

Analysis of Teaching Materials on Teacher Needs and Grade V Elementary School Students

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Abstract

This study aims to find the needs of teachers and students for teaching materials used in teaching and learning activities. This research is a quantitative study, using a population or random sample. The data collection technique is the questionnaire and analysis method. The results showed that a teacher in designing or compiling teaching materials greatly determines that the teaching materials used by teachers in the teaching and learning process still need development by looking at various aspects, in order to help students in the teaching and learning process. Still, most teachers have not compiled teaching materials with various factors that cause it. Teachers still have to develop according to the needs and principles in the preparation of teaching materials. Most learners prefer teaching materials that have many images and colors to increase their interest and motivation. Students still need to develop activeness, creativity, and collaboration with their friends through the teaching materials they use. From this analysis, it is necessary to examine the needs of teaching materials that facilitate students to think at a higher level with 4C competencies (Critical Thinking, Creative Thinking, Collaboration, and Communication) in accordance with 21st-century learning with TPACK rules that can improve the ability of students.

Keywords

Teaching materials, teacher needs, student needs

INTRODUCTION

Teaching materials are systematically arranged subject matter used by teachers and students in the learning process that directs learning activities so that students can learn the material provided in sequence and can be done independently (Uliah, Ismiyanti, et al., 2019). Teaching materials are set or learning tools that contain learning materials, learning methods, methods, limits, and ways of evaluating that are designed systematically and interestingly in order to achieve the expected goal of achieving competencies or sub-competencies with all their complexity. It can be understood that the role of a teacher in designing or compiling teaching materials greatly determines the success of the learning and learning process through teaching material. Teaching materials can also be interpreted as all forms of materials that are arranged systematically allow students to learn independently and are designed in accordance with the applicable curriculum.

Teaching materials can be compiled from various kinds of potential learning resources to be learned or have the potential to create an atmosphere and learning process. Sources of teaching materials can come from various disciplines both from natural and social science families. The development of teaching materials needs to be prepared referring to the applicable curriculum, especially those related to competencies, material standards, and

achievement indicators. In addition, the preparation of teaching materials also continues to pay attention to the characteristics and needs of students which include the social, cultural, geographical environment and stages of student development. In order for students to be able to learn the content of teaching material as a whole in learning activities, several prerequisites can be applied before the implementation of the learning process (Setyosari, 2016). Based on research conducted by Ina Magdalena stated that teaching materials are one of the most important parts of the learning process and are one part of teaching resources that can be interpreted as something that contains learning messages that are both special and general that can be used for learning purposes (Rachmawati & Subagio, 2016). A teaching material must be designed and written with instructional rules because it will be used by the teacher to help and support the learning process. It can be understood that the role of a teacher in designing or compiling teaching materials greatly determines the success of the learning and learning process through teaching material.

Problem-solving-oriented teaching materials are able to facilitate students' problem-solving skills. It is a teaching material that can direct students to be creative and critical in facing the problems they encounter. This *Problem-Based Learning-based* teaching material is a teaching material designed for students by displaying a problem at the beginning of the material based on daily life experiences (Ismiyanti et al., 2021). From this, students are expected to be able to understand the existing problems with the knowledge they already have so that they understand the goals to be achieved. Problem-solving skills are the focus of attention in the preparation of this Problem-Based Learning-based economics module. Dyah Isna Nurhayati said that the use of PBL-based teaching materials in the learning process can improve students' written communication, oral communication, and collaboration skills. The written communication ability of students increased by 0.44 including the medium category, oral communication skills were at a good level, and the cooperation ability of students was at a high level. The response of students after using PBL-based material is good. This good response can be seen from the aspects of language, material, student interests, and so on (Ismiyanti, 2020).

Teaching materials that are designed problem-solving oriented are able to facilitate students to have various skills. Teaching materials designed by displaying a problem based on daily life experience, able to provide opportunities for students to solve problems personally, and concrete experiences solving problems. Isna Nurhayati's findings added that in addition to facilitating problem-solving skills, Problem-Based Learning-based teaching materials can improve students' written communication, oral communication, and collaboration skills (Setyosari, 2016). Permana Putri, Rahayu, and Wahyuni analyze the needs of the teaching materials needed, which are interactive and spur students to understand the material (Firmadani, 2020). The results of the analysis concluded that teaching materials should be practically used in practical learning activities, encouraging students to learn at a higher level, as well as problem-based learning. Julian and Suparman added that students' critical thinking and problem-solving skills are low because the teaching materials used are less able to stimulate students' critical thinking skills in solving problems (Lubis & Wangid, 2019). The results of the study show that teaching materials have a strategic role in training students' thinking skills, however, there is a gap between the condition of teaching materials used by teachers and ideal teaching materials that should be in accordance with pedagogical strategies used in learning.

