The Needs Analysis of Multimedia Learning as a Solution to Strengthen Character Education

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Abstract—The development of learning multimedia is a concrete solution to strengthen the character education (PPK) of students. This multimedia development combines the use of information technology with the inculcation of the noble character of the nation's heritage, which is undeniably true. The research method used is descriptive. This study aims to analyze the needs of multimedia learning as an alternative for strengthening character education in elementary schools (SDN). Subjects involved in the study were students in class IV at SDN I Manyaran, SDN I Wuryantoro, SDN I Pracimantoro, and SDN I Eromoko. Data collection techniques using questionnaires, observation, and interviews with several subject teachers. The results show a dimension of Appreciating Achievement, Friendly, Peaceful Love, Environmental Care and Responsibility of 80.73%. A religious dimension and lives in harmony of 76.27%. A dimension of Honesty of 78.33%. A dimension of Creativity and Curiosity of 77.35%. A dimension of Tolerance and Diversity of 81%, and A dimension of Discipline of 82.90%. The development of multimedia reinforcement of character education (PPK) could be a solution in instilling the character values of students. This is evidenced by the achievement of students who are not only high in pedagogical value, but also in increasing students' compliance with regulations that apply in families, schools, and communities.

Keywords: Multimedia, reinforcement of character education, students

I. INTRODUCTION

National education, as one of the national development sectors in an effort to educate the nation's life, has a vision of the realization of the education system as a strong and authoritative social institution to empower all Indonesian citizens to develop into qualified human beings so that they are able and proactively respond to the challenges of the changing times.

However, Indonesia's education world is currently only able to produce human graduates with an adequate level of intellectuality [1]. This declaration of education is considered less successful in delivering the nation's generation into dignified individuals. Until now, the education system in our country still emphasizes more cognitive/academic aspects, such as the National Examination rather than emphasizing character education [2].

There are still many students who have high grades, are smart, brilliant, and can solve subject matter very quickly, but unfortunately not a few of them have intelligent behavior and but lack a good mental personality. Whereas the true purpose of education is to make humans character, noble humans, human beings [3]. Besides, according to Akbar, research conducted at Harvard University in the United States shows that a person's success is not determined solely by knowledge and technical ability (hard skills), but rather by the ability to manage themselves and others (soft skills). The study revealed success is only determined about 20 percent by hard skills and the remaining 80 percent by soft skills. This shows a person's success is based on the ability of adequate soft skills [4].

However, if we look deeper, we need intelligent human resources, but also moral intelligence to advance the education of a nation. Intellectual intelligence alone is not enough without being accompanied by solid moral intelligence. Individuals who have high intellectual intelligence but are immoral will have fatal consequences and can harm others. Therefore, a new formula is needed so that the value of character in students can be increased again so that students are not only smart in academics but also mature in terms of morality.

The influence of globalization and the flow of information have consequences for human development in the world, including Indonesia [5]. All efforts have been prepared to face changes and challenges, including by increasing their potential to become superior human resources and able to compete with other nations. Superior human resources and able to compete...
for a student are students who have good learning achievements. So far, education in schools only prioritizes academic achievement that only helps students become smart and smart or hard skills, and conversely, does not pay attention to character education or soft skills that help them become good human beings.

It can be proven by the test scores or exam results that are the main benchmark in determining the ability of students though soft skills are a major element in the implementation of character education, which is very much to be considered. Good learning achievements are obtained through discipline, confidence, and independence. Discipline, confidence, and independence are the values of character education that need to be instilled in students so that students have these characters. With character education students will be more outstanding. Student academic achievement is strongly influenced by the use of multimedia learning used by teachers in learning.

Heinich in Susilana and Riyana [6] states that the word "media" comes from the Latin word, is a plural form of the word "medium". The word literally means "intermediary", which is the intermediary of the source of the message (a source) with the recipient of the message (a receiver). Examples of this media such as films, television, diagrams, printed materials, computers, and instructors. Examples of these media can be considered as learning media if they carry messages in order to achieve learning objectives. The teaching and learning process is essentially a communication process, where the teacher acts as an introduction to the message and students as recipients of the message. The message sent by the teacher in the form of content/subject matter is poured into communication symbols both verbal (words & writing) and nonverbal, this process is called encoding. The interpretation of these communication symbols by students is called decoding [7]. Learning is anything that can bring information and knowledge in interactions that take place between educators and students.

