



Blended learning based on living values education for the development of students digital citizenship

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Abstract

This research aims to develop a conceptual model of blended learning based on living values education, describe students' perceptions of the implementation of the model and students digital citizenship, and test the effectiveness of the model on the development of students digital citizenship. The research utilized the mixed methods approach and involved six teachers, 120 students from junior high schools in Bandung Indonesia, and three lecturers of Pancasila and Civic Education as a research sample. Data were collected through various methods, including observation, interviews, focus group discussions, questionnaires, and attitude scales. The collected data were analyzed using interactive qualitative analysis, descriptive statistical analysis, and t-tests. The study findings are as follows: (1) Blended learning based on living values education is characterized by the application of living values education principles, the learning strategies applied online learning and face-to-face learning proportionally, the integration of digital citizenship materials, and there are diverse models for value-based learning and scientific-contextual learning; (2) The perceptions of blended learning based on living values education were "good" category; (3) The students digital citizenship exhibited significant improvement after the implementation of blended learning based on living values education, with the outcomes classified as very good; and (4) The results of the t-test indicated the blended learning model based on living values education proved to be effective in fostering the development of students digital citizenship. Therefore, this model can serve as a viable alternative in the current digital era for enhancing student digital citizenship skills.

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Introduction

A cyber-physical system has marked the industrial revolution 4.0. The virtual world has become an inseparable part of today's industry in the form of a human, machine, and data connectivity. The involvement of virtual technology in the industry is ubiquitous. It is known as the internet of things (Kearney, 2016) and the digital era. The industrial revolution 4.0 has impacted society, including students as digital natives. If looking at the age groups, the current generation of students at the elementary and secondary education levels is dominated by "Generation Z" (aged 8–18 years), also called the "Next Generation." This generation was born when the internet grew rapidly in human life. They do not undergo an experience of life without the internet, computers, and mobile phones. Generation Z uses more advanced technology, has a more open mind, cares less about norms, opens up wider communication (Kubátová, 2016; Stillman & Stillman, 2017; Yadav & Rai, 2017), is overconfident, creative and thinks about future careers, flexible, few rules, autonomy in decision making (Arar & Yüksel, 2015).

Based on the data from the Asosiasi Penyelenggaran Jasa Internet Indonesia [APJII] 2020, the number of Indonesians as active internet users aged 10 to 24 is 24.4 million people or 18.4 percent of the entire population of Indonesia. It shows that Generation Z, which uses the internet, is quite large. On the other hand, the results of the (Digital Civility Index [DCI], 2021) survey from Microsoft revealed that Indonesia, along with Russia, South Africa, and Mexico, belonged to a group of countries with the most disrespectful manners on the internet. The survey was administered in February 2021, involving more than 16,000 respondents from 32 countries.

The age of digital technology has brought about multiple issues for Generation Z, including: 1) the shift of traditional services to online; 2) the opening of personal cooperation with fellow internet users across countries; 3) the changes in social morality in social interactions, including phone snubbing; and 4) the erosion of Pancasila values, morals, and norms in the lives of Indonesians, including a rising incidence of hoaxes, provocations, hate speech, and cyberbullying (Komalasari, 2019). As a result, it is critical to foster digital citizenship based on the principles of mutual respect, education, and protection. Ribble and Bailey (2011) define digital citizenship as "digital access, digital commerce, digital communication, digital literacy, digital etiquette, digital

law, digital rights and responsibility, digital health and wellness, and digital security (Ribble & Bailey, 2011).

Considering the large number of internet users among Generation Z at the school age, the Indonesian netizens lack of etiquette in using the internet, and the challenges in the digital era, digital citizenship needs to be developed in all educational environments, including schools, families, communities, governments, and mass media. Schools as a community of character hold a vital role in developing digital citizenship. Pancasila and Civic Education, which has a vision of "nation and character building", which instills the values of Pancasila as the values of the life of the Indonesian nation (religious, humanity, unity, democracy and social justice) and aims to develop "to be a good citizenship," plays a strategic role in developing the civic competencies of students in the digital age, including those related to digital citizenship competencies. (Abdulkarim, et al, 2020, Winarno, et al, 2023;)

