinking exercise in flanders*, *December*, 7–33.

Leidl, D. M., Ritchie, L., & Moslemi, N. (2020). Blended learning in undergraduate nursing education – A scoping review. *Nurse Education Today*, *86*(December 2019), 104318. https://doi.org/10.1016/j.nedt.2019.104318.

McCutcheon, K., O'Halloran, P., & Lohan, M. (2018). Online learning versus blended learning of clinical supervisee skills with pre-registration nursing students: A randomised controlled trial. *International Journal of Nursing Studies*, *82*, 30–39. https://doi.org/10.1016/j.ijnurstu.2018.02.005.

McDonald, E. W., Boulton, J. L., & Davis, J. L. (2018). E-learning and nursing assessment skills and knowledge – An integrative review. *Nurse Education Today*, *66*(February), 166–174. https://doi.org/10.1016/j.nedt.2018.03.011.

Meikleham, A., Hugo, R., & Brennan, R. (2018). Project-based Learning : the Good , the Bad , and the Ugly. *Proceedings of the 14th International CDIO Conference*, 511–525.

Merdawati, L., Krisdianto, B. F., Roberto, M., Mailani, F., Lenggogeni, D. P., & Mutia, R. (2021). The Development of Blended Learning Method in the Medical Surgical Nursing Courses IV in Pandemic Covid -19 at Faculty of Nursing Universitas Andalas. *Proceedings of the 3rd International Conference on Educational Development and Quality Assurance (ICED-QA 2020)*, *506*, 615–617. https://doi.org/10.2991/assehr.k.210202.106.

Mulyadi, M., Lea, B.-O., Malara, R. T., & Bidjuni, H. J. (2021). The effectiveness of blended learning in basic life support training among nursing students: A systematic review. *KnE Life Sciences*, *2021*(Cvd), 402–414. https://doi.org/10.18502/kls.v6i1.8630.

Oludare Jethro, O., Moradeke Grace, A., & Kolawole Thomas, A. (2012). E-Learning and Its Effects on Teaching and Learning in a Global Age. *International Journal of Academic Research in Business and Social Sciences*, *2*(1), 2222–6990.

Pande, D., Wadhai, V. M., & Thakare, V. M. (2016). E-Learning System and Higher Education. *International Journal of Computer Science and Mobile Computing*, *5*(2), 274–280.

Patrick, S., & Sturgis, C. (2015). Maximizing Competency Education and Blended Learning: Insights from Experts. *International Association for K-12 online learning*, *March*, 1–47. http://www.competencyworks.org/resources/stripping-off-the-ceiling-of-the-education-system-with-blended-learning/.

Posey, L., & Pintz, C. (2017). Transitioning a bachelor of science in nursing program to blended learning: Successes, challenges & outcomes. *Nurse Education in Practice*, *26*, 126–133. https://doi.org/10.1016/j.nepr.2016.10.006.

Purnawinadi, I. G. (2021). Dampak pandemi covid-19 pada prestasi belajar mahasiswa keperawatan tahap akademik. *Jurnal Skolastik Keperawatan*, *7*(1), 63–69.

Reidun, L., Steindal, S. A., & Bingen, H. M. (2021). Collaborative Online Learning Using a Blended Learning Design for a Physiology Course in Nursing Education. *Seminar.net*, *17*(01), 1–27. https://doi.org/10.7577/seminar.3599.

Renganathan, D. L. (2020). A Comparative Study on Effectiveness of Jigsaw Puzzle Method among General Nursing Diploma Students' Academic Level of Performance at Oman Nursing Institute, Muscat. *International Journal of Management Research and Social Science*, *07*(02), 15–18. https://doi.org/10.30726/ijmrss/v7.i2.2020.72003.

Saliba, G., Rankine, L., Cortez, H., Kaur, M., Malik, S., Rana, A., GOYAL, S., Patrick, S., Sturgis, C., Surjono, H. D., Pande, D., Wadhai, V. M., & Thakare, V. M. (2013). E-Learning: Future of Education. *Internationaal Association for K-12 Online Learning*, *8*(4), 239. https://doi.org/10.11591/edulearn.v6i4.168.

Saylor, J., Hertsenberg, L., McQuillan, M., O'Connell, A., Shoe, K., & Calamaro, C. J. (2018). Effects of a service earning experience on confidence and clinical skills in baccalaureate nursing students. *Nurse Education Today*, *61*(November 2017), 43–48. https://doi.org/10.1016/j.nedt.2017.11.009.

Setyawan, A. (2019). Implementasi online peer asisted learning dalam pembelajaran keterampilan klinik pada mahasiswa keperawatan. *Health Sciences and Pharmacy Journal*, *3*(1), 1. https://doi.org/10.32504/hspj.v3i1.74.

Shorey, S., Kowitlawakul, Y., Devi, M. K., Chen, H. C., Soong, S. K. A., & Ang, E. (2018). Blended learning pedagogy designed for communication module among undergraduate nursing students: A quasi-experimental study. *Nurse Education Today*, *61*, 120–126. https://doi.org/10.1016/j.nedt.2017.11.011.

Sugiarto, A. (2020). Dampak Positif Pembelajaran Online Dalam Sistem Pendidikan Keperawatan Pasca Pandemi Covid 19. *Jurnal Perawat Indonesia*, *4*(3), 432. https://doi.org/10.32584/jpi.v4i3.555.

Surjono, H. D. (2013). Membangun Course E - Learning Berbasis Moodle. In *UNY Press* (Vol. 2).

Tafdhila., Marleni, L., & Adi, S. (2021). Pengaruh Pembelajaran Daring Terhadap Motivasi Belajar Di Masa Pandemi Covid 19 Pada Mahasiswa Keperawatan Stik Siti Khadijah Palembang. *Jurnal Perawat Indonesia*, *5*(1), 576–584. https://doi.org/10.32584/jpi.v5i1.832.

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