Based on several discussions and research that has been done, it can be concluded that educators, especially elementary school teachers must be able to develop teaching materials as one of the important components in learning activities. The teaching materials prepared are tailored to the needs of our students. The use of problem-based learning environments is needed as a concrete medium in teaching and learning activities. The teaching materials produced can motivate students to apply 21st-century 4C learning, namely *creative, critical thinking, collaboration, and communication*. By utilizing technology to create teaching materials that are creative, and innovative, and make learning more meaningful.

Teaching materials are a set of teaching materials arranged systematically that represent learning concepts that direct students to achieve competence (Cahyaningtyas et al., 2022; Ismiyanti & Afandi, 2022). Teaching materials are arranged by adjusting the needs of students. Teachers must master in terms of preparing innovative and creative teaching materials to increase students' interest in learning activities. However, in its implementation, there are still many teachers who have not mastered it, so the learning process is still conventional. Conventional learning is still teacher-centered and involves less activeness of students because they are more likely to be listeners only (Sukma et al., 2022). In addition, the learning he does is less interesting, because the learning is less varied. Teachers must analyze these phenomena to think about learning activities in order to create effective, efficient, and fun learning. Analysis activities are carried out to determine the obstacles that arise during learning activities. An analysis is carried out in learning reflection activities as an improvement in subsequent learning activities. Involving students directly in learning activities, and utilizing a good learning environment, can create effective, efficient, and fun learning.

METHOD

This research is a quantitative research. According to Goodbrey, quantitative type research methods tend to use certain populations or samples as representatives in research and are usually used (Goodbrey, 2013). The sampling technique is carried out randomly, on the basis of certain considerations, or using all populations. Data collection in this study uses certain research instruments as a benchmark for making decision results in researching. (Firmadani, 2020). This research focuses on the analysis of teaching materials that have been used, the analysis of teacher needs for the preparation of teaching materials, and the analysis of student needs.

The subjects of this study were class V teachers as many as 7 respondents and class V students in several 12 respondents in Jombang sub-district schools in Jombang Regency, as well as 3 teaching materials as samples. Research This research was carried out in several elementary schools in Jombang sub-district, Jombang district in the 2022/2023 academic year. Data collection techniques in this study use questionnaire techniques aimed at teachers and students as well as analysis of teaching materials that have been used so far. Sugiyono argues that a questionnaire is a data collection technique where respondents are asked a series of questions or written statements to be answered (Ismiyanti et al., 2022). The next step after obtaining information from respondents is to measure the response of respondents or students to the material.

The instrument in this study is in the form of questions in the form of questionnaires to find the needs of teachers and students for teaching materials. Teaching material analysis

instruments in the form of observation tables are used to analyze these teaching materials. Data analysis techniques are carried out in accordance with the scientific procedures of qualitative research. In this analysis technique, there are 3 stages, namely data reduction, data presentation, and data verification. The data is generated from the questionnaire, analysis and documentation process. The next process is the presentation of data. After being reduced then the data is presented into the form of an appropriate outline or chart. Data presentation is a simpler process of displaying data.

RESULT AND DISCUSSION

Teaching materials are an important part of the implementation of education. Through teaching materials, teachers will find it easier to carry out learning and students will be more helped and easier to learn. Teaching materials can be made in form according to the needs and characteristics of the teaching material to be presented. It is important to consider students' individual needs and interests as well as a student-centered learning approach to create meaningful and effective learning experiences for them.

Teaching materials should be designed or written in accordance with learning rules, namely adjusted to learning materials, and arranged based on learning needs, there are evaluation materials and teaching materials that are interesting for students to learn and should be adjusted to age in their education level and in accordance with existing learning plans (Kirchoff, 2017). Designing or compiling teaching materials greatly determines the success of the learning process and learning through teaching material. Teaching materials can also be interpreted as all forms of materials that are arranged systematically allow students to learn independently and are designed in accordance with the applicable curriculum.