In the present digital era, the field of education in Indonesia has increasingly recognized the significance of incorporating digital learning methodologies, particularly blended learning. This approach involves a combination of traditional face-to-face instruction and online-based learning modalities. Blended learning integrates various elements such as web-based learning, video streaming, and both synchronous and asynchronous audio communication (Anderson, 2008; Garner & Oke, 2015; Harding et al., 2005). The primary question that arises is which blended learning models are capable of fostering the development of digital citizenship. Initial findings from a preliminary study conducted by Komalasari (2019) revealed that the challenge of online learning within the framework of digital citizenship lies in the students lack of appropriate attitudes and character. Hence, there is a pressing need to devise a blended learning model that addresses the following key characteristics: (1) the application of principles derived from values-based education; (2) comprehensive cultivation of digital citizenship; and (3) a foundation based on local culture and wisdom (Sugiantoro et al., 2022), while also taking into account contextual factors. Consequently, it is imperative to undertake research focused on developing a blended learning model based on values education within the Pancasila and Civic Education curriculum, with the aim of nurturing digital citizenship.

Considering the contextual background, the research problem is formulated as follows:

1. How can we develop a conceptual model for blended learning that incorporates living values education?

2. What are the perceptions of students regarding the blended learning model that integrates living values education?

3. How does the blended learning model, which incorporates living values education, shape students' digital citizenship?

4. What are the impacts of implementing the blended learning model, based on living values education within Pancasila and Civic Education, on the development of digital citizenship?

The aim of this research is to develop a conceptual model of blended learning based on living values education, describe students' perceptions of the implementation of the model and digital citizenship, and test the effectiveness of the model on the development of students' digital citizenship. The research hypothesis is formulated as follows: the blended learning model based on living values education can develop digital citizenship for junior high school students in the city of Bandung, Indonesia.

Literature Review

Blended Learning

Blended learning, as defined by Garner and Oke (2015), is an educational setting that merges face-to-face (F2F) instruction with online learning to enhance student academic achievements. Furthermore, Harding et al. (2005) describe blended learning as an instructional approach that combines traditional in-person learning with remote learning, utilizing online resources, particularly web-based platforms, and diverse communication tools available to both teachers and students.

The concept of blended learning encompasses four main perspectives: (1) Blended learning involves the integration of various web-based technologies to accomplish educational objectives; (2) Blended learning entails a combination of diverse learning approaches aimed at optimizing learning outcomes, regardless of the presence of learning technology; (3) Blended learning combines face-to-face instruction with an array of learning technologies; and (4) Blended learning incorporates learning technology with real-world assignments, creating a positive impact on both learning and assignments (Driscoll, 2002). Furthermore, the blended learning process can be characterized by five key elements: (1) live event, (2) self-paced learning, (3) collaboration, (4) assessment, and (5) performance support materials (Carman, 2005).

Living Values Education

Living Values Education is an educational initiative aimed at assisting children and young individuals in exploring and cultivating universal values, which they can then apply in their daily lives to enhance their social-emotional and interpersonal skills. Central to the approach of Living Values Education is the active engagement of educators in reflecting upon and examining their own personal values, which serve as the bedrock for establishing a values-centered learning environment. Consequently, it is of utmost importance for every educator to recognize and consistently embody their personal values, thereby functioning as a positive role model for their students (Arweck & Nesbitt, 2004).

Living values education encompasses a set of fundamental principles that guide its implementation. These principles include: (1) Engaging in reflective practices to gather valuable insights; (2) Cultivating an expansive imagination to foster creative thinking; (3) Emphasizing the importance of relaxation techniques and the cultivation of focus; (4) Encouraging artistic expression as a means of communication; (5) Nurturing the development of social skills; (6) Enhancing cognitive awareness regarding justice; (7) Promoting social harmony; and (8) Valuing and incorporating cultural values (Komalasari, 2012; Saripudin & Komalasari, 2015).

Living Values Education encompasses a diverse range of activities designed to facilitate the holistic development of individuals affective and cognitive abilities. Students actively participate in various activities, including conflict resolution exercises, stimulating discussions, artistic endeavors encompassing art, drama, dance, singing, and storytelling, engaging games, effective communication exercises, mind mapping, creative writing, interactive role-playing, imaginative exercises, and relaxation techniques or concentration exercises (Tillman, 2004).

