

Research article

Blended Learning in Elementary Schools

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ORCIDBudi Haryanto: <https://orcid.org/0000-0003-4694-048X>**Abstract.**

The COVID-19 pandemic has encouraged educators all over the world to integrate technology with their usual teaching methodologies. The physical-distancing policies forced schools in Indonesia to adapt to online learning with the aid of technology. However, with the decline in the number of positive cases, the government of Indonesia has directed schools to adopt blended learning. Blended learning is an integrated form of learning, combining face-to-face learning with the online and remote study. The current study examined the effectiveness, advantages, and disadvantages of blended learning implementation in the elementary schools of Indonesia. Researchers conducted a systematic literature review by documenting and reviewing related articles published between 2018 and 2021 and accessed from Google Scholar and Science Direct. Results showed that blended learning was largely effective during the COVID-19 pandemic and is a step forward from the 21st-century standpoint. However, a successful blended learning implementation requires supporting applications and cooperation between teachers, students, and parents.

Keywords: blended learning, icons, superior schools, elementary schools

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1. Introduction

The world is currently facing a major problem due to the Covid-19 virus. This virus spread to all regions of Indonesia, resulting in consequences in various sectors, especially the education sector [1]. The Indonesian government is making various efforts to prevent the spread of the Covid-19 virus. One of the policies in the education sector is the closure of schools or not allowing schools to hold face-to-face meetings in the classroom [2][3].

The Covid-19 pandemic that occurred in era 4.0 also encourages the world of Education to meet the demands to follow the development of technology and utilize information and communication technology as a facility for learning and teaching [2]. Because the process of teaching and learning activities must continue and physical distancing policies, the government and educational institutions issue policies to carry out learning from home or distance learning or online learning [1][2][3]. Distance learning is conducted by teachers and students using technology in learning management

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systems such as google classroom, WhatsApp, zoom meeting, and google meeting [3].

Along with the decline of Covid-19 cases and the implementation of vaccinations, the Indonesian government-directed several schools to implement the Blended Learning [4]. Blended learning in Indonesia has not been done much and has become a new thing in Elementary School [5]. Blended learning can be interpreted as combining face-to-face learning in the classroom and online learning using internet-connected computer applications [5]. There is also the definition of Blended Learning as integrated learning between covenant learning (face to face) with online distance learning or e-learning [1][6][7].

The current era of globalization gave rise to a lot of competition from various schools or madrasas to offer their institutions the best quality. This is seen from the variety of forms of promotion and strategy, especially educational institutions with personal backgrounds that are required to have more quality and competitiveness than other educational institutions [8]. Excellent schools must be able to prove themselves that schools do have more value than other schools, both in terms of physical infrastructure facilities, as well as other aspects that are very decisive, such as the teaching and learning process, student development, school culture, or the resulting output, all of which will foster community trust [8].

The principal must be able to formulate and determine the right strategy to maintain its existence so that the quality of the School remains quality and becomes better. In addition, by paying attention to the phenomenon of competition and increasing development between schools, schools must implement several strategies that excel in responding to competitors [9].

In semiotic theory, icons are similar to the object's shape that serves as a sign [10]. In KBBI, the icon is a painting or an image. As well as the boarding school that became an icon of Jengkulo Village [11], ended cloth became an icon of Bali in several international events [12], Borobudur Temple became one of the icons of Indonesian tourism [13], the superior class in Madrasah Tsnawiyah Muallimin UNIVA Medan became a school icon to be able to expand the quality of Education further and make it one of the leading schools in Medan City, North Sumatra [9].

Based on the implementation of blended learning in elementary schools during the Covid-19 pandemic, researchers are interested in conducting studies to determine the effectiveness, advantages, and disadvantages of blended learning implementation as an icon of elementary school learning in the Covid-19 pandemic.

2. Methodology

This scientific article was compiled using the Systematic Literature Review (SLR) method. The systematic review reporting guide uses The Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) flow diagram [14]. Systematic boxing reporting is shown in **Figure 1**.

