Does Blended Learning Improve Student's Learning Independence during the Covid-19 Pandemic? Evidence from a Labuhanbatu University, North Sumatera

Shopia Riwayani[1], Risma Delima Harahap[2]*

Biology Education Study Program, Faculty of Teacher Training and Education
Universitas Labuhanbatu
*Corresponding Author. Email: rismadelimaharahap@gmail.com

Abstract: The aim of this study is to analyze the effectiveness of blended learning strategy in increasing the students' learning independence at Labuhanbatu University in North Sumatra. The descriptive method with a quantitative approach was applied in the investigation. The research sample consisted of 92 respondents from Biology Education Study Program of Labuhanbatu University. A questionnaire in the form of statements and a Likert scale were used to collect data. Technique for data analysis was based on percentages. The results of this study revealed that applying blended learning increases, among other elements, learning independence: 1) independent of other 76.20%, 2) self-confidence 79.29%, 3) disciplined behavior 83.04%, 4) a sense of responsibility 79.89%, 5) individual initiative attitude 86.63%, 6) self-control 80.46%. Based on these results, blended learning is proven to be an effective learning model that can be applied to increase student learning independence.

Introduction

For more than a year, Indonesia and numerous other countries have been affected by the Covid-19 pandemic (Goldschmidt, 2020). This virus is transmitted by person-to-person interaction and has spread widely in a number of countries (Mona, 2020). Prior to the Covid-19 virus, Labuhanbatu University's learning method was face-to-face, with a focus on the lecturers' knowledge. While conventional learning is more affordable due to the absence of media technology, it nevertheless has a number of drawbacks and is out of step with contemporary learning methods (Susilo dkk, 2020). One of the limitations of conventional education is that the primary source of information is textbooks. This binds students to a single source of information (Dewi, 2018). Consequently, some Indonesian colleges seldom employ scientific publications as a source of knowledge.

The Minister of Education and Culture attempts to develop and implement innovative learning in order to keep Indonesia's education system competitive. To ensure the safety of lecturers and students and to ensure that learning is carried out effectively in the context of the spread of Covid-19, learning is conducted online. There are numerous types of learning models that are appropriate for use during the Covid-19 pandemic, one of which is blended learning. Blended learning is one of the most natural learning strategies in the Covid-19 period because it enables the integration of conventional and online learning (Sumarsono et al., 2021). This is reinforced by the study of (Dakhi et al., 2020), The integration of technology and fast growth has altered the educational system, increasing students' and lecturers' digital abilities, as well as the ability of technology to influence thinking, learning, and interaction. Furthermore, Blended learning may give the students with new experiences,

expand access and convenience in online blended learning, improve the quality of learning, and minimize learning expenditures, such as the free quota support supplied to students in Indonesia by the Ministry of Education and Culture (Stein & Graham, 2020).

Blended learning is a process of integrating face-to-face and online training in education. It is sometimes referred to as the "new traditional way" since it maximizes the benefits of both face-to-face and online instruction. However, contentment has a significant impact on the students' decision to continue utilizing blended learning. Understanding student attitudes, views, and acceptance and satisfaction with new technology-based educational designs is critical for determining the potential success of new technology-based educational designs (Graham, 2013). According to (Widiara, 2018), blended learning is a stage of teaching and learning that integrates face-to-face classroom instruction with online/online technology- and information-based education. In addition, blended learning is a concept that combines online learning with traditional classroom instruction. This strategy was chosen for two reasons: (1) to teach the concept of e-learning, and (2) to overcome the limitations of restricted internet connectivity in the classroom, despite the fact that e-learning skills are currently rather excellent. While e-learning is often characterized as a method for remotely connecting students to learning materials (library, instructors, and databases), communication, engagement, and collaboration can also occur online (Prasetyorini, 2016).

