A STUDY OF NEEDS: VIRTUAL REALITY-BASED MODEL IN FOSTERING THE NATIONALISM CHARACTER IN PRIMARY SCHOOL

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Freddy Widya Ariesta^{1*}, Bunyamin Maftuh², Sapriya³, Ernawulan Syaodih⁴

¹Universitas Bina Nusantara

^{1,2,3,4}Universitas Pendidikan Indonesia

¹freddy.ariesta@binus.ac.id

Abstract

In today's digital era, education faces challenges and opportunities to integrate technology in the learning process to provide a deeper and more meaningful experience for students. With this background, this study was conducted to investigate the level of nationalism of elementary school students and evaluate the potential and need for learning models based on Virtual Reality (VR). This research involved the participation of 203 students and 12 teachers from grades 4 to 6 in 10 elementary schools located in West Jakarta. Through a specially designed questionnaire, data is collected and then analyzed using quantitative methods. The results of the analysis show that only 48.7% of students show strong characteristics of nationalism, while the other 51.3% appear to lack these characteristics. Apart from that, from the educator side, as many as 84.7% of teachers expressed support and an urgent need for the adoption of VR-based learning models. Based on these findings, this research recommends the development and implementation of a VR-based learning model which aims to increase understanding and appreciation of nationalist values among students. It is hoped that through the integration of educational content with VR technology, students can experience a more immersive, interesting, and effective learning experience in building a sense of nationalism.

Keywords: virtual reality; learning model; character; elementary school

Abstrak

Di era pendidikan saat ini, paradigma pembelajaran membutuhkan model yang menggabungkan teknologi untuk menciptakan kesempatan belajar yang signifikan bagi siswa. Tujuan dari penelitian ini adalah untuk mengidentifikasi sejauh mana sifat-sifat nasionalis yang ditunjukkan oleh siswa sekolah dasar dan mengevaluasi perlunya model pembelajaran berdasarkan realitas virtual. Penelitian ini menggunakan pendekatan kualitatif, dengan melibatkan sampel 203 siswa dan 12 guru dari kelas 4-6 di sebuah sekolah dasar di Jakarta Barat. Penggunaan kuesioner sebagai alat pengumpulan data. Data yang diperoleh dianalisis secara kualitatif, dengan menyajikan hasil dalam bentuk deskriptif persentase. Temuan dari penelitian ini mengungkapkan bahwa tingkat nasionalisme di kalangan siswa sekolah dasar kelas 4-6 relatif rendah, sebagaimana dibuktikan oleh tanggapan dari 203 partisipan. Data menunjukkan bahwa hanya 48,7% dari partisipan yang mempunyai karakter nasionalisme, sementara 51,3% sisanya yang terdiri dari 104 siswa belum memiliki karakter nasionalisme. Sehingga berdasarkan studi pendahuluan terkait dengan analisis kebutuhan penelitian tentang perlunya model pembelajaran berbasis virtual reality, sebagian besar guru di sekolah dasar, yaitu sekitar 84,7%, menyatakan perlunya model pembelajaran tersebut. Penelitian ini mengusulkan model pembelajaran berbasis virtual reality yang bertujuan untuk meningkatkan pengalaman belajar siswa melalui integrasi konten media virtual reality yang beragam, menarik dan memberikan pengalaman imersif. Tujuan akhirnya adalah untuk membangun rasa nasionalisme siswa di sekolah.

Kata Kunci: virtual reality; model pembelajaran; karakter; sekolah dasar.



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Introduction

Currently Indonesia has entered the era of globalization, one of which is marked by the ease with which people get information from various parts of the world because of the rapid development of the world of technology (Nugraha et al., 2017). Globalization can be referred to as the "age of social transformation", where globalization which is marked by advances in science and technology gives birth to habits, mindsets, and lifestyles that are full of competition, thus demanding the role of everyone to be able to adapt and keep up with such rapid changes (Tilaar, 2019). The currents of globalization have also opened opportunities for the development of radical organizations that can undermine the integrity of the Indonesian nation (Baharun & Nur Aini, 2020) Therefore, in preparing the younger generation for the effects of globalization that is currently taking place, it is crucial for schools to instill character education from an early age so that the golden generation of Indonesia in 2045 has a good mentality, is not easily influenced by the outside world and is able to compete with developed countries in the world (Jumrana et al., 2020).