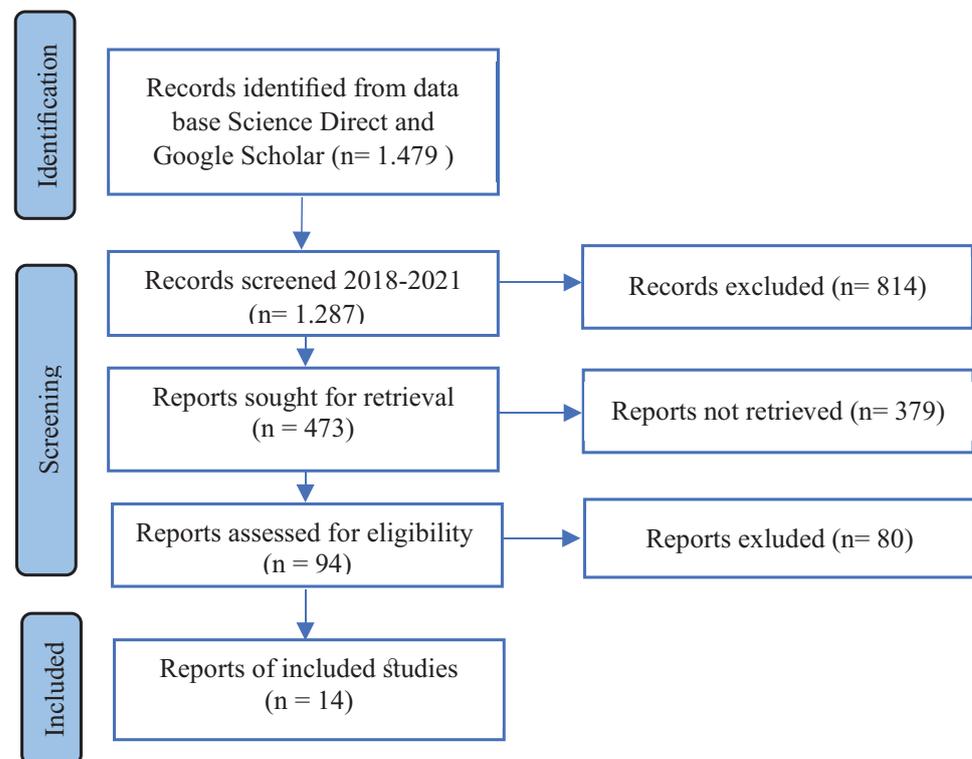


Figure 1: The research procedure.

At the identification stage, collected journal articles with the keywords are "Blended Learning" AND "Elementary school" (1479 articles). Articles found with keywords published from 2018 to 2021 totaled 1287 articles.

Based on the title and abstract (effectiveness and impact), the filtering stage left 473 articles. At the eligibility stage, 94 full-text articles of the topic's relevance are downloaded. Full-text articles are scanned to check the suitability of the topic for research purposes. These types of 'reviews' and case studies in elementary school are excluded from the analysis. In the final stages found 14 relevant articles. In the next step, all qualified articles are studied and analyzed to synthesize conclusions.

3. Result and Discussion

3.1. Icon of School Excellence

Excellent schools or those that are superior by the community are quality schools that reference other schools. Superior School or often also referred to as an effective school. Superior Schools are often equated with the high quality of schools. Still, in the world of education, special schools accommodate stakeholder expectations about the competencies possessed by their graduates, both the expectations of students, parents, and the community [8]. To be a superior school that is seen and in demand, the community must have a good quality culture, have advantages on various criteria of effective schools, and be ready to face future challenges. Given the increasingly competitive competition, an elementary school needs to improve and renew its establishment continuously [15]. Therefore, the school must have some characteristics and icons of school excellence that are popular and attractive to the community not to lose its existence and greatness.