Overall learning media are all things that can be used to convey or channel messages from a source in a planned manner so that learning objectives can be achieved through a conducive learning environment where the recipient can carry out the learning process efficiently and effectively. Many experts define what is meant by multimedia according to their respective perspectives. With this difference in perspective, it will increase our understanding of the definition of multimedia. Multimedia is a combination of various media (file formats) in the form of text, images (vectors or bitmaps), graphics, sound, animation, video, interaction, and others that have been packaged into digital files that are used to convey or deliver messages to the public [8]. Besides Multimedia is one of the media that combines all types of media consisting of text, graphics, photos, videos, animations, music, narration, and others [9].

One of the most widely used images as a theoretical basis is the use of media in the teaching and learning process, Dale’s Cone of Experience or called the cone of Dale's experience [10]. The influence of media in learning can be seen from the level of learning experiences that will be received by students. A person's learning outcomes are obtained starting from direct experience or concrete, the reality that is in the environment of one's life then through artificial objects, to the verbal or abstract symbols.

The results of research on learning through image stimulus and word stimulus or visual and verbal conclude that verbal stimulus produces better learning outcomes for tasks of remembering, recognizing, recalling, and connecting facts and concepts [10]. Besides, verbal stimuli provide better learning outcomes if learning involves sequential or sequential memories.

Learning media must increase student motivation. The use of media has the aim of motivating students. Besides, the media must also be able to design students to remember what they have learned besides providing new learning stimuli. Good media will also enable students to provide feedback, feedback, and also encourage students to practice correctly.

Therefore, it is necessary to develop media or even multimedia learning that is not only limited to facilities to facilitate teachers but also teach cognitive abilities and character values that are designed according to the needs, potential resources, and environmental conditions of each student. With the implementation of this kind of multimedia both as a medium and as a source of learning, students are expected to learn more easily and efficiently so that one effort to improve the quality of students in terms of cognitive and character is expected to be well implemented.

Piaget divides these stages of cognitive development into four stages, namely, the sensorimotor stage, the preoperational stage, the concrete operational stage, and the formal operational stage. According to Shaffer & Kipp states that Piaget's theory of cognitive development at the age of class IV students are at the stage of concrete operations (concrete operations) where students get and use all their knowledge with something logical or reasonable. The logical thing can be obtained through concrete and meaningful activities [11].

However, logical thinking with all the elements above is still limited to be applied to concrete objects, the thought has not been applied to verbal sentences, hypotheses, and abstracts. So, children at this stage still have difficulty to solve problems that have too many aspects and variables. He also still cannot solve abstract problems. That is why, children at this age still need guidance and direction from parents and teachers.

According to Suryobroto, some of the characteristics of children during high school classes are as follows [12].
1) There is an interest in concrete practical daily life.
2) Very realistic, have a high curiosity, and want to learn.
3) Towards the end of this period, children have an interest in several things and special subjects.
4) Until about 11 years of age, children need teachers or other adults.
5) Children at this time like to form peer groups.
II. METHOD

The research method used is descriptive. Descriptive research is research conducted to determine the value of an independent variable, either one or more variables (independent) without making comparisons, or connecting with other variables [13].

This study aims to analyze the needs of multimedia learning, as an alternative in strengthening character education in elementary schools (SDN). Subjects involved in the study were students in class IV at SDN I Manyaran, SDN I Wuryantor, SDN I Pracimantoro and SDN I Eromoko. Data collection techniques using questionnaires, observation, and interviews with several subject teachers. Questionnaire is a list of questions given to respondents whose purpose is to find complete information [14].