Digital Citizenship

Digital citizenship pertains to the manner in which individuals engage in online interactions, particularly within social networks, by displaying responsible behavior that aligns with established norms and ethics (Komalasari, 2019). Education Services Australia (2021) expands the concept of digital citizenship to encompass a broader scope, referring to individuals who possess the knowledge and skills necessary to

effectively utilize digital technology for communication, active participation in society, and the creation and utilization of digital content. It is crucial for digital citizenship to become an integral part of our school culture, permeating not only specific classes or lessons but also influencing our overall educational practices. Learners should develop a comprehensive understanding of key concepts including digital and information literacy, internet security, privacy and confidentiality, combating cyberbullying, fostering healthy relationships, ethical considerations, effective communication, copyright awareness, and the management of one's digital footprint (Ribble et al., 2004).

Digital citizenship encompasses nine key elements as outlined by Ribble and Bailey (2011): digital access, digital commerce, digital communication, digital literacy, digital etiquette, digital law, digital rights and responsibilities, digital health and wellness, and digital security. In addition to these elements, digital citizens must also recognize the significance of fostering a sense of brotherhood and humanity, upholding human rights, and striking a balance between local interests (such as familial love, ethnic identity, community awareness, and self-interest) and global interests (such as recognizing the universal equality of human beings and abiding by constitutional principles in all actions). Digital citizenship extends beyond mere digital knowledge and skills; it encompasses digital etiquette, which stems from an individual's moral conscience and plays a pivotal role in fostering positive attitudes and behaviors in the digital era (Heater, 2004).

Indonesia has Law Number 11 of 2008 concerning Information and Electronic Transactions (ITE). This law is absolutely necessary for Indonesia, because it is one of the countries that has utilized and utilized technology widely and efficiently. The material scope of the ITE Law generally includes: electronic information and documents, sending and receiving electronic mail, signatures, electronic signatures, electronic certificates, electronic system administration, electronic transactions, intellectual property rights and privacy. (JDIH Kemkominfo - Law Number 11 of 2008, n.d.)

The Relationship between Blended Learning, Life Values Education and Digital Citizenship.

Blended learning as learning that can accommodate the development of digital technology is closely related to efforts to develop student digital citizenship. Elements of digital citizenship must be studied in the context of Indonesian life based on the values of Pancasila as the

Indonesian way of life. Therefore, the principles of living values education need to be integrated into blended learning to develop digital citizenship. (Indrawadi et al., 2023; Kusmayanti, et al., 2022; Saputra, et al., 2020; Simatupang & Wahab, 2022).

Methodology

This study employed the mixed methods approach, research that combines qualitative and quantitative approaches with a specific design to answer the research objectives (Creswell, 2012; Tashakkori & Teddlie, 2010). This research involved two main forms of activity. Firstly, qualitative exploration was conducted to facilitate the development of conceptual and product models for the blended learning approach, incorporating the principles of living values education. Secondly, a quantitative implementation was carried out to describe student perceptions of the blended learning model based on living values education, student digital citizenship, and assess the effectiveness of the developed blended learning model in cultivating digital citizenship. This evaluation was accomplished through experimental interventions designed to measure the impact of the blended learning model on student digital citizenship development.

Participants

The research sample consisted of teachers and students of class VIII Junior High Schools at SMP 2, SMP 12, and SMP 19, which were determined purposively with the consideration that the school had best practices in character education and was designated as a driving school by the Indonesia Ministry of Education, Culture and Research in 2021. The total number of participants was 120 sample students in the experimental classes and 120 students in the control classes. Interviews and focus group discussions involved ten Pancasila and Citizenship Education teachers (practitioner participants) who were determined purposively as driving teachers by the Indonesia Ministry of Education, Culture and Research in 2021, and three Pancasila and Citizenship Education lecturers from the Indonesian University of Education (expert participants) in the fields of digital citizenship and citizenship education materials, citizenship education learning technology, and citizenship education learning models)

