

Development of Geography Teaching Materials Based on Character Education on Disaster Mitigation and Adaptation Materials

Irwan Abdullah¹, Syahril Lukman², Andi Suaema³, Darling Surya Alnursa⁴, Muhammad Ichsan A. Gani⁵

{irwanabdullah833@gmail.com¹, syahrillukman88@gmail.com², andisuaema@gmail.com³, darling.alnursa@gmail.com⁴, geografichsan626@gmail.com⁵}

STKIP Kie Raha Ternate Indonesia

Abstract. This research aims at how to produce a geography teaching material that has integrated various dimensions of cognitive, affective, and behavioral aspects of assessment, and is able to shape students' character through values for environmental care values as well as measuring the level of feasibility and effectiveness of teaching materials for learning. in terms of learning outcomes. The data collection technique that will be used in this research is to use a questionnaire and a test. Meanwhile, the data analysis technique in this study was descriptive qualitative. To design this research, research and development has been adapted from the borg and Gall and Dick and Carey models with various stages, namely: needs analysis in the form of design and development, manufacture and development of teaching materials, and validation. The results of development research can show that teaching materials have very good quality and are suitable for use as learning materials. Meanwhile, the aspect of completeness of content can be categorized as very good (average score of 4.32, and aspects of material presentation can be categorized as good with (average score of 4.16), for the language aspect it can be categorized as good with (average score of 4.16). 4.17), while the graphic aspect is categorized as very good (average score 4.22) and character aspect is categorized as very good (average score 4.34). And teaching materials can be developed proven effective by increasing student learning outcomes by 27.71 points, so that overall it can be concluded that the teaching materials developed have succeeded in improving student learning outcomes

Keywords: Development of Teaching Materials; Geography; Character Education

1 Introduction

The development of character education is very strategic for the sustainability and excellence of a nation in the future. The development must be carried out through a good planning stage, as well as an appropriate approach to effective learning and learning methods (Zuchdi 2010). In accordance with the nature of a value in national character education is with school, family and environment. Therefore, within a school scope, all teachers and principals must jointly exist, through all subjects, and become an inseparable part of the school culture (Sugandi, 244. 2015)

Teaching materials are one of the most important parts in the process of learning activities. Materials are also used as a source of material information that is very important for teachers

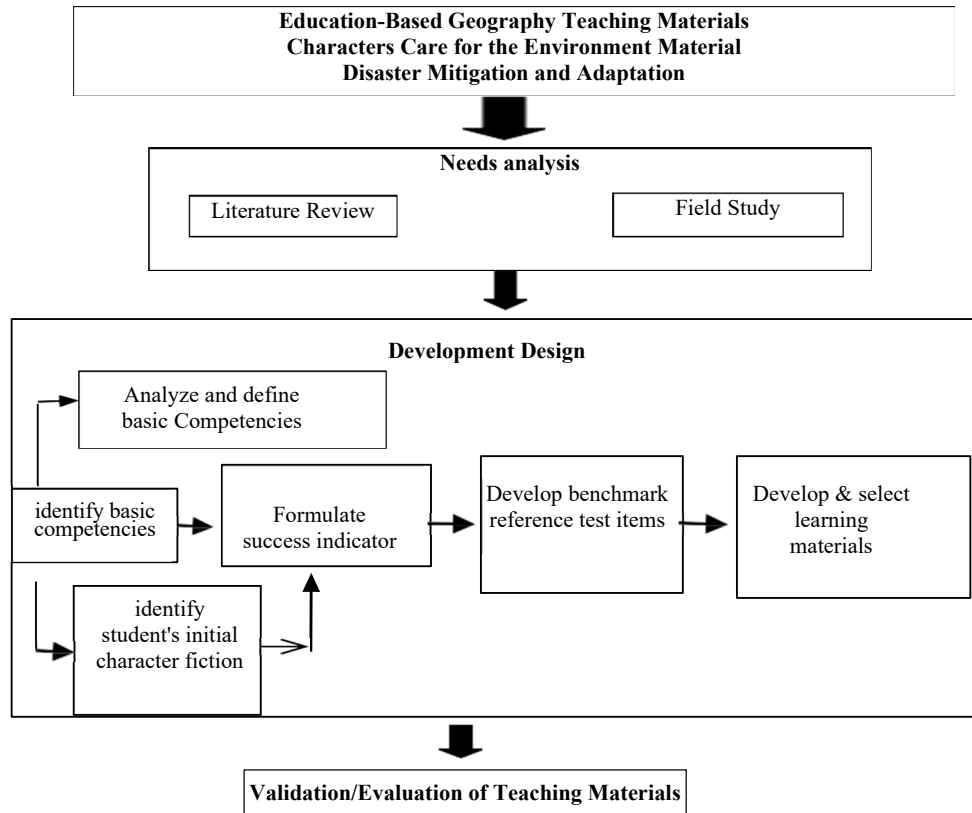
and students. The existence of a teaching material is very important, because teaching materials are a component that must be studied, observed and studied and used as teaching materials or materials that will be mastered by students and at the same time can provide guidelines for studying them (Hermawan, et al. 2008). In addition, teaching materials can also make students learn independently, and can learn anytime and anywhere, according to their respective paces, are able to make students learn in the order of their own choosing, help develop the potential of students to become independent students, and as an independent learner. guidelines for students directing all activities in the learning process and mastering all the competencies that have been determined. (Ministry of National Education, 2010)

Based on the observation that teaching materials that can be used by teachers have not fully paid attention to the condition of students and their environment, because in general teachers have used commercial teaching materials as a guide in learning. This causes teachers to depend on commercial teaching materials. The dependence of teachers on commercial teaching materials is very high. Teachers prefer to buy teaching materials from publishers compared to making their own teaching materials. The reasons vary, ranging from practicality, lack of time and lack of funds in making teaching materials and the ability of teachers to make these teaching materials. Even though ideally a teacher must be able to develop teaching materials to support learning, because the development of teaching materials is one of the efforts in improving the quality of education. In addition, the teaching materials developed by the teacher will be easier for students to understand, because a teacher is more of a student character and better understands the conditions of the environment where students live so that the learning carried out will be more contextual and fun.