Character education questionnaire was adopted based on research by Rahmi Fahmi, et al. [15]. The questionnaire to measure student character consists of several indicators, arranged as many as six indicators. PKD1 indicator is a dimension of Appreciating Achievement, Friendly, Peaceful Love, Environmental Care, and Responsibility. PKD2 indicator is a religious dimension and lives in harmony. PKD3 indicator is a dimension of Honesty. PKD4 indicator is a dimension of Creativity and Curiosity. PKD5 indicator is a dimension of Tolerance and Diversity, and indicator D6 is a dimension of Discipline. The results of the responses given by students were then analyzed based on the criteria in Table 1.

| No. | Category | Criteria |
|-----|----------|----------|
| 1   | High     | \( X > \text{Mean} + 1*\text{SD} \) |
| 2   | Moderate | \( \text{Mean} - 1*\text{SD} \leq X \leq \text{Mean} + 1*\text{SD} \) |
| 3   | Low      | \( X < \text{Mean} - 1*\text{SD} \) |

\( X = \) Scores in each category

III. RESULTS AND DISCUSSION

A. Characteristics of Character Education in Primary Schools

Education has two forms, namely education that leads to cognitive and affective. Cognitive education is aimed at intellectual abilities as they are formally studied in schools. Affective education leads to the formation of positive behavior and better known as character education. Character education is a system of inculcating character values to school members which includes components of knowledge, awareness or will, and actions to implement those values. Character education consists of developing positive attitudes, essential thought patterns, normative commitment, and components of ability based on IESQ [17]. The development of national character is very important because it is related to the process of fostering, improving, and inheriting citizens about the concepts of behavior and noble values of Indonesian culture imbued by Pancasila and the 1945 Law [16]. Therefore, the nature of character education in the context of education in Indonesia is the education of noble values that originate from the culture of the Indonesian people themselves to foster the personality of the nation's next generation.

One of the current national issues is efforts to improve positive character. Many cases show that national education products that emphasize cognitive education have an impact on the character that is not good in cognitive but not good character. The results of the distribution of questionnaires to 125 students in class IV at SDN I Manyaran, SDN I Wuryantor, SDN I Pracimantoro, and SDN I Eromoko are presented in Table 2.

Based on the results of the analysis of response responses in Table 2 and Figure 1 shows that a solution is needed in improving student character education. It can be seen from the students’ responses, namely the PKD1 indicator is a dimension of Appreciating Achievement, Friendly, Peaceful Love, Environmental Care and Responsibility of 80.73%. PKD2 indicator is a religious dimension and lives in harmony of 76.27%. PKD3 indicator is a dimension of Honesty of 78.33%. PKD4 indicator is a dimension of Creativity and Curiosity of 77.35%. PKD5 indicator is a dimension of Tolerance and Diversity of 81%, and indicator D6 is a dimension of Discipline of 82.90%. Character education has an important role in moral formation. According to Lickona, characters are related to moral concepts, moral attitudes, and moral behavior [16]. Based on these three components, it can be concluded that good character is supported by knowledge of goodness, the desire to do good and to do good deeds. Strengthening Character Education is a continuation and revitalization of the national movement for character education that began in 2010.

Education is not enough to stop at providing the most up-to-date knowledge, but also must be able to form and build a strong belief system and character of each student so that they can develop their potential and find their life goals. Education in schools is no longer enough just to teach students to read, write and count, then pass exams and later get good jobs. Schools must be able to decide what is right and wrong [2]. To overcome all this education is needed that can develop individual potential while forming a generation of moral and noble character. In short, the purpose of education must lead to the development of various Indonesian human characters, not merely academic education [18].
Therefore, the strengthening of character education in the current context is very relevant to overcome the moral crisis that is happening in Indonesia [19]. Character education teaches habitual ways of thinking and behavior that help individuals to live as good students in their daily lives and can make responsible decisions. In other words, character education teaches students to think smartly to be able to overcome various kinds of existing problems, increase the ability to mingle with others while maintaining the national identity and culture.

Therefore, it is necessary to plant character education for each school with various activities that can support the planting of good character. One of the activities that can be carried out to strengthen and instill the values of character is by making multimedia learning to carry out character education for elementary school students.