According to Ina, Magdela also said that the development of teaching materials cannot be applied directly in teaching and learning activities (Aggleton, 2018). There are many things to discuss between several teachers. Predict whether teaching materials can also be used so that the results of developing teaching materials are better. Also, predict whether elementary school students will be more interested in learning with teaching materials that have been prepared. In general, improvements made by users in the appropriateness of the content of the material include material that lacks detail in its presentation; some typing errors that need improvement; some parts of the image layout and redaction are too close together to interfere with vision and make reading difficult; several blank sections on one page, better-rearranged image layout or can be filled with motivational words; the use of language that is easier to understand; the use of spelling words to be adjusted to the rules of good and correct Indonesian writing; provide explanations or translations from foreign languages used in the material; improvement of the brightness and sharpness of colors used for some of the content in the book section; Repair of the binding paper used.

The ability to write teaching materials should ideally be mastered by teachers, but in fact, there are still many teachers who have not mastered it so it still needs to be developed. The influence of conventional learning is that teacher activities are more dominant, while students are less active because they tend to be spectators. In addition, the learning he does is less interesting because the learning is less varied. Analysis is often carried out to draw conclusions about the implementation of such activities. According to the Indonesian

dictionary, analysis means the investigation and analysis of a problem to find out the actual state and the process of solving the problem, starting from assumptions and truth.

Analysis of teaching materials seen from the aspects of language, graphics and material of a teaching material. The analysis was carried out based on research instruments on teaching materials that had been used. There are several criteria with scoring in each aspect, namely scores between 1 to 5 in each aspect. The following are the results of the analysis that has been carried out by researchers:

Table 1. Teaching Material Analysis

No Assessed aspects	Teaching Materials		
	1	2	3
Language Aspect			
• The language used is easy to understand, according to Enhanced Spelling (EYD)	4	4	5
Graphic Aspect			
• The balance of composition and location of writing on the cover is in accordance with the characteristics of students	5	5	5
• Attractiveness of colors and images used in Teaching Materials	4	4	3
• Suitability of size and typeface used in Teaching Materials	4	3	4
• Completeness of Teaching Material Components	5	5	5
• Utilization of TPACK (<i>Technology, Pedagogic, Content, and Knowledge</i>) in the preparation of teaching materials	4	4	5
Material Aspect			
• The content of teaching materials can foster student activeness in learning activities	4	4	5
• Teaching materials are arranged by utilizing the environment	4	4	4
• The teaching materials compiled are already problem-based	3	4	5
• Suitability of 21st-century learning applications <i>creative, critical thinking, collaboration, and communication</i>	4	4	4
Total Ratings (100) Score x 2	82	82	90

From the presentation of Table 1 shows teaching materials that have been used in teaching and learning activities in several schools and already showed good criteria. The preparation of teaching materials in the aspect of language already uses communicative language, it's just that some still do not use proper punctuation. The graphic aspect displayed in the teaching materials is also quite interesting according to the characteristics of students, it's just that there are some colors that are not suitable and there are some images that are not clear and still need to be developed again for improvement. In this case, it has utilized technology and the application of TPACK rules (*Technological Pedagogical Content Knowledge*) (Habiddin et al., 2022). In the material aspect, the teaching materials used began to foster student activeness but still need to be improved. The use of the learning environment has not been used optimally. Some of the teaching materials compiled are also not problem-based so they need to be developed again with the principles of 21st century learning.

In addition to teaching materials, researchers also took questionnaires on teacher needs for the preparation of teaching materials. The questionnaire was given *in the form of*

a Google form distributed in several schools in Tulis District, Batang Regency, by producing 7 respondents which can be seen from the following Table 2.

Table 2. Questionnaire of Teachers' Needs for Teaching Materials

Question	Yes	Sometimes	Not
• The teaching materials prepared have fulfilled the creative element	86%	14%	0
• The teaching materials prepared have met the innovative elements	43%	57%	0
• The teaching materials prepared have met the needs of students	57%	43%	0
• The teaching materials prepared can foster student interest and motivation	71%	29%	0
• The teaching materials prepared can foster student activeness in learning activities	86%	14%	0
• The teaching materials prepared already reflect 21st-century learning (creative, critical thinking, collaboration, and communication).	86%	14%	0
• Environmental utilization in the preparation of teaching materials	86%	14%	0
• Problem-based teaching materials	43%	57%	0
• Application of PBL model in teaching materials	29%	71%	0
• Utilization of TPACK (Technology, Pedagogic, Content, and Knowledge) in the preparation of teaching materials	57%	43%	0

Based on table 2, it is concluded that some teachers have compiled teaching materials, but have not been modified according to the needs of students. The teaching materials used have not fostered the interest and motivation of students so the activeness of students has not been maximized. The use of learning environments that need to be improved by involving problems that are often encountered to improve critical, creative, collaborative, and communication thinking skills. In addition to questionnaires to teachers, researchers also provide questionnaires on the needs of students for teaching materials they want to use. The teaching materials prepared are expected to be in accordance with the needs of students and can motivate students to be active in learning and can improve the ability of students. The following is a table (Table 3) of the results of the analysis of student needs for teaching materials.

