Science Electronic Teaching Materials Based on Social-Emotional Learning as An Attempt To Enhance The Value of Pancasila Student Profiles of Elementary School Student

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Abstract. The development of electronic science teaching materials based on social and emotional learning as part of an endeavour to raise the profile value of Pancasila students has prompted this study, which necessitates testing the effectiveness of these materials. The goal of this study was to see if using social and emotional-based science electronic teaching resources could help Pancasila students raise their profile value. This was a quasi-experimental study with a pretest-post-test design for one group. The data collection tool was a test of Pancasila students' profiles. The study's findings revealed that employing social and emotional learning-based science electronic teaching resources affected Pancasila students' profile value. The findings of this study can be employed as a guide for basic education practitioners who are creating a Pancasila student profile.

Keywords: Pancasila student profile, electronic teaching materials, science, social and emotional learning.

1 Introduction

The world's progress has reached the fourth industrial revolution era [1]. The Fourth Industrial Revolution is the period of technological and information system development, which is the basic framework of society in everyday life. This revolution has consequences in all aspects of life, including education. The educational system must respond to the challenges of the fourth industrial revolution [2]. By integrating technology and information systems into the learning system, the educational system is being urged to strike a balance between their development and that of the learning system. This integration aims to ensure that the educational system produces graduates with advanced technology skills and the ability to compete globally.

At the current moment, technological advancement is a significant factor in providing education [3]. To thrive in the fourth industrial revolution era, the educational system must design a learning process to boost students' potential. Students must not only be able to develop aspects

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of knowledge but also all of their capacities to learn in the era of the industrial revolution 4.0 [4-5]. This development is because, in the fourth industrial revolution era, students are confronted with a variety of more complicated real-world situations, necessitating the acquisition of various abilities. To help these students expand their potential, the government has launched an initiative to help them grow their skills so they can compete in the future. This attempt is being made by issuing a policy on the Pancasila student profile.

The Pancasila student profile is a strategic plan for Indonesian students' character values [6]. Pancasila students are Indonesian students who have demonstrated competence based on Pancasila values. Faith, fear of God, and noble character are among the values found in the Pancasila student profile, as are global diversity, cooperation, independence, critical reasoning, and creativity [7]. The six values in this Pancasila student profile represent the Indonesian nation's strategic plan for equipping Indonesian students to meet future challenges. As a result, every learning process must be able to build the values that exist in the Pancasila student's profile. Students from elementary schools are included.

The Pancasila student profile was created specifically for primary school children [8]. Early childhood is critical for the formation of Pancasila student profile values. Its goal is to impart fundamental principles to elementary school students so they can apply them in their daily lives. As a result, there is a need for elementary school teachers to make attempts to build the value of the Pancasila student profile. The learning process might include the creation of the Pancasila student profile's value. Teachers can use components of the Pancasila student profile to create the learning experience. One method is to incorporate the Pancasila student profile value into the learning materials used by primary school students.

One of the learning resources utilized by students and teachers to find information linked to the achievement of learning objectives is teaching materials [9]. Teaching materials are essential learning aids for both teachers and students. According to much research, teaching materials have a beneficial impact on enhancing learning quality [10-12]. As a result, educational resources can be used to support Pancasila students create their profiles.

The creation of teaching materials must take into account the qualities of students as well as the environment. Students at elementary school are in the midst of a concrete operational phase [13]. This phase means that children in primary school must learn from real-world objects. Teachers must be able to provide contextualized teaching materials so that students can locate information about the learning process [14]. Furthermore, the production of teaching materials is customized to the environment's characteristics. During the fourth industrial revolution era [15], the characteristics of the student environment changed. This characteristic demonstrates that students are living in a technologically advanced era. Elementary school students' experience with computers, laptops, and smartphones in everyday life demonstrates this. As a result, one type of adjustment throughout the industrial revolution 4.0 was the introduction of electronic teaching materials included in the science learning process.

Science education is required at all levels of elementary school [16]. In elementary schools, science learning intends to improve students' comprehension of the natural environment, process skills, scientific attitudes, and problem-solving ability [17]. All of these objectives must be achieved by students in their daily lives. As a result, researchers have created electronic science teaching materials that have been approved for use to raise the profile of Pancasila students among elementary school students.

The social and emotional learning (SEL) method is integrated with the electronic teaching materials designed for science learning. SEL is a learning process that aims to improve students' social and emotional skills by presenting a positive environment and directing students to positive goals, with the goal of students being able to manage themselves well, be responsible, be able to make decisions, and be socially sensitive [18-19]. From this perspective, it is clear that SEL corresponds to the Pancasila student profile's value. This study, however, is confined to determining the feasibility of electronic teaching materials. Further research into the influence of adopting SEL-based electronic teaching materials on strengthening the value of the Pancasila student profile is required. As a result, this research aims to see how SEL-based electronic science teaching materials affect Pancasila students in elementary schools.