Character education is one of the important components in the development process of a country and improving the quality of human resources who have intelligence, skills, superior personality, and morality in the global era (Amran et al., 2018). The character will be formed when the activity is repeated regularly until it becomes a habit, which in the end does not just become a habit but has become a character (Shinta & Ain, 2021). In addition to problems that threaten the integrity and future of the nation, Indonesia is also facing the challenges of globalization which have eroded the sense of love for the homeland and nationalism. Nationalism is a national understanding of the people of a country who have the awareness and spirit of love for the homeland and the nation which is shown through the attitudes and behavior of individuals or communities (Kusnoto, 2017). Communities in a country that has a low value of nationalism character have an impact on the emergence of various problems such as conflict, poverty, unemployment, terrorism, and others (Rukiyati, 2020).

As for someone who has a high character of nationalism, he has the habit of appreciating Indonesian culture, preserving the richness of Indonesian culture, and respecting the cultural diversity of the Indonesian nation (Widiastuti, 2021). The essence of the value of nationalism in Indonesia is a national character that teaches the unity and integrity of the nation above the diversity of religion, culture, and ethnicity to shape the existence of state life (Susi, 2019). The government is aware of the importance of building and cultivating the character values of nationalism from an early age starting at the elementary school level. The elementary school environment is used as a strong and vital foothold in growing norms, beliefs, and habits so that a strong character can be formed (Limilia & Ariadne, 2018; Putri et al., 2020). By instilling a spirit of nationalism from an early age, a young generation of Indonesian characters will grow, have national insight, and love their country and homeland.

Based on the LSI survey data in 2018 it was found that only 61.4% of citizens prefer to call themselves Indonesian citizens, while 13.4% refer to themselves based on ethnicity and 22.7% refer to themselves as religious (Aziz, 2019; Limilia & Ariadne, 2018). The condition of citizens' nationalism, especially the young generation, which is low and bad, can result in the destruction of the nation in the future (Apriani & Sari, 2020). So, the educational environment holds the main key to inculcating the nationalist character of students. The family, school, and community environment must work together to build the nationalist character of the present and future generations called the alpha generation (Tafonao et al., 2020).

The alpha generation refers to individuals who were born after the year 2010. The alpha cohort is comprised of offspring born to millennial parents who are presently embarking upon

their foundational educational years. The alpha cohort is characterized by their heightened level of engagement with the internet and their greater proximity to digital technology in comparison to preceding generations (Cinda & Jacobus, 2016). Cultivating the character of nationalism in early childhood, especially for elementary school age (alpha generation) is not easy and requires special attention. Building character values in schools can use various strategies and approaches with an emphasis on social values so that they can be internalized in students (Rusiyono & Apriani, 2020). Instilling the value of nationalism in the digital world is currently a bigger and more difficult challenge (Saul et al., 2022). A teacher has a very important role in carrying out the process of inculcating the value of nationalism in elementary schools. The teacher is the main character who is responsible for achieving educational goals by developing programs and learning models that follow the times (Komalasari, 2019).

The concept of the development of education in the 21st century affects changes in the components of education such as the quality of educators, curriculum, learning processes, facilities, infrastructure, learning resources, and learning media used to achieve educational goals (Sardiman A.M., 2015). Portraits of education that occur in the school environment now should not only be seen as teacher-teaching activities and student learning but must create a process of teaching and learning activities, where a teacher and students can work together in creating a learning atmosphere that supports educational goals in accordance with curriculum demands. Thus, a paradigm shift is needed in the education system which must be able to provide a set of 21st-century skills needed by students to face every aspect of global life (Dahliyana & Suabuana, 2019). So that a learning model is needed that implements and integrates technology as a means of learning media to create a meaningful learning experience for students. The learning model is a plan or pattern that can be used to form a curriculum (longterm lesson plan), design learning materials, and guide learning in the classroom or otherwise (Ahyar et al., 2021). The progress and sophistication of technology cannot be denied anymore because technology will continue to be developed by the users of the technology themselves (Risdianto, 2019). There are so many technologies that continue to develop today, one example is Virtual Reality technology (Ivanova et al., 2014).