Data Collection

The data for this study were collected through various methods: (1) participatory observations, (2) documentation study; (3) interviews and focus group discussions (FGD); and (4) questionnaires and attitude scales. Participatory observations were carried out by researchers as observers by involving themselves in Pancasila and Civic education learning. Documentation studies were used to collect data from lesson plans and photos of the blended learning process. FGDs were held with teachers of Pancasila and Civic Education and lecturers who taught learning media, learning strategies, and learning evaluation. Questionnaires were given to students to see their perceptions of the application of the blended learning model based on living values education in Pancasila and Civic education learning. Meanwhile, attitude scales were given to students to measure the student digital citizenship. The questionnaires were tested for validity with Pearson's product-moment correlation and reliability tested with Cronbach alpha (Shadish, et.al, 2002). Based on the test, instruments of questionnaire were valid with coefficient of correlation bigger than 0.437 (r table) and coefficient of alpha reliability $.784 > .600$ indicating the instrument is reliable.

Data Analysis

The data collected from interviews, focus group discussions, and documentation study underwent analysis using qualitative analysis techniques, as outlined by Fraenkel and Wallen (2006). The following steps were followed: (1) data reduction, (2) systematic data arrangement, (3) data display, (4) cross-site analysis, and (5) presentation of findings, conclusions, implications, and recommendations. For the questionnaire data, a quantitative descriptive analysis technique was employed, utilizing percentages to summarize and interpret the data, following the guidelines proposed by Creswell (2012). Furthermore, to analyze the questionnaires measuring digital citizenship, the t-test was applied, as suggested by Shadish et al. (2002).

Results

A Conceptual Model of Blended Learning Based on Values in Pancasila and Civic education

The results of the preliminary study, interviews, and focus group discussions with teachers and blended

learning experts, and Pancasila and Civic education learning experts reveal a conceptual conclusion; that is, a blended learning model based on living values education is blended learning that integrates living values education in it both in a combination of blended learning strategies, learning stages, and learning components. The conceptual model of blended learning based on values in Pancasila and civic education is presented in the following framework.

Figure 1 shows the characteristics of blended learning based on living values education as described below.

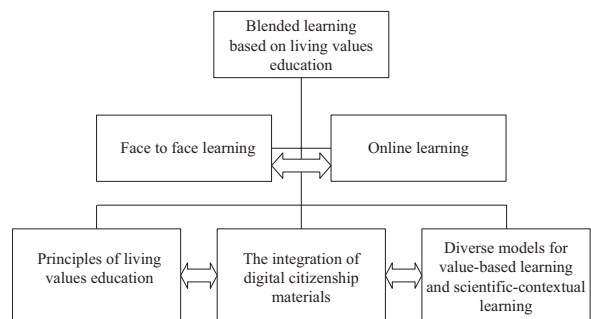


Figure 1 The conceptual model of blended learning based on values

1. Application of the principles of living values education: Blended learning should apply the principles of living values education, as follows: (1.1) internal reflection, (1.2) information gathering, (1.3) exploration of values in real life, (1.4) value stimulation, (1.5) discussion, (1.6) exploration of ideas, (1.7) creative expression, (1.8) development of personal, social, and emotional skills, and (1.9) transfer of values in life.

2. The blended learning strategies applied in schools combine the use of online learning, face-to-face learning, and independent learning proportionally and with quality by employing the learning management system. The activities were developed referring to Carmen (2005) as follows: (2.1) The Live Event element of blended learning involves the simultaneous integration of face-to-face learning and virtual learning, either in a physical classroom setting (live classroom) or in separate locations (virtual classroom). This approach is carefully designed to effectively meet the learning objectives; (2.2) Self-Paced Learning in blended learning combines face-to-face instruction with independent learning that can be accessed through various mediums such as text, multimedia (video, animation, simulation, images, audio, or a combination of these), available online (via the web or mobile applications).