2 Research methodology

This study is a quasi-experimental study with a pretest-posttest design for one group [35]. This study took place at a Padang City private elementary school. This study's participants are students in class II. A purposive sampling strategy was employed to choose a sample of class II b students. In this study, the experimental class received SEL-based electronic teaching materials. A test of comprehending the usefulness of the Pancasila student profile was utilized as the research instrument. The value of faith, fear of God Almighty, noble character, global diversity, the value cooperation, creativity, the value of critical reasoning, and the value independence are all covered in this test. The paired sample t-test was employed in the SPSS application for data analysis [36]. This exam compares Pancasila students' profile scores after learning to use SEL-based teaching materials to their scores before learning to use SEL-based electronic teaching materials. A prerequisite test, the normality test utilizing the Liliefors test, was performed before testing the hypothesis.

3 Results and Discussion

The findings of the pre-test and post-test were used to determine Pancasila student profile scores. The following table shows the outcomes of the student profile score data:

Table 1. Value of Pancasila Student Profile.

Data	x min	x max	$\bar{x}$
Pre-test	7	34	27,28
Post-test	24	38	37,26

The average value of the student's post test is greater than the average value of the student's pretest, as shown in table 1. This demonstrates that after studying SEL-based electronic teaching materials, the Pancasila student profile of primary school students has improved in value.

The next step is to check for normality in the findings. The Liliefors test was used to calculate the normality test results. The pre-test L-count is 0.136, the post-test L-count is 0.102, and the L-table value is 0.152, according to the calculations. This proves that the L-count < L-table, and the posttest and pretest data are normally distributed. Furthermore, the paired sample test is used for hypothesis testing. The results of the test are shown in the image below.

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	PRETEST-POSTEST	-8.86667	1.06010	.27372	-9.45373	-8.27960	-32.394	14	.000

Fig 1. Results of the Paired Sample T-test of Pancasila Student Profile.

Figure 1 shows that the t-count value is 32,394 and the significance is 0.000, based on the computation. 2.042 is the T-table value. With a significance value of less than 0.05, this proves that t-count > t-table. As a result, H0 is rejected and H1 is accepted, or there is a significant difference between the grades of the Pancasila student profile of elementary school students before and after using SEL-based electronic teaching materials in science learning.

Overall, this research shows that the implementation of SEL-based electronic teaching materials influenced Pancasila students' enthusiasm for science learning. The findings of this study are supported by other research, such as a study conducted by Riwu in 2019 that stated that electronic teaching materials with multimedia content had been developed for grade IV elementary school students in Ngada Regency on the theme of caring for living things, which could improve student learning outcomes [20]. According to Kurniawan and Piyana's research published in 2019, an ethnic constructivism e-module designed can influence elementary school students' perceptions, interests, and motivation [21]. According to research conducted by Lawe et al in 2021, multimedia electronic teaching resources based on local culture have been developed on the theme of the place where I live, which can strengthen elementary school students' higher-order thinking skills [22]. According to Adrian et al's research, an augmented reality-based electronic book has been produced in elementary schools to encourage student learning results in mathematics lessons [23]. Dayanti's research from 2021 revealed that flipbook electronic teaching materials for fifth graders in elementary schools had been generated in the Learning of Regional Fine Arts [24]. According to prior research, several electronic teaching resources produced can help primary school children enhance their learning results. However, the researchers discovered that using SEL-based teaching materials in the scientific learning process in elementary schools successfully promotes the value of the Pancasila student profile.

The President of Indonesia has given the Pancasila student profile a mandate, which is contained in Minister of Education and Culture Regulation number 20 of 2018 about the Pancasila student profile [25]. The character education method includes this Pancasila student profile. Pancasila student profile establishment is critical because it will serve as a model for Indonesian human resources development [26]. As a result, efforts are required to develop it. One of these is using SEL-based electronic teaching materials, which can help these Pancasila students raise their profile. Several causes have contributed to the rise in Pancasila students' profiles. Electronic teaching materials are used in the learning process. Electronic teaching materials exemplify a technology-based learning approach that is relevant to the times [27]. Students must be able to complete a technology-based learning process during the industrial revolution period [28]. As a result, during the fourth industrial revolution era, adopting electronic teaching materials that students can access digitally is the best approach. This approach is consistent with the assertion that the learning process in elementary schools must be adjusted to the students' environmental

circumstances [29]. Therefore, the growing profile of Pancasila students is due to the advancement of electronic teaching materials that are adapted to the needs of elementary school students. The educational materials are contextualized, realistic, and simple to comprehend. Its goal is to make the material delivered more understandable for primary school children. This goal is in keeping with the belief that the learning process in elementary schools should be specific to the needs of pupils [30].

Because the SEL model is integrated into the teaching materials, these electronic teaching tools can help Pancasila students enhance their profile. The SEL model is a school-based method for children to acquire self-awareness, self-control, and critical interpersonal skills [31]. Students with good emotional and social skills are more likely to be able to deal with daily obstacles and have higher academic capacities [32]. The incorporation of SEL into electronic teaching resources has the potential to raise Pancasila students' profile among primary school pupils. This is because several of the tasks in the teaching materials demand students to blend cognitive, emotional, and social interactions [33]. These three procedures, when combined, will prepare students to develop the values outlined in the Pancasila student profile. This is consistent with the claim that SEL can help kids develop their cognitive abilities by mixing emotional and social factors [34].

4 Conclusion

This study concludes that adopting SEL-based science electronic teaching materials has an influence on enhancing Pancasila students' profile among primary school students.

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