Online teaching and learning activities demand educators to build concepts and principles independently in order to engage students. According to (Susilo & Pancarani, 2020), Learning independence is an action or a process that occurs according to each individual's awareness and initiative, without relying on others and using their own ability to attain results and learning objectives. At the moment, independence is a critical positive quality that requires special attention. Independent learning continues to be a significant issue in the field of education, which is quite concerning. Based on the study by (Nahdliyati dkk, 2016), Students can be categorized according to their level of learning autonomy. Indeed, the students who lack independence are unable to stand alone and lack confidence in their daily lives, particularly in the field of education. Independence in learning is both a requirement and a goal of education. Increased student learning independence has been shown to be beneficial when employing the blended learning model, as revealed by studies (Ismaniati dkk, 2015) which states that blended learning can affect the increase in student learning independence in the recovery process.

Students' proclivity for autonomous learning has been demonstrated, especially that they are self-sufficient in active learning and not reliant on peers, resulting in an independent attitude toward all situations. On the other side, mixed learning has the potential to enhance learning and the influence of blended learning on the students' academic independence, which is a very beneficial development (Aslamiyah dkk, 2019). Based on the study by (Churiyah dkk, 2020) & (Yuliati dkk, 2020), Online learning is similar to distance learning in that it enables teachers and educators to conduct the teaching and learning process utilizing technology and information in a systematic manner in which teacher and educator contact occurs on a consistent and relevant basis. With this learning, the Biology Education Study Program conducts teaching and learning activities on the Labuhanbatu University, specifically at the Faculty of Teacher Training and Education, using e-learning with online lecture activities. However, the implementation remains face-to-face, using the Zoom Meet and Google Meet applications as mass video conferences capable of displaying the material discussed during the lecture, while the classroom application serves as an assignment.

Based on observations of Biology Education students at Labuhanbatu University in North Sumatra, it was determined that the pupils did not possess an entirely independent

Jurnal Kependidikan:
Jurnal Hasil Penelitian dan Kajian Kepustakaan
di Bidang Pendidikan, Pengajaran dan Pembelajaran
https://e-journal.undikma.ac.id/index.php/jurnalkependidikan/index

Vol. 8, No. 1 : March 2022
E-ISSN: 2442-7667
pp. 94-101
Email: jklppm@undikma.ac.id

attitude. This phenomenon an be observed through the occurrence of problems, such as many educators who require instructions from other classmates, who continue to wait for directions from the teacher repeatedly, both during lecture activities and assignments, and educators who frequently copy other people's assignments, resulting in many assignments having the same results. According to the aforementioned phenomena, the value of student freedom has not fully established. This issue must be addressed because it has the potential to negatively impact educators' learning outcomes by increasing student learning independence.

This research is critical because online learning is an excellent strategy to avoid infection with the Covid-19 virus during the Covid-19 pandemic. To maximize their learning results through online learning, students must be self-sufficient throughout the process. As a result, the link between online and autonomous learning should be further examined as a reference point for the learning conducted. The aim of this study, as stated previously, is to analyze the effectiveness of blended learning strategy in increasing the students' learning independence at Labuhanbatu University in North Sumatra.

Research Method

This study used a descriptive method with a quantitative approach. The sample for this study was Biology Education Study Program students at Labuhanbatu University, with a total of 92 respondents who were engaged in lecture activities using blended learning models through the use of Google Meet, Zoom Meet, and classroom in each course taught by the lecturers in the even semesters of the school year 2020/2021. This study followed Sugiyono's (2016) guidance, which states that a quantitative approach is founded on the positivism philosophy and examines specific samples and descriptive methods on one or more variables without comparing them to other samples. The data collecting approach used in this study was a questionnaire with 30 statements and an answer choice scale based on the Likert scale. The following step of data analysis involved converting percentages to the truth of the data in order to analyze the findings of the data gathered, and the last stage involved formulating conclusions based on the findings of the data reviewed indicator. The percentage scale provisions used in this study are presented in the following table:

Table 1. Score of Interpretation Criteria

| No	Range of scores (%)	Category
1	1—25	Very positive
2	26-50	Negative
3	51-75	Positive
4	76-100	Very positive

Source: Sugiyono (2016)

Results and Discussion

Based on data analysis, the results described the independence of student learning through the use of blended learning approaches, which established the following six indicators of learning independence: 1) Independent of other 76.20%, 2) self-confidence 79.29%, 3) disciplined behavior 83.04%, 4) having a responsible attitude 79.89%, 5) individual initiative attitude 86.63%, 6) self-control 80.46%. The following table represents the conclusions of each indicator calculation.