Virtual Reality (VR) technology can help users to simulate a real or abstract environment as a three-dimensional field (Gan et al., 2015). This technology makes its use as if it were in the real world even though what happened was a simulation of an artificial world that was virtual. Learning activities that use Virtual Reality (VR) can create a sense of interest in students to focus on learning and stimulate an active role in finding and constructing their own knowledge in the learning process (Kavanagh et al., 2017). Learning is an active process of learning subjects to reconstruct meaning, text, activities, and physical experiences (Lestiana et al., n.d.). The potential for Virtual Reality (VR) development in education is still wide open (Billinghurst, 2002).

Virtual Reality (VR) Based Learning Models offer an innovative framework for education in the digital era. By adopting VR technology, learning can be adapted to the 2013 Curriculum, especially in social studies subjects for elementary school students. The main goal is to facilitate the internalization of nationalist values, so that students not only understand them at a cognitive level, but also integrate them into their daily behavior. Through this approach, active exploration of learning resources and virtual reality media is emphasized, ensuring that the knowledge gained serves as a solid foundation for the student's educational experience (Hou et al., 2021).

The current rapid globalization has presented challenges in maintaining and strengthening a sense of nationalism, especially among the younger generation such as the alpha

generation (Roopa et al., 2021). Exposed to digital technology from an early age, this generation requires an educational approach that fits their digital experience background, but still instills deep national values (Tlili et al., 2022). In this context, Virtual Reality (VR) emerges as a potential solution. This technology allows students to "enter" the history of the nation, experiencing and feeling directly important events in the Indonesian struggle. This immersive experience aims to awaken a deeper sense of national pride and awareness (Khudoyberdievna, 2022). Therefore, "Needs Study: Virtual Reality-Based Model in Developing Nationalist Character in Elementary Schools" is important to evaluate and ensure the success of this approach in developing nationalist character in elementary school students in Indonesia.

Research Methods

The Ex Post Facto research method is utilized in this study. Ex post facto research, also known as retrospective study, is a type of investigation in which the independent variables are not manipulated by the researcher, but rather are observed as they naturally occur (Goodman-Scott et al., 2022). Causal comparative studies are a type of systematic empirical investigation in which the researcher does not have control over the variables being studied, and these variables cannot be manipulated by natural means (Ugwuanyi et al., 2022). The term "population" refers to a specific object or subject that possesses distinct qualities and characteristics, as determined by the researcher for the purpose of study and subsequent deduction (Hamdi & Bahruddin, 2015). The purpose sampling technique is preferred by researchers due to its pre-planned nature and predetermined selection of respondents. The study utilized a sample of 203 students and 12 elementary school teachers from grades 4-6 SD, drawn from ten schools located in West Jakarta.

Data pertaining to the efficacy of virtual museum media was gathered by researchers through the utilization of a questionnaire. The study on the efficacy of virtual reality-based learning models in fostering nationalism among elementary school students was conducted through the administration of a questionnaire by the researchers to gather relevant data. The present investigation employed a questionnaire as a research tool to gather information regarding the degree of student nationalism in primary educational institutions and to examine the necessity of adopting learning models based on virtual reality. The instrument employed to assess the degree of nationalistic sentiment among primary school students comprises a set of 23 statements that utilize the Guttman scaling technique. The instrument utilized to assess the requirements of this learning model based on virtual reality comprises of 18 statements that employ the Guttman scale. The Guttman scale is a measurement tool utilized to elicit definitive responses from survey participants. This scale is characterized by a binary structure, featuring only two response options, such as "agree-disagree," "yes-no," and similar dichotomous intervals. According to Sugiyono, the aforementioned source provides relevant information on the topic at hand (Bunari et al., 2023).