Efforts to improve character education occupy a fundamental and strategic position when the government launches a national character revolution as outlined in Nawacita (Nawacita 8), fostered the National Movement for Mental Revolution and published the 2014/2019 RPJMN.

Based on Nawacita. As an embodiment of the National Mental Revolution Movement as well as an integral part of Nawacita, efforts to strengthen character education place character as the deepest dimension or as the core of national education. Furthermore, efforts to strengthen character education in practice require the integration, deepening, expanding, and at the same time aligning various programs and character education activities that have been carried out until now, so that the goals and functions of character education itself can be achieved properly.

From the description of the experts and also the regulations issued by the government, it is clear that the development of multimedia character education strengthening is very effective to be used to improve the good character of students.

### B. Strengthening Character Education

Understanding the meaning of character education surely departs from our understanding of the definition of character itself. The word character in the Big Indonesian Dictionary is not found. Character is an absorption term from the English character. Character is a noun which means 1) distinguishing

| TABLE I. RESULTS OF THE DISTRIBUTION OF CHARACTER EDUCATION QUESTIONNAIRE |
|---------------------|---------|--------|--------|--------|-----------------|-----------------|
| PKD1                | Item    | Always | Often | Sometimes | Seldom | Average | Level of Achievement (%) | Category      |
| Item 1              | 63      | 33     | 21    | 8        | 3.208  | 80.20   | Moderate                  |
| Item 2              | 55      | 45     | 20    | 5        | 3.200  | 80.00   | Moderate                  |
| Item 3              | 58      | 24     | 22    | 21       | 2.952  | 73.80   | Low                       |
| Item 4              | 56      | 45     | 15    | 9        | 3.184  | 79.60   | Moderate                  |
| Item 5              | 78      | 34     | 5     | 8        | 3.456  | 86.40   | High                      |
| Item 6              | 54      | 67     | 1     | 3        | 3.376  | 84.40   | High                      |
| PKD2                | Item 7  | 55      | 35    | 23       | 12     | 3.064   | 76.60 | Moderate                  |
| Item 8              | 67      | 27     | 19    | 12       | 3.192  | 79.80   | Moderate                  |
| Item 9              | 36      | 55     | 19    | 15       | 2.896  | 72.40   | Low                       |
| PKD3                | Item 10 | 43      | 43    | 25       | 14     | 2.920   | 73.00 | Low                       |
| Item 11             | 76      | 21     | 16    | 12       | 3.288  | 82.20   | Moderate                  |
| Item 12             | 65      | 32     | 15    | 13       | 3.192  | 79.80   | Moderate                  |
| PKD4                | Item 13 | 57      | 26    | 20       | 22     | 2.944   | 73.60 | Low                       |
| Item 14             | 65      | 28     | 23    | 9        | 3.192  | 79.80   | Moderate                  |
| Item 15             | 54      | 27     | 27    | 17       | 2.944  | 73.60   | Low                       |
| Item 16             | 67      | 37     | 12    | 9        | 3.296  | 82.40   | Moderate                  |
| PKD5                | Item 17 | 73      | 37    | 10       | 5      | 3.424   | 85.60 | High                      |
| Item 18             | 57      | 32     | 24    | 12       | 3.072  | 76.80   | Moderate                  |
| Item 19             | 66      | 33     | 14    | 12       | 3.224  | 80.60   | Moderate                  |
| PKD6                | Item 20 | 55      | 45    | 12       | 13     | 3.136   | 78.40 | Moderate                  |
| Item 21             | 78      | 36     | 6     | 5        | 3.496  | 87.40   | High                      |
qualities, 20 positive qualities, 3) reputation, 4) individual in relation to personality, behavior or appearance [20].

"Education is a conscious effort planned to create an atmosphere of learning and learning process so that students actively develop their potential to have spiritual strength, self-control, personality, intelligence, noble character, and the skills needed by themselves, society, nation and state" [18].

According to Thomas Lickona, the character is a person's nature in responding to situations morally [21]. This nature is manifested in concrete actions through good behavior, honesty, responsibility, respect for others and other noble characters.