Table 2. Analysis of The Student Learning Independence of Biology Education Study Program, Faculty of Teacher Training and Education, Labuhanbatu University

No	Indicator	Score	Percentage	Category
1	Independent of other	1402	76.20 %	Very positive
2	Self-confidence	1459	79.29 %	Very positive
3	Disciplined behavior	1528	83.04 %	Very positive
4	A sense of responsibility	1470	79.89 %	Very positive
5	Individual initiative attitude	1594	86.63 %	Very positive
6	Self-control	1430	77.72 %	Very positive
	Total	8883	80.46 %	Very positive
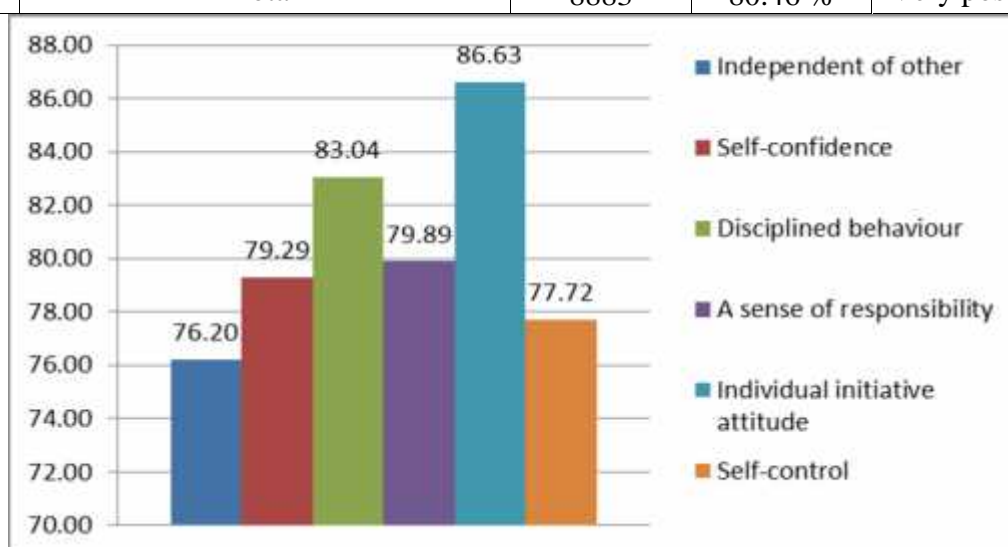
Diagram 1. Percentage of the Learning Independence for Biology Education Students at Labuhanbatu University

The Biology Education Study Program collected data from a total of 92 respondents. The total acquisition of the students' responses about student learning independence through the use of self-control blended learning was 80.46%, placing it in the extremely good category. This demonstrates that blended learning has an influence on the students' ability in learning independence.

The indicator analysis on Independent of other within the learning independence of students enrolled in the Labuhanbatu University's Biology Education Study Program, which yielded a percentage value of 76.20%. The results of these percentages indicate that the majority of biology education students that participate in blended learning have a very good category on not relying on others. the students who rely on others account for around 23.8% of students who do not rely on others. Students are not rely on others; instead, students tend to be independent in learning while using the blended learning method. This is reinforced by research of (Sutisna, 2016), Blended learning is a concept that refers to a virtual meeting between teachers and students or between students where they can provide feedback, ask and answer questions with educators and other students. This allows students to be more independent in their learning, collaborate and discuss with their classmates.

Self-confidence in learning independence of students of obtained a percentage value of 79.29%. The percentage result states that some of all biology education students towards learning independence with self-confidence indicators are categorized as very positive. The

number of students who do not have self-confidence is about 20.71% of the number of students who have self-confidence. Students who have great self-confidence can manage their studies well and do not have to depend on others. This is reinforced by research (Pratiwi dkk, 2016), Educators who have high self-confidence are likely to increase learning independence. On the other hand, educators who have low self-confidence can reduce learning independence.