These resources enable students to access the materials at their own convenience, anytime and anywhere, and in some cases, offline through CDs or printed materials; (2.3) Collaboration in blended learning fosters effective communication and cooperation between teachers and students through various communication tools. These tools may include chat rooms, discussion forums, email, websites or web blogs, mobile phones, or instant messaging platforms like WhatsApp for delving deeper into the subject matter, problem-solving, and engaging in collaborative project assignments. (2.4) Authentic assessment in blended learning encompasses a variety of assessment methods, both offline and online. It incorporates diverse types of assessments, including tests (both traditional and non-traditional), as well as authentic assessments that involve projects or the creation of products. These assessments can be conducted in either online or offline formats; and (2.5) Performance Support Materials in blended learning involve organizing digital learning resources that are accessible both offline and online. Offline resources may be provided in the form of CDs, MP3s, DVDs, or other digital media that students can access without an internet connection.

3. The integration of digital citizenship materials, encompassing the principles and elements of digital citizenship, is implemented in Pancasila and Civic Education learning through both direct and indirect approaches. The three principles of digital citizenship—respect yourself/respect others, educate yourself/connect with others, and protect yourself/protect others—are incorporated into the curriculum. Pancasila and Civic Education materials directly address topics such as digital ethics, digital law, digital rights, responsibility, and digital security, which are explored within relevant subjects like the Legal System, including Law Number 11 of 2008 concerning information and electronic transactions. On the other hand, aspects such as digital access, digital literacy, digital communication, digital commerce, digital health, and wellness are predominantly taught indirectly. These concepts are integrated into the learning process through a combination of values-based learning and scientific-contextual learning approaches.

4. There are diverse models for value-based learning and scientific-contextual learning. Value-based learning incorporates various approaches, including the inclusion approach, cognitive moral development approach, value analysis approach, value clarification approach, and action learning approach. These models are utilized to promote the integration of values into the learning process and facilitate students' understanding and application of ethical principles. On the other hand, the scientific-contextual learning model encompasses a range of strategies that foster active engagement and practical application of knowledge. These variations include discovery-inquiry learning, problem-based learning, project-based learning, service learning, cooperative learning, work-based learning, and game-based learning.

Students Perceptions on the Implementation of Blended Learning Based on Living Values Education in Pancasila and Civic Education

At the implementation stage of the model in the experimental class, the researchers obtained the data on the students' perceptions of the implementation of blended learning based on living values education in Pancasila and Civic Education in schools. Such is presented in the Table 1 below.

The table above indicates that more than half of the students (50.8%) assessed that the implementation of blended learning was excellent. Meanwhile, a third of the students said it was good (33.1%). A small number of students (13.8%) indicated that blended learning belonged to the fair category. Only a very few students (2.3%) said that it was poor. The variations of values-based models and authentic assessments were the components of blended learning based on living values education still considered lacking. Figure 2 below presents the results of frequency analysis processed through SPSS version 25:

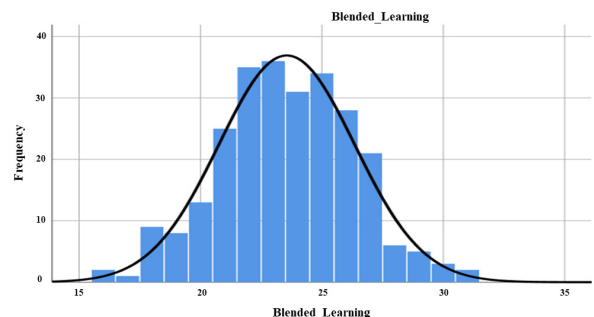


Figure 2 The graph of blended learning based on living values education

Note: Mean = 23.55, SD = 2.798, $n = 120$

Table 1 Implementation of blended learning based on living values education

No.	Statements	Score (Percentage) <i>n</i> = 120			
		Excellent	Good	Fair	Poor
1.	Teachers apply blended learning that combines online learning, face-to-face learning, and self-paced learning using the learning management system in schools.	66.8	25.9	7.3	0
2	In blended learning, teachers prioritize the cultivation of attitudes and behavior in addition to an understanding of materials, thinking skills, and participation.	62.2	31.3	6.2	0.3
3.	In blended learning, teachers apply values-based learning	29.3	46.3	23.9	0.5
4.	The learning media used by teachers in blended learning based on values are varied and sourced from the internet	57.5	34.0	8.1	0.4
5.	Students create projects in blended learning by utilizing internet media	48.6	26.3	21.3	5.8
6.	Teachers assess aspects of student attitudes, in addition to aspects of internet-based knowledge and skills in blended learning	24.5	38.2	28.7	8.6
7.	Teachers direct students to use social media and the internet politely and responsibly and comply with applicable regulations.	62.5	29.0	8.1	0.4
8.	Teachers direct students to maintain a healthy body and mind, as well as maintain data and file security by utilizing social media and the internet.	55.6	34.4	7.5	2.5
Average Percentage		50.8	33.1	13.7	2.4

Referring to [Figure 2](#), the mean value for the perceptions about the implementation of values-based blended learning in Pancasila and Civic education in schools for digital citizenship development is 23.55 from the maximum score 32.00. Based on this classification, it can be said that, according to the students' perceptions of blended learning, the blended learning belongs to the "good" category.

The Student Digital Citizenship

The overview of the student digital citizenship in the experimental classes is presented in the following [Table 2](#).

Table 2 The student digital citizenship

No	Digital Citizenship Components	Descriptions	Score (Percentage) <i>n</i> = 120			
			Always	Very Often	Rarely	Never
1	Digital Access	Accessing several applications and platforms on the internet that are useful for Pancasila and Civic education learning appropriately	48.8	31.1	19.7	0.4
2	Digital Commerce	Using online shops or buying and selling applications and shipping services wisely and safely.	27.0	43.6	24.7	4.7
3	Digital communication	Communicating and sharing information and knowledge on various social media platforms appropriately.	57.9	29.7	11.2	1.2
4	Digital literacy	Searching, finding, processing, and presenting useful information obtained from various sources on the internet.	34.0	42.8	23.2	0
5	Digital Etiquette	Maintaining ethics in communicating on social media both verbally, in writing, and in actions (being polite, avoiding bullying, not spreading hate speech and hoax news)	66.0	26.3	5.4	2.3
6	Digital law	Being careful in using the internet because there is law number 11 of 2008 concerning Electronic Information and Transactions, which regulates it, where violation of the rules can be subject to criminal sanctions.	77.2	20.1	2.7	0
7	Digital rights and responsibility	Giving mutual respect and appreciation, as well as sharing useful information via the internet and social media	65.6	28.6	5.4	0.4
8	Digital health and wellness	Managing time well and maintaining a healthy body and mind in using the internet, and avoiding internet addiction.	52.9	36.9	11.2	0
9	Digital security	Maintaining security in storing and sharing personal data and important files on the internet.	67.6	28.6	2.3	1.5
Average Percentage			55.3	32.0	11.5	1.2

The findings in Table 2 above reveal that a majority of students consistently exhibited digital citizenship behaviors. However, less than half of the students indicated frequent engagement, while a minority confessed to infrequent or nonexistent involvement. Among the components of digital citizenship imparted through Pancasila and Civic Education, the following aspects were predominantly embraced by more than half of the students: digital security, digital law, digital etiquette, digital rights and responsibility, digital communication, and digital health and wellness. Notably, digital commerce emerged as the least emphasized element of digital citizenship, with a considerable number of students reporting never engaging in related activities. The ensuing section presents the outcomes of the data analysis concerning students’ comprehension and awareness of digital citizenship, as derived from frequency analysis conducted using SPSS version 25.

Referring to Figure 3, the mean value for the student digital citizenship is 30.76 from the maximum score 36.00. By classifying the categories of 4 answer options from 9 statement items, it can be said that, according to the students’ perceptions of digital citizenship, their digital citizenship belongs to the “excellent” category.

The Impact of the Implementation of the Blended Learning Model Based on Living Values Education in Pancasila and Civic education on the Development of Students Digital Citizenship

The impact of blended learning based on living values education in Pancasila and Civic education on the development of student digital citizenship was assessed through limited experimental trials conducted in three junior high schools. The findings and details of the research results are provided in Table 3 below.