Character is a way of thinking and behaving that characterizes each individual to live and work together, both within the scope of the family, community, nation, and state. Character is the quality or mental or moral strength, character or character of an individual which is a special personality that distinguishes it from other individuals [2].

The characters as mentioned in Law No. 20 of 2003 concerning the National Education System in Article 3, are the values of human behavior related to God Almighty, self, fellow human beings, the environment, and nationality manifested in thoughts, attitudes, feelings, words, and deeds based on religious norms, law, etiquette, culture, and customs [18].

Character is a characteristic of a person or group of people that refer to a series of attitudes, behaviors, motivations, and skills as a manifestation of values, abilities, moral capacities, and obstinacy in the face of difficulties and challenges. The character contains good distinctive values (know the value of goodness, want to do good, have a real good life, and have a good impact on the environment), which is inscribed within and manifested in behavior.

Character is the ability of an individual to overcome his physical limitations and his ability to devote his life to the values of good that benefit himself and others. Thus, a strong character shapes individuals to be agents of change for themselves and the surrounding community [22]. The character coherently emanates from the results of thought though, heart care, sports, as well as taste

Strengthening character education refers to five main values which include: (1) religious; (2) nationalistic; (3) independent; (4) cooperation; (5) integrity. Next Explanation
The five main values of the nation's character

1) Religious. The value of religious character reflects the faith in God Almighty which is manifested in the behavior of carrying out religious teachings and beliefs that are embraced, respecting religious differences, upholding a tolerant attitude towards the implementation of religious worship and other beliefs, living in harmony and peace with followers of other religions. This religious character value includes three dimensions of the relationship at once, namely the relationship of individuals with God, individuals with each other, and individuals with the universe (environment). The value of this religious character is shown in loving behavior and maintaining the integrity of creation. Religious sub-values include peace, tolerance, respect for religious differences and beliefs, firm stand, self-confidence, cooperation between followers of religions and beliefs, anti-violence and violence, friendship, sincerity, not forcing the will, loving the environment, protecting the small and marginalized.

2) Nationalist. The value of the nationalist character is a way of thinking, behaving, and doing that shows loyalty, care, and high respect for the language, physical environment, social, cultural, economic, and political of the nation, placing the interests of the nation and state above self and group interests. Nationalist sub-values include appreciation of the nation's own culture, safeguarding the nation's cultural wealth, willingness to sacrifice, excel and excel, love the motherland, protect the environment, obey the law, discipline, respect cultural diversity, ethnicity and religion.

3) Independent. Independent character values are attitudes and behaviors that do not depend on others and use all energy, thoughts, time to realize hopes, dreams, and ideals. Independent sub-values include work ethic (hard work), resilient resilience, fighting spirit, professional, creative, courage, and become lifelong learners.

4) Cooperation. The character value of mutual cooperation reflects the act of appreciating the spirit of cooperation and working together to solve common problems, establish communication and friendship, provide assistance/help to people in need. The cooperation sub-values include respect, cooperation, inclusiveness, commitment to joint decisions, consensus agreement, help, solidarity, empathy, anti-discrimination, anti-violence, and voluntary attitudes.

5) Integrity. Integrity character values are the values that underlie behavior based on efforts to make themselves people who can always be trusted in words, actions, and work, have commitment and loyalty to human values and morals (moral integrity). The character of integrity includes an attitude of responsibility as a citizen, actively involved in social life, through consistency of actions and words based on truth.

Sub-values of integrity include honesty, love for truth, loyalty, moral commitment, anti-corruption, justice, responsibility, example, and respect for the dignity of individuals (especially persons with disabilities).

C. Integration of Character Education in Learning Multimedia

Character education has been a central theme since the last few years in the development of education in the country. Character education must be implemented early [5]. The rapid use of technology is considered to have a negative impact on the formation of early childhood character. One negative impact is the fading of love for the country. The integration of character education really needs to be applied to various aspects of life. The position of the learning media as a source and learning tool that integrates directly with students is one of the important areas in integrating character education so that
the implementation of character education as a national education goal can be achieved well.