The indicator of disciplined behaviour on the learning independence of students enrolled in the Labuhanbatu University's Biology Education Study Program was 83.04%. The results of the percentage can be stated that most of all biology education students towards learning independence with indicators of disciplined behavior in the very positive category. The students who lack disciplined behaviour for approximately 16.96% of students who exhibit disciplined behaviour. disciplined behaviour in learning independence are extremely beneficial in terms of the student learning results. Satisfaction with the implementation of mixed learning is a critical aspect in learning; if it is not met, it will have an effect on students' motivation to study (Chen et al., 2016). The impact of discipline in the independent learning of e-learning has a negative effect or does not completely have a disciplined attitude.

A sense of responsibility for learning independence of the students enrolled in the Biology Education Study Program at Labuhanbatu University was determined to be 79.89%. The results of these percentages indicate that the majority of biology education students has a category that is very positive about learning independence with indications. The percentage of the students who lack a sense of responsibility is around 20.11% of all the students. A sense of responsibility in learning independence using the blended learning method have a significant beneficial effect. The objective of mixed learning is to foster an atmosphere favorable to learning in which students develop an active and self-sufficient attitude. (Utomo & Wihartanti, 2019). If the students are engaged and a sense of responsibility throughout the implementation of blended learning, responsibility in independent learning has an influence.

An attitude of individual initiative on leaning independence was determined to be 86.63% among the students enrolled in the Biology Education Study Program at Labuhanbatu University. The results of the percentage can be stated that most of all biology education students towards learning independence with indicators of individual initiative attitudes in the very positive category.. The percentage of the students that lack An attitude of individual initiative is 13.37% of all the students. This is in accordance with research by (Diana et al., 2020), Blended learning in its own initiative has an effect so that students are able to manage their own sentences in completing assignments during e-learning.

Self-control in learning independence is determined to be 80,46% among the students. The results of this percentage shows that the majority of students of biology education is committed to develop independence, as evidenced by an indication of self-control in a category that is very positive. The percentage of students who did not have self-control is 19.54% of all students in accordance with the studies. According to (Diana et al., 2020), the students showed enthusiasm for learning by searching for reference material and ask questions about Learning based on the cognitive growth of each student..
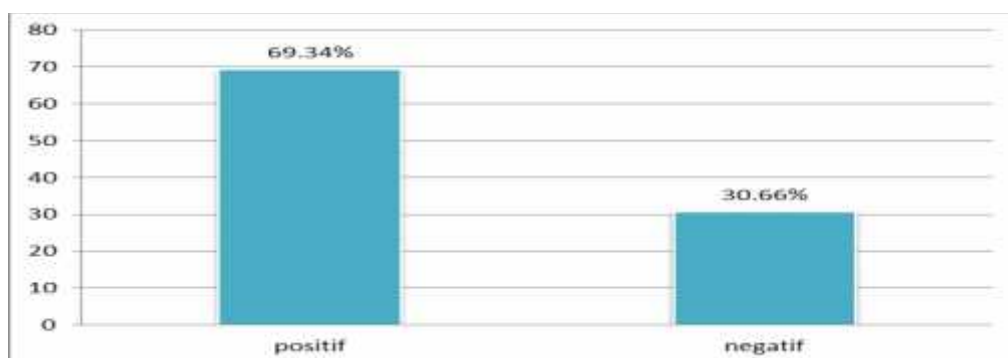
Diagram 2. The Impact of Blended Learning on Learning Independence

The research data acquired from the total student' responses about the influence of blended learning on independent learning was 69.34%, indicating that the impact of blended learning is favorable. Meanwhile, the number of the students impacted by blended learning implementation (30.66%) should be reviewed further. While improving student learning independence through blended learning is not higher than conventional learning, it does have the potential to impact student learning independence (Fitriasari dkk, 2018). While the research results by (Farida dkk, 2018) application blended Learning started to become interesting for the students and lecturers as a method of learning so that can improve the learning ability of students.