The N-gain score presented in the table above shows that in the control class at SMP A, the increase in student digital citizenship was 0.40 (medium improvement category), while in the experimental class the increase was 1.12 (high category). At SMP B, in the control class, the increase in student digital citizenship was 0.30 (medium increase category), while in the experimental class, the increase in student digital citizenship was 1.04 (high category). In the control class at SMP C, the increase in student digital citizenship occurred by 0.45 (medium increase category), while in the experimental class, the increase in student digital citizenship occurred by 1.38 (high category).

Based on the N-gain data analysis test above, it can be concluded that both the experimental and control classes of junior high school students experienced an increase, but the experimental class was higher than the control class. The results of the t test on the similarity of the mean N-gain scores for the experimental class and the control class at the three junior high schools showed that at a significant level of 0.05, Asymp. Sig. (2-tailed) was $p < 0.05$. This means that there is a significant difference in increasing digital citizenship between experimental class and control class students.

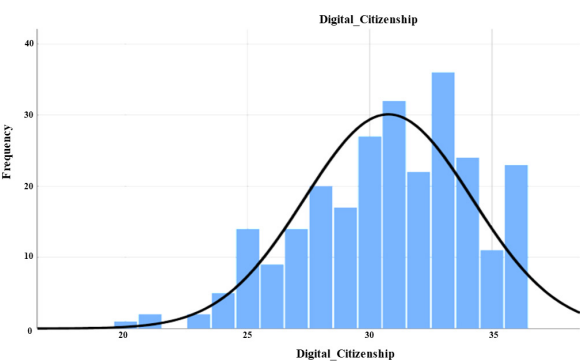


Figure 3 The graph of student digital citizenship
Note: Mean = 30.76, SD = 3.432, $n = 120$

Table 3 The increase of pretest and posttest scores on student digital citizenship in experiment classes and control classes

No	School	Class Data	Average Scores	Standard Deviation	Variance	Gain	N Gain	T-test
1	SMP A	Pretest (Control)	49.44	5.921	49.516	2.06	0.40	0.00
		Posttest (Control)	70.10	7.500	56.252			
		Pretest (Experiment)	49.31	9.855	97.113	5.69	1.12	
		Posttest (Experiment)	106.28	8.693	75.576			
2	SMP B	Pretest (Control)	56.65	5.641	31.823	1.32	0.30	0.00
		Posttest (Control)	69.93	4.752	22.584			
		Pretest (Experiment)	57.27	5.511	30.369	4.48	1.04	
		Posttest (Experiment)	102.11	8.144	66.321			
3.	SMP C	Pretest (Control)	48.97	6.972	48.546	2.36	0.45	0.00
		Posttest (Control)	71.10	7.800	57.348			
		Pretest (Experiment)	48.61	9.355	96.433	6.03	1.38	
		Posttest (Experiment)	108.43	8.593	74.678			

Discussion

The research results can be analyzed in the several points below.

First, conceptually, blended learning based on living values education is learning that integrates blended learning strategies (face-to-face learning and online learning), living values education principles, digital citizenship materials, and diverse models for value-based learning and scientific-contextual learning. That its consistent with the concept and theory that learning should apply living values education principles (Komalasari & Saripudin, 2018; Tillman, 2004; Saripudin & Komalasari, 2015), applying blended learning strategies proportionally and with quality, which includes the components of life event, self-paced learning, collaboration, assessment, and performance support materials (Carman, 2005), integrating principles and elements of digital citizenship in learning (Ribble & Bailey, 2011), and using variations of value learning (Komalasari & Saripudin, 2017; Superka et al., 1976), scientific learning (Dyer & Reeves, 1995), and contextual learning (Johnson, 2002).

Furthermore, the students' perceptions of blended learning in the given context are generally positive, falling within the good category. However, there are still areas that require further development in blended learning based on living values education, particularly in values-based models and authentic assessments. To enhance values-based learning, it is recommended to explore and implement the five approaches of values-based learning, namely, (1) an inclusion approach, (2) a cognitive moral development approach, (3) a value analysis approach, (4) a value clarification approach, and (5) an action learning approach (Superka et al., 1976). These approaches aim to cultivate moral knowing, moral feeling, and moral action (Lickona, 1992). Similarly, in the domain of authentic assessments, it is crucial to develop comprehensive and authentic assessment methods that encompass attitudes, knowledge, and skills both in offline and online settings. Various types of authentic assessments can be employed, including self and peer assessments, observations, paper and pencil tests, performance assessments, portfolio assessments, and project assessments. By incorporating such assessments, students learning experiences become more flexible and multifaceted. Additionally, attitude assessments can be diversified through the use of journals, anecdotal notes, observations, self-assessments, peer assessments, and assessments conducted among peers (Carman,

2005; Komalasari & Masyitoh, 2022; Komalasari & Saripudin, 2020).