3.2. Blended Learning

Blended learning is the integrated learning between face-to-face learning and online distance learning [1][5][6][7]. One of the advantages of blended learning is effectiveness; the teaching and learning process that was once done in the classroom is now not bound by space and time [16]. Blended learning allows it to be implemented in elementary schools, especially with good facilities and infrastructure such as computers and the internet. Blended Learning applied in elementary schools can be done online and offline in two ways [5][6]. Thus, blended learning is learning that combines learning recognition strategies using face-to-face Learning, computer-based Learning (offline), and online computers (internet and mobile learning) to form an integrated learning approach [17][18].

Online learning must be able to combine synchronic and asynchronous. So blended learning is a combination of three learnings, namely, face to face synchronous in traditional classes (same time / same place), synchronous face to face as a live virtual classroom (same time / different locations), and asynchronous (other times / different areas) [19]. Combining technology with face-to-face instruction can stimulate learning and provide a more collaborative learning experience [5][20].

Blended learning aims to provide the most effective and efficient learning experience. In addition to improving learning outcomes, Blended Learning is also beneficial to enhance communication relationships. Blended learning results in a stronger feeling

of community among learners than traditional or fully online learning [17]. The blended learning arrangement between e-learning and face-to-face learning should complement each other [21]. Blended learning methods are needed during the Covid-19 pandemic [22]. Blended learning is implemented in the present and the future of Education [16].

A teacher willing to design blended learning should pay attention to several main components, there are seven components, namely: (a) learning objectives (student competence), (b) characteristics of materials or teaching materials, (c) the learning process, (d) facilities, media, and learning resources, (e) student characteristics, (f) time used and (g) learning evaluation [23].

3.3. Implementation of Blended Learning

The implementation of blended learning face-to-face period directly is usually carried out at the beginning of the learning meeting. This is used for introductions and so that learners have combination learning skills from the beginning, such as understanding instructions for implementing online learning, from video call, chat, and Learning management system (LMS) applications. Such blended learning support tools enhance students' learning experiences and provide a quality and friendly learning environment [24].

Considering blended learning is applied in elementary schools whose learners are aged 6 - 12 years who still need guidance and direction [5]. So, the composition of blended learning implementation at the elementary school level can be carried out 50/50, meaning 50% for face-to-face learning activities and 50% for online learning. Or use a composition of 75/25, meaning 75% face-to-face learning and 25% online learning [17]. As a follow-up, in the implementation of face-to-face school learning, there are times when learners cannot attend because they follow the Olympics, get sick, follow parents outside then online-based learning becomes a long way to go [17]. Face-to-face learning is not lost due to the significant effects of body language, tone of voice, facial expressions, and eye contact on communication [21]. The implementation of blended learning can be done harmoniously between face-to-face meetings and online learning [25].

Teaching materials used in the blended learning process and printed books also utilize technological media in electronic books, audio, video, and multimedia. It is all packaged in the web or Learning management system (LMS). One example of LMS is moodle. In a study, the use of Moodle for blended learning can improve student

satisfaction [26]. Teachers can take advantage of online learning media such as Google Classroom, Quizizz, Edmodo, and others, to make blended learning more effective [22].

Learning resources are from teachers, but learners can search for them independently on the internet [5]. Because Blended learning stimulates self-study skills and information-seeking skills, making students think critically and develop analytical skills [27][28]. Students have more responsibility in blended learning than face-to-face traditional learning environments [7][29]. Most importantly, blended learning can facilitate learning by providing various learning resources by paying attention to the characteristics of learners in learning. Learning can also encourage learners to make the best use of face-to-face contact and e-learning in developing knowledge [30]. So face-to-face learning becomes essential for teachers and students [31].