The assumption of the failure of character education in Indonesia consists of 3 things, namely: 1) There is an assumption that the issue of character education/character is a classic problem whose handling has been the responsibility of religious and Pancasila teachers, 2) The lack of knowledge and ability of teachers in developing and integrating aspects of character education/character in each subject taught, 3) Learning strategies of several subjects oriented to morals and morality as well as religious education tend to be only knowledge transfer and are not given in the form of experiential exercises and habituation to applied in the daily lives of students [23].

The integration of character education into instructional media includes the fields of material, models, and techniques for the use of instructional media. From the material aspect, learning media must be objective, systematic, motivative, clear, appropriate to the user's age, and contain educational and religious values. From the model side, learning media that are designed must meet the principle of ease of use in a group and be independent; the structure can stimulate student curiosity, encourage students to be more creative and innovative. While in terms of usage techniques, instructional media must be optimized to achieve learning outcomes, pay attention to social ethics, and use a contextual approach. By adhering to these principles, learning media is expected to help develop positive character of students. Especially in religious character, social sensitivity, and creativity of students

The era of the industrial revolution 4.0 influenced the understanding of the education world. Which has been used for decades in face-to-face learning which is now in the heutagogy community has realized. The importance of learning applications outside the classroom such as online learning that allows students to learn on their own, in groups, and collaborate with friends peer and create community or study groups. This is made possible by the availability of the internet with sufficient speed to access applications and social media. Learning applications with easy access at a low cost will "turn off" the place of tutoring, tutoring, and meetings with lecturers or educators become boring.

In other words, interactive multimedia is a combination of various media (such as sound, text, images, animations, graphics, and video) that are interactive (influencing each other or there is a reciprocal relationship between users and media) that are designed systematically and attractively to convey information or the content of learning in accordance with the material, methods, and certain limitations (expected learning objectives). The use of interactive multimedia has been proven to have a positive impact on learning

Character-based interactive multimedia is a combination of various media and is interactive (influencing each other or there is a reciprocal relationship between the media and its users) that is designed systematically and attractively to convey information or learning content by integrating the character values contained in the contents of the material, for example-example problems, as well as practice questions to achieve the expected learning goals. The character values referred to here are what characterize Indonesia's character education itself, namely the values of religious, honest, discipline, responsibility, hard work, tolerance, love peace, care for the social environment, and patriotism.

Character education will succeed if it is accompanied by appropriate learning media and is given from early childhood. Character education is the responsibility of all elements of education ranging from lecturers, teachers, parents, and the education system. Back to learning media, several media can be applied to character education.

Integration of character education into instructional media includes the fields of material substance, models and techniques in the use of instructional media. To integrate learning media into the material, the teacher must be able to design the design or flow of the media script, be able to operate a variety of software needed to make the learning media and be able to use it effectively and efficiently. The steps in making learning media include planning, manufacturing and testing activities. In planning activities teachers must consider the appropriateness of media material with the curriculum, basic competencies, material characteristics, and characteristics of potential media users. Several things that need to be considered include the level of language used, the depth of the material, the systematic presentation and the approach used in presenting the material. For example, the initial display of the media can begin with an invitation to read bismillah and a prayer of learning, then proceed with pictures and sentence questions that aim to stimulate students' minds to find the concept of the subject matter. Furthermore, it is followed by an explanation of the core material which is packaged in an interesting, real and systematic way. Media for training tools or case solving simulations also needs to be designed in such a way as to be used by students in groups before independently testing student competencies.

IV. CONCLUSION

Strengthening character education in students is needed so that students are not only smart in academics but also mature in terms of morality. For this reason, an effort is needed to foster positive character early on through strengthening character education in schools. An effective way to strengthen character education among students is to develop multimedia to strengthen character education (PPK) because it uses multimedia to strengthen character education in learning the achievement of student learning outcomes that are not only high in pedagogical value, but also from increasing compliance with regulations that apply in the family, school, and community. These findings can be used as a basis in the preparation of multimedia, as one of the strategies in strengthening character education in elementary schools.

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