Third, the implementation of blended learning based on living values education has yielded excellent results in enhancing student digital citizenship. The direct application of various components of digital citizenship within the Pancasila and Civic Education learning process has proven to be effective. Students have demonstrated proficiency in areas such as digital security, digital law, digital etiquette, digital rights and responsibility, digital communication, and digital health and wellness. Consequently, it is essential for schools to provide students with comprehensive guidance on accessing information accurately and engaging in respectful communication on online platforms they utilize (Ribble et al., 2004). To achieve this, learners must develop an understanding of several key concepts, including digital and information literacy, internet security, privacy and security, cyberbullying, relationships, ethics, communication, copyright, and digital footprint. In preparation for blended learning, teachers need to consider three crucial aspects: the selection of appropriate materials (content), effective communication and interaction between students and teachers, and the creation of a conducive learning environment that takes into account the individual positions and needs of students within the classroom (Kerres & De Witt, 2003).

Fourth, blended learning based on living values education has a significant impact on the development of students digital citizenship due to the fact that Pancasila and Civic Education integrates digital citizenship component materials (digital knowledge, digital skills, and digital etiquette), digital citizenship principles (respect yourself/respect others, educate yourself/connect with others, protect yourself/protect others) and digital citizenship elements (digital access, digital commerce, digital communication, digital literacy, digital etiquette, digital law, digital rights and responsibility, digital health and wellness, and digital security) (Heater, 2004; Ribble & Bailey, 2011). Its integration is carried out directly through teaching materials relevant to the curriculum's competencies (Komalasari & Sapriya, 2016) and indirectly in the learning processes through various methods, multimedia and values-based learning resources online and offline (Komalasari & Rahmat, 2019); Komalasari, et.al, 2021, Saripudin et.al, 2021).

The significant influence of Blended learning based on living values education on the development of digital citizenship is in line with the results of previous research

that Citizenship Education learning based on living values education can develop anti-radicalism attitudes which include tolerance, peace, empathy, respect and unity in students in high schools in Bandung City (Kusmayanti et al., 2022). The use of blended learning based on living values education in Citizenship Education in Higher Education can develop student character (Indrawadi, 2023; Komalasari, et al, 2023). Implementation of the principles of living values education in Citizenship Education learning can improve digital citizenship of high school students (Saputra, et al, 2020; Simatupang & Wahab, 2022).

Conclusion and Recommendation

Conceptually, the blended learning model based on living values education is blended learning carried out with the right proportion of face to face learning and online learning, integrating the principles of living values education, digital citizenship content, and various methods of values learning, scientific learning. And contextual learning. The blended learning model based on living values education is proven to be able to develop student digital citizenship. It serves as an innovative learning framework that effectively meets the needs of Generation Z, who are essentially digital natives and require the development of digital citizenship competencies.

However, it is worth noting that there is room for improvement in the variety of values-based models and authentic assessments when implementing the components of blended learning based on living values education. To enhance the effectiveness of value learning, it is essential to explore diverse approaches such as the inclusion approach, cognitive moral development approach, value analysis approach, value clarification approach, and action learning approach. Moreover, in terms of assessment, a wide range of values-based evaluation methods can be employed, both online and offline with a proportion of 60% face to face and 40% online. These may include the use of journals, anecdotal notes, observations, self-assessments, attitude assessments, and peer-to-peer assessments.

Recommendations based on the research results are that the blended learning model based on living values education can be applied to develop digital citizenship for junior high school students, and for future research it is possible to implement and test the model more widely with a larger number of samples.

Conflict of Interest

The authors declare that there is no conflict of interest.

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