Qualitative methods were employed as the data analysis technique, and the results were analyzed using percentage descriptions. The qualitative data analysis approach involves a comprehensive processing of data obtained from various sources such as observations, interviews, and literature (Bunari et al., 2023; Hamdi & Bahruddin, 2015). The present study employed a data analysis technique to examine the level of student nationalism in elementary schools and to investigate the necessity of utilizing virtual reality-based learning models. The

data obtained by the researcher is presented in the form of a percentage description and is visually represented through a diagram to facilitate its interpretation.

Results and Discussion

Learning activities and processes are intrinsically linked to learning objectives, as well as strategic planning and effective implementation of learning initiatives. Formulating and implementing a good educational plan will produce effective learning outcomes. The level of nationalism shown by elementary school students was assessed by researchers through a questionnaire consisting of 23 statements. This research involved collecting data from 203 research participants, namely students in grades 4-6 elementary school in ten schools located in the urban area of West Jakarta. Apart from that, there is a questionnaire consisting of 18 statements used to obtain data about the needs for the virtual reality-based learning model that will be developed. The model needs analysis in this research involved a sample of 12 participants who were elementary school teachers from 10 different elementary schools located in the Palmerah District, West Jakarta City.

The present study aimed to assess the degree of student nationalism in primary education settings. To this end, a total of 203 participants completed questionnaires, which were subsequently analyzed for data extraction. The data from the questionnaire, comprising of 23 indicators of nationalism, was subjected to analysis by the researcher. The Guttman scale, which utilizes binary responses of Yes (+) and No (-), is employed to quantify the indicator. Table 1 below displays the descriptive percentages obtained from the analysis of the questionnaire results.

Table 1. The Results of the Primary School Students' Nationalism Character Questionnaire

No	Dimension	Indicator	Response Percentage	
			Yes (+)	No (-)
1	Proud to be	Love local products	61.1	38.9
	Indonesian	Loves Indonesian and local languages	78.8	21.2
		Proud of Indonesia's resource potential	84.2	15.8
		Pancasila as way of life & ideology of the state	59.1	41.4
2	Love the homeland and nation	Able to sing the Indonesian national anthem	42.9	57.1
		Knowing the Indonesian symbols nation	91.1	8.9
		Able to take care of nature (environment)	37.9	62.1
3	Willing to sacrifice for the nation	Social solidarity	43.8	56.2
		Be honest, fair and responsible	48.3	51.7
		Build a personality that likes to learn	32.0	68.0
4	Appreciating the services of the heroes	Knowing the history of the struggle of the Indonesian nation	43.3	56.7
		Knowing the struggle of Indonesian heroes	39.9	60.1
		Embrace the spirit of heroism	48.3	51.7
5	Accepting plurality	Applying heroic values in daily life (brave, discipline, and hard work)	40.4	59.6
		Tolerance and respect for differences (ethnic, race, religion, culture and opinion)	31.5	68.5
		Respecting religious and national holidays	35.0	65.0
		Upholding the values of sportsmanship	43.3	56.7
6	Prioritize the	Prioritizing common interests rather than	36.0	64.0

	public interest	personal or group interests		
		Good speech and behavior towards others	59.1	40.9
		Protect and maintain public facilities	55.2	44.8
7	Proud of Indonesian culture	Knowing the diversity of Indonesian culture	44.8	55.2
		Participate in local arts and cultural activities	27.6	72.4
		Studying and preserving local culture	37.4	62.6
		Average	48.7	51.3

The findings presented in Table 1 indicate that the degree of student nationalism within elementary schools remains deficient. This is evidenced by the proportion of affirmative responses, which amounted to 48.7%, and the proportion of negative responses, which amounted to 51.3%. The present study aimed to investigate the necessity of incorporating virtual reality-based learning models in elementary schools. The data were collected through the distribution of questionnaires among 12 participants. The analyst performed an examination of the survey information, comprising 18 measures for evaluating the requirements of learning models based on virtual reality. The Guttman scale, which employs binary responses of Yes (+) and No (-), is utilized to quantify the indicator. Table 2 presents the descriptive percentages obtained from the analysis of the questionnaire results.