Conclusion

The related conclusions are drawn from the evaluated questionnaire data: With a score of 80.46%, student learning independence regarding the implementation of blended learning is classified as extremely favorable. It is demonstrated that each percentage is obtained using six indicators: 1) Independent of other 76.20%t with a very positive category, 2) Self-confidence 79.20% with a very positive category, 3) Disciplined behavior 83.04% with a very positive category, 4) A sense of responsibility 79.89% with a very positive category, and 5) acquires an attitude of individual initiative 86.63% with a very positive category, 6) self-control obtained by 80.46% with the category very positive while the impact of the application of blended learning was obtained by 69.34% with positive category.

Recommendation

The following are some recommendations that may be made as a result of this research; 1) for Labuhanbatu University to offer feedback on the use of blended learning methods, with a particular emphasis on the lecturers and the student satisfaction; 2) for the lecturers to incorporate blended learning methods in order to increase the students' learning independence; 3) intended for the lecturers and students should Independent of other, self-confidence, disciplined behavior, a sense of responsibility, a very positive category, an attitude of individual initiative.

References

Al Aslamiyah, T., Setyosari, P., & Praherdhiono, H. (2019). Blended Learning Dan Kemandirian Belajar Mahasiswa Teknologi Pendidikan. Jurnal Kajian Teknologi Pendidikan, 2(2), 109–114.

Chaeruman, U. A., & Maudiarti, S. (2018). Jurnal Pembelajaran Inovatif Quadrant of Blended Learning﹕ a Proposed Conceptual Model for Designing Effective Blended Learning. Jurnal Pembelajaran Inovatif, 1(4), 1–5.

Chen, W. S., Yong, A., & Yao, T. (2016). An Empirical Evaluation of Critical Factors Influencing Learner Satisfaction in Blended Learning : A Pilot Study. Universal Journal of Educational Research, 4(7), 1667–1671. https://doi.org/10.13189/ujer.2016.040719

Churiyah, M., Sholikhan, S., Filianti, F., & Sakdiyyah, D. A. (2020). Indonesia Education Readiness Conducting Distance Learning in Covid-19 Pandemic Situation. International Journal of Multicultural and Multireligious Understanding, 7(6), 491–507.

Dakhi, O., Jama, J., Irfan, D., Ambiyar, & Ishak. (2020). Blended Learning: a 21st Century Learning Model At College. International Journal of Multi Science, 1(2), 17–23.

Dewi, E. R. (2018). Metode Pembelajaran Modern Dan Konvensional Pada Sekolah Menengah Atas.: Jurnal Ilmu Pendidikan, Keguruan, dan Pembelajaran, 2(1), 44.

Diana, P. Z., Wirawati, D., & Rosalia, S. (2020). Blended Learning dalam Pembentukan Kemandirian Belajar. Alinea: Jurnal Bahasa, Sastra, dan Pengajaran, 9(1), 16. https://doi.org/10.35194/alinea.v9i1.763

Dziuban, C., Graham, C. R., Moskal, P. D., Norberg, A., & Sicilia, N. (2018). Blended learning : the new normal and emerging technologies. 1–16. https://doi.org/10.1186/s41239-017-0087-5

Fitriasari, P., & Sari, N. (2018). Kemandirian Belajar Mahasiswa Melalui Blanded Learning Pada Mata Kuliah Metode Numerik. Jurnal Elemen, 4(1), 1–8.

Goldschmidt, K. (2020). The Covid-19 Pandemic: Technology use to Support the Wellbeing of Children. Journal of Pediatric Nursing, 53, 88–90. https://doi.org/10.1016/j.pedn.2020.04.013

Graham, C. R. (2013). Emerging practice and research in blended learning. January 2013.

Ismaniati, C., Sungkono, & Wahyuningsih, D. (2015). Model Blanded Learning Untuk Meningkatkan Kemandirian Belajar dan Daya Tarik Dalam Perkuliahan. Jurnal Penelitian Ilmu Pendidikan, 8(2), 19–27.