Teachers and parents become critical figures in Blended learning in elementary school. Teachers play a role in managing learning, building solid cooperative relationships, trusting each other with parents and students, showing empathy, being ready to help students, controlling student learning, and providing maps to show the direction of learning for parents of students who accompany students to learn independently at home [1]. Supporting facilities, both provided by the school and those owned by students, must also be adequate for implementing blended learning [32]. In addition, student engagement, motivation, and interaction are critical factors for achieving successful blended learning [20]. Problems that arise online using blended learning methods will be resolved if there is good collaboration between teachers, students, and parents [1].

3.4. Effectiveness of Blended Learning

The educational process based on Blended learning is optimal for knowledge transfer and contributes to improving the quality of student training [27]. The Blended learning approach can allow teachers and students to develop essential cognitive concepts and practical skills in teaching and learning processes [33].

Blended learning is effective learning, innovative to the effectiveness of online learning, and provides flexibility in learning for students and teachers. The integration of virtual and physical landscapes enables teachers and students to become learners, but this is most effective when there is institutional support through the provision of professional learning and the opportunity to redesign the most appropriate blended learning [29][34][35][36].

The advantages obtained by the benefits of blended-based learning for educational institutions are to expand the range of learning [6][17], effectiveness and efficiency

[6][16][17][22][23][33][37][38], learners to be more productive [1][6][16][38][39], increase teacher creativity in teaching [1][16][22][40], learning outcomes increase [41][42][43], learning motivation increases [42][43], and increases learning appeal [6][17][22][41].

Blended learning is acceptable and well-liked by students because today’s students accept new technologies quickly and learn easily [44]. The blended learning approach is likely to emerge as the dominant instructional model in the future [21] and has added value compared to online-only learning [45]. Effectiveness, advantages and disadvantages of blended learning in **Table 1**.

TABLE 1: Effectiveness, Advantages and Disadvantages of Blended Learning.

	2018		2019		2020		2021		Total	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Expand the range of learning	1	16.67	1	25	-	-	-	-	2	6.90
Effective and efficient	2	16.67	1	25	2	25	3	27.27	8	27.59
Effective and efficient	-	-	1	25	2	25	2	18.18	5	17.24
Teachers are more creative/innovative	-	-	-	-	2	25	2	18.18	4	13.79
Greater appeal	1	16.67	1	25	1	12.50	1	9.09	4	13.79
Motivation increases	1	16.67	-	-	-	-	1	9.09	2	6.90
Learning Outcomes Increase	1	16.67	-	-	1	12.50	1	9.09	3	10.34
Internet network disruption	-	-	-	-	-	-	1	9.09	1	3.45
Total	6		4		8		11		29	100

Based on Table 1. The effectiveness, advantages, and disadvantages of blended learning in elementary schools in 14 articles in 2018-2021 found that the effective and efficient variables of blended learning implementation have the highest percentage showing the number 27.59% (N = 8), then blended learning makes learners active and productive by 17.24% (N = 5), teachers are more creative/innovative as much, greater student attractiveness as much as 13.79% (N = 4), Learning outcomes increased by 10.34% (N=3), motivation increased by 6.90% (N=2), blended learning could expand learning reach by 6.90% (N=2), and the lowest was the lack of blended learning, namely internet network disruption by 3.45% (N=1). Problems that arise during distance learning using blended learning methods will be resolved if there is good collaboration between teachers, students, and parents [1].

4. Conclusion

Blended learning offers learning opportunities together or separately, simultaneously or differently. Blended learning in elementary school can already be applied. Blended learning is the best choice in the Covid-19 pandemic and the future because it can increase the effectiveness efficiency of learning. Students are more active and productive, teachers are more creative/innovative, and the range of learning is wider. Although there are still shortcomings when implementing online learning due to networking problems, it can be overcome with face-to-face learning the next day. Blended learning can be used as an icon of elementary schools excelling in learning approaches. To achieve maximum blended learning, elementary schools need supporting applications and cooperation between teachers, students, and parents and support from schools. Future research studies are expected to design blended learning to be interesting, meaningful, and by the characteristics of elementary school students' learning styles.

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