Table 2. The Questionnaire Results for the Study of the Need for a Virtual Reality-Based Learning Model

	Dimension	Indicator	Response	
No			Percentage	
			Yes (+)	No (-)
1	Components of the learning model	Learning syntax	100.0	0.0
		Instructional impact	83.3	16.7
		Support system	83.3	16.7
		Social system	83.3	8.3
		Principles of reaction management	100.0	0.0
2	Types of learning resources & media	Learning resources by AECT (messages, people, materials, tools, techniques, environment)	75.0	25.0
		Learning resources by design and by utilization	66.7	33.3
		Printed learning media (non-electronic) and non-printed (electronic)	58.3	41.7
		Visual, audio and audiovisual learning media	100.0	0.0
		Technology-based learning media (multimedia)	75.0	25.0
3	Virtual reality- based learning	Knowledge about virtual reality	83.3	16.7
		Responses to virtual reality based learning	83.3	16.7
		The level of benefits and objectives of virtual reality-based learning	83.3	16.7
4	Supporting facilities	Availability of technological devices	91.7	8.3
		Availability of internet network	100.0	0.0
5	Level of model requirement	Interest in developing virtual reality based learning media	100.0	0.0
		Level of need for virtual reality-based learning media development	91.7	8.3
-		The relationship between virtual reality-based	66.7	33.3

learning models and student character building		
Average	84.7	14.8

The findings presented in Table 2 indicate a significant demand for virtual reality-based learning models in elementary schools. This is evidenced by the high proportion of positive responses, which accounted for 84.7% of the total, while negative responses accounted for 14.8%. The findings indicate that out of the 12 participants, there is a requirement for a virtual reality-based instructional approach among primary school educators to foster the development of nationalistic values in pupils at the elementary level.

The findings of the study indicate that there is a significant demand for virtual reality-based learning models, as evidenced by 18 indicators. Specifically, 84.7% of teachers at the elementary school level expressed a need for such models, with an average of 10 out of 12 teachers indicating this need. The objective of this study is to examine the necessity of a learning model based on virtual reality, which can be implemented in elementary schools. The learning model is a framework that delineates the intricate procedure of constructing environmental circumstances that facilitate learning interactions, thereby fostering alterations or self-improvement among students (Chen, 2009; Kavanagh et al., 2017). The integration of suitable technology and the implementation of active learning strategies can facilitate meaningful and engaging student learning across a range of activities. The utilization of Virtual Reality (VR) technology in education has the potential to become a conventional tool, providing students with a novel and engaging learning experience (Allcoat & von Mühlenen, 2018). The term "virtual reality" pertains to the utilization of interactive simulations to enable users to participate in an environment that closely resembles the appearance and sensory experience of objects and events in the physical world.

Conclusion

Based on the findings and discussions conducted, the following conclusions have been drawn: (1) The study collected data on the level of nationalism among elementary school students in grades 4-6. A total of 203 respondents participated in the study, with 48.7% (99 students) exhibiting good nationalism character and 51.3% (104 students) not yet demonstrating a strong nationalist character. According to the study data, out of 12 respondents, 10 teachers or 84.7% expressed their requirement for virtual reality-based learning models, while 2 teachers or 14.8% did not require such models. The Virtual Reality-Based Learning Model (PBVR) is an educational program that utilizes virtual reality technology to facilitate the learning of social studies content in the 2013 curriculum for elementary school students. In order to facilitate the cultivation of nationalistic values and character in students, it is imperative to provide them with opportunities to explore, grow, and integrate these principles into their daily life.

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