Mona, N. (2020). Konsep Isolasi Dalam Jaringan Sosial Untuk Meminimalisasi Efek Contagious (Kasus Penyebaran Virus Corona Di Indonesia). Jurnal Sosial Humaniora Terapan, 2(2), 117–125.

Nahdliyati, R., Parmin, & Taufiq, M. (2016). Efektivitas Pendekatan Saintifik Dengan Model Project Based Learning Tema Ekosistem Untuk Menumbuhkan Kemandirian Belajar Siswa Smp. USEJ - Unnes Science Education Journal, 5(2), 1227–1234. https://doi.org/10.15294/usej.v5i2.12146

Niasri, Cahyono, E., & Supranowo. (2019). Analisis Hasil Belajar Dan Kemandirian Siswa Pada Pembelajaran Asam Basa Dengan Metode Blended Learning. Analisis Hasil Belajar Dan Kemandirian Siswa Pada Pembelajaran Asam Basa Dengan Metode Blended Learning, 13(2), 2447–2459.

Prasetyorini, H. (2016). Pengembangan Materi Pada Mata Pelajaran Ipa Dalam Platform course Networking Sebagai Media Pembelajaran secara Blanded Learning UntukMeningkatkan Hasil Belajar Dan Keterampilan Kolaborasi Peserta Didik Kelas VII Smp. Jurnal Teknologi Pendidikan, 4(1), 1–12.

Pratiwi, I. D., & Laksmiwati, H. (2016). Kepercayaan Diri dan Kemandirian Belajar Pada Siswa SMA Negeri "X." Jurnal Psikologi Teori dan Terapan, 7(1), 43–49. https://doi.org/10.26740/jptt.v7n1.p43-49

Sasmita, M. A., & Purnamasari, N. L. (2018). Perbandingan Metode PembelajaranEdutainment dan Metode Pembelajaran Konvensional Terhadap Prestasi Siswa Pada Mata Pelajaran Teknologi Informasi dan Komunikasi (TIK) di Sma negeri

1 Kalidawir. JOEICT(Jurnal of Education and Information Communication Technology), 2(1), 27–34.

Stein, J., & Graham, C. R. (2020). Essentials for Blended Learning. Essentials for Blended Learning. https://doi.org/10.4324/9781351043991

Sugiyono. (2016). Metode Penelitian Kuantitatif, Kualitatif dan R&D. Bandung: PT Alfabet.

Sumarsono, D., Suadiyatno, T., Muliani, M., Arrafii, M., & Bagis, A. (2021). Pelatihan Penerapan Online dan Blended Learning pada Masa Pandemi Covid-19 di Pondok Pesantren Arrahman Kabupaten Lombok Tengah. *Jurnal Pengabdian UNDIKMA, 2*(2), 182-188. doi:https://doi.org/10.33394/jpu.v2i2.4132

Susilo, G., & Pancarani, N. (2020). Kemandirian Belajar Mahasiswa Melalui Blended Learning Mata Kuliah Kalkulus Lanjut Era Pandemi Covid-19. 2682(1), 37–48.

Sutisna, A. (2016). Pengembangan Model Pembelajaran Blended Learning pada Pendidikan Kesetaraan Program Paket C dalam Meningkatkan Kemandirian Belajar. Jurnal Teknologi Pendidikan, 18(3), 156–168.

Utomo, W. S., & Wihartanti, V. L. (2019). Penerapan Strategi Blended Learning Untuk Meningkatkan Kemampuan Berpikir Kritis Mahasiswa Pada Era. Kwangsan-Jurnal Teknologi Pendidikan, 07(01), 30–44.

Widiara, K. I. (2018). Blended Learning Sebagai Alternatif Pembelajaran Di Era Digital. Purwadita, 2(2), 50–56.

Yuliati, Y., & Saputra, D. S. (2020). Membangun Kemandirian Belajar Mahasiswa Melalui Blended Learning Di Masa Pandemi Covid-19. Jurnal Elementaria Edukasia, 3(1), 142–149.