Table 3. Analysis of Student Needs for Teaching Materials

Indicators in question	Yes	Sometimes	Not
• Teaching materials that have many colors and images.	75%	8%	17%
• Curiosity to know the content of teaching materials.	50%	17%	33%

• The teaching materials used foster cooperation with fellow friends.	58%	25%	17%
• The teaching materials used foster creativity in problem-solving.	84%	8%	8%
• The teaching materials used foster activeness during teaching and learning activities.	67%	25%	8%
• The teaching materials used already use technology.	75%	25%	0

Based on the results of the analysis, it show that the teaching materials used by students so far are in the form of teaching materials and practice questions in the package book and LKS/LKPD (Azman et al., 2014). There are still some teaching materials that are not interesting and have not applied 21st-century learning with 4C *competencies* (*Critical Thinking, Creative Thinking, Collaboration, and Communication*) which are considered important in today's digital era (Aggleton, 2018). The teaching materials that students want are teaching materials that have many colors, and images, utilizing audio-visual media to realize fun and meaningful learning (Nguyen et al., 2018).

CONCLUSION

Based on the results of the analysis of teaching materials used in learning activities, teacher needs for the preparation of teaching materials, and the needs of students in the use of teaching materials, it can be concluded that the teaching materials used by teachers in the teaching and learning process still need development by looking at various aspects, in order to help students in the teaching and learning process. Teaching materials are one of the important components in learning activities so the preparation must be adjusted to the needs of our students. But still, most teachers have not compiled teaching materials with various factors that cause it. Teachers still have to develop in accordance with the needs and principles in the preparation of teaching materials, so that learning objectives can be achieved optimally. Then most students prefer teaching materials that have many images and colors to increase interest and motivation to follow learning. Students still need to develop activeness, creativity, and collaboration with their friends through the teaching materials they use.

From this analysis, it is necessary to develop the needs of teaching materials by facilitating students to think at a higher level with 4C *competencies* (*Critical Thinking, Creative Thinking, Collaboration, and Communication*) by 21st-century learning with TPACK rules that can improve the ability of students. The use of problem-based learning environments is needed as a concrete medium in teaching and learning activities. Learning can be a fun and interactive way to teach learners a variety of skills and concepts. In the era of 21st-century learning with the increasingly rapid use of technology and information today, there are many online learning resources available for elementary school learners. Online learning platforms, educational websites, mobile apps, and online learning videos can be great additions to classroom learning. Engaging learners in practical activities, such as simple science experiments, art projects, or role plays, can increase learner engagement and help them understand concepts firsthand.

Recommendation

In the preparation of teaching materials for elementary school students, teachers must determine specific and measurable learning objectives for each teaching material. Clear goals will help you in compiling the right and focused teaching materials. Make sure the teaching materials are prepared in accordance with the curriculum that applies in elementary schools. Selection of material relevant to the level of development and needs of learners. Include material that is interesting, can be connected to everyday life, and motivates learners to learn. Use diverse learning methods so that students can learn in a way that suits their learning style. For example, use stories, games, group discussions, demonstrations, or experiments. Take advantage of engaging media and learning resources such as images, videos, audio, and interactive educational software. This will help increase learners' interest and understanding of the material being taught. Arrange learning materials in a structured and logical manner. Start with basic concepts before introducing more complex concepts. Use concept maps, main points, and subtopics to help learners understand and remember the material. Include activities and exercises that encourage learners to actively participate in the learning process. These activities can be Q&A, role-playing, group assignments, or hands-on practice. Recognize the individual needs and tendencies of learners. Adjust teaching materials and learning methods to meet the needs of students.

The use of technology needs to be developed in order to create innovative and interesting teaching material for students. Problem-based teaching materials involve the learning environment of students in order to invite students to always think critically, and innovatively, be able to collaborate, and communicate the results of the findings they find. So that learning can be centered on point participants and actively directly involved. Teaching materials are interesting for students to learn, by adjusting their age in terms of learning level and can create active, effective, and meaningful learning activities.

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