Natural disaster mitigation and adaptation is one of the geography learning materials in high school which contains about the condition of Indonesia which is prone to disasters, in this material students need a lot of information related to environmental conditions that are the causes and impacts of various types of disasters that occur.

2 Research methods

This study uses research and development methods (Research & development). The product developed is in the form of teaching materials on mitigation and appropriate disaster adaptation as a learning resource in geography subjects. In this study, a procedural development model was used which was adapted from Borg & Gall (1983) and Dick & Carey (2005) models were carried out through 4 stages main, namely: 1) needs analysis, 2) development design, 3) producing/ developing teaching materials, and 4) validation/ evaluation of teaching materials. Procedure research in this study can be explained by the image below:



The population in this study were all students of class XI IPS in the 2019/2020 academic year, SMA Negeri 3, SMA Negeri 2, SMA Negeri 4, SMA Negeri 1 Ternate, totaling 452 students. With the number of research samples as many as 100 students. The sampling technique was carried out using a cluster sampling technique or a technique based on groups (classes) so that 1 class was chosen for each school which was considered representative.

Qualitative descriptive analysis technique is used to determine the feasibility of the teaching materials developed. Data in the form of comments, suggestions for revisions from experts and students as well as the results of observations of researchers during the process of testing the analysis in a qualitative descriptive manner and concluded as input to improve or revise the products that have been developed. While the data in the form of scores of material experts and students obtained through questionnaires, were analyzed descriptively quantitatively with percentage and categorization techniques. The scoring criteria follow the provisions in the table below:

Table 1 Eligibility Criteria for Teaching Materials

Mark	Interval	Criteria
A	$X > 4,21$	very good
B	$3,40 < X \leq 4,21$	good
C	$2,60 < X \leq 3,40$	enough
D	$1,79 < X \leq 2,60$	not enough
E	$X \leq 1,79$	very less

This study determined a minimum product feasibility value of "C", with the category of "Enough" as a result of good assessments from material experts, learning design experts and students. If the final (overall) assessment results in the material aspect with a minimum score of "C" (enough) by experts, and if the final (overall) assessment results with a minimum score of "C" (enough) by students, then the product as a result of the development is considered suitable for use as a learning resource.

3 Research results and discussion

In this study, the development of teaching materials must begin by using a needs analysis in the form of library studies, namely tracing the teaching materials that will be used in four schools, obtained from the results of teaching materials that have been used entirely will be used as teaching materials for commercial publishers, namely with textbooks published through publishers. Erlangga Karya K. Wardiyatmoko then went through field studies, namely by looking at the learning activities carried out. The next stage is the design, development and production of teaching materials which can be briefly seen in Figure 1 above. Furthermore, the teaching materials that have been produced are validated through a feasibility test to determine the quality of the teaching materials developed. Validation was carried out by 2 experts, namely material experts and learning design experts. Material validation was carried out by Education experts with the following results:

Table 2. expert validation results

Number	Aspects that validated	Expert Theory	Criteria	Expert Design	Criteria
1	Contents	4,14	Well	4,23	Very good
2	Theory	3,9	Well	4,28	Very good
3	Language	4,0	Well	4,09	Well
4	Graphics	4,07	Well	4,09	Well
5	Characte	4,0	Well	4,48	Well

Based on the results of validation by experts, 2 of the 5 aspects developed were considered very good. Furthermore, the teaching materials were revised based on the input and suggestions given. The revised teaching materials were then tested on users (class XI IS students) totaling 100 students spread over 4 schools with one-to-one evaluation stages (20 students), small group evaluation (36 students) students) and large-scale trials / field trials (100 students). In a one-to-one evaluation, teaching materials were validated by 20 students spread over 4 different schools, the following results were obtained:

Table 3. One to One Evaluation Validation Results

Number	Validated Aspect	Average	Criteria
1	Contents	4,23	Very good
2	Theory	4,28	Very good
3	Language	4,09	Well
4	Graphics	4,09	Well
5	Character	4,48	Well
	Total	4,22	Well

Table 4. Small Group Validation Results

Number	Validated Aspect	Average	Criteria
1	Contents	4,21	Very Good
2	Theory	3,70	Well
3	Language	3,90	Well
4	Graphics	4,00	Well
5	Character	4,00	Well
	Total	3,96	Well

Table 5. Results of Field Trial Evaluation Validation

Number	Validated Aspect	Average	Criteria
1	Contents	4,7	Very good
2	Theory	4,68	Very good
3	Language	4,62	Very good
4	Graphics	4,67	Very good
5	Character	4,86	Very good
	Total	4,70	Very good

The results of trials conducted by experts and students showed that geography teaching materials were suitable for use in learning. In the aspect of content feasibility, the material presented includes all the material contained in the basic competencies, namely in basic competencies 3.7: analyzing types and managing natural disasters through education, local wisdom, and the use of modern technology. with what is mandated by Basic Competence. And can reflect the description that supports the achievement of all Basic Competencies.

4 Conclusion

Based on the results of the research and discussion, it was concluded that the development of character education-based geography teaching materials was considered appropriate and effective in improving learning outcomes, this was evidenced by the average score obtained that was 4.24 (Very Good), and an increase in the average learning outcomes of 27.71 it means that as many as 84 or 86.5% of the 97 students have achieved complete learning.

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