
Innovation of contextual-based module on thematic learning in elementary schools

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Abstract: This study aims to develop a contextual-based module on thematic learning in elementary schools. This research uses research and development (R&D) methods. This study uses a modified 4D model development research method, namely define, design, development and disseminate. The data collection instrument used is a questionnaire or questionnaire given to material expert validators and media expert validators to see the validity of the product, and student response questionnaires. The research involved 11 students in trial. The results of this study are a product in the form of a contextual-based module in the thematic learning of class VI SD with the results of a feasibility assessment from a material expert after validating an average score of 3.45 with a percentage of 86.31% with valid criteria and from media experts obtained an average score of 3.45. the average score is 3.60 with a percentage of 90.02% with very valid criteria. The results of the practicality assessment by students in small group trials with 11 students as subjects obtained an average score of 19.94 with a percentage of 82.82% with appropriate criteria, the resulting module product has met the valid and feasible criteria. Therefore, this module is feasible to use.

Keywords: Contextual, Module, Thematic Learning

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INTRODUCTION

Education has an important role in preparing the next generation with dignity, character, intelligence, and global perspective (Nisa et al., 2020). The education sector is the spearhead of the country's future development. Law number 20 of 2003 concerning the National Education System (2003) states that education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and skills needed by himself, society, nation and state.

Quality education will produce the next generation who are able to adapt to changes and developments in an increasingly fast era. The teacher's role is very important in realizing quality education. Teachers are professional educators with the main task of educating, teaching, guiding, directing, training, assessing, and evaluating students in early childhood education through formal education, basic education, and secondary education (Law no 14 of 2005 concerning Teachers and Lecturers, 2005). So, the first and main subsystem in improving the quality of education is the teacher factor (Asriyanti, 2017).

Meaningful teaching and learning activities will be created, if the teacher is able to create learning that stimulates students to be active and creative in participating in learning. Learning can be said to be the result of memory, cognition, and metacognition which influence understanding. This is what happens when someone is studying. This condition also often occurs in everyday life, because learning is a natural process for everyone (Huda, 2013). The role of the teacher becomes very important in creating a learning environment that supports the teaching and learning process according to predetermined learning objectives. Learning should be related to problems that exist in everyday life, so students can construct their knowledge through learning experiences (Listiani, 2019; Nisa & Nurwiarsih, 2021).

The quality of learning cannot be separated from the availability of quality teaching materials to facilitate and expedite the process of teaching and learning activities. Student learning success is strongly

influenced by the selection of teaching materials (Wati et al., 2020). According (Widodo & Jasmadi, 2008; Yuberti, 2014), teaching materials are a set of learning tools or tools that contain learning materials, methods, limitations, and ways of evaluating that are designed systematically and attractively in order to achieve the expected goals, namely achieving competence or subcompetence with all its complexity. In learning activities, teaching materials play a very important role (Irawati & Saifuddin, 2018). Selection of appropriate teaching materials by the teacher can help students understand the material being studied, so that they are more interested in teaching and learning activities. Teaching materials also have an important function in achieving learning goals and competencies that students must have after learning a material (Rosilia et al., 2020).

One of the teaching materials that can be used in learning activities in elementary schools can be in the form of modules. The preparation of the module is carried out by taking into account the characteristics of the students, so that the learning delivery process can be conveyed properly (Pambudhi & Retnowati, 2017). The module will be used as teaching material that can be used independently by students. It was developed to overcome problems if during the teaching and learning process, teachers have obstacles to attending or holding meetings directly in class (Riwanti & Hidayati, 2019). The developed module can be used as a student learning resource that can foster student independence in learning without the help of a teacher (Nisa et al., 2022).

The problem of why students need modules for learning is the lack of sources of learning information and the lack of independence for students to learn, so that this becomes one of the inhibiting factors in achieving learning objectives (Ilahiyah et al., 2019). If the module is designed and given a fun matrix, it will create creative students and will provide meaningful learning for students (Julia et al., 2021). The existence of this module can be used as a tool to measure students' ability to understand a material (Yulianti & Tutianingsih, 2020). This has an effective impact on student involvement and student motivation when learning (Purwitaningsih et al., 2021). Learning modules that have been designed can also be further developed according to conditions and situations in learning activities (Qiftia & Yanti, 2019).

The 2013 curriculum applies thematic learning. Thematic-based learning activities are based on a theme which in this theme consists of several subjects that are combined into a theme (Sari & Yuniastuti, 2018). According to Mufaridah et al. (2020) thematic learning is integrated learning that uses themes to link several subjects so that they can provide meaningful experiences to students. Thematic learning is learning by combining several subjects with one theme as the center. Thematic learning is learning that is designed based on themes as one of the integrated learning models (integrated instruction), namely linking several aspects both intra-subjects and inter-subjects which constitute a learning system so that it allows students, both individually and in active groups (Mubarak et al., 2021). Thematic learning places more emphasis on the involvement of students in the learning process actively, so that students can gain direct experience and are trained to be able to discover the various knowledge they are learning for themselves (Mutaqin et al., 2020). In accordance with the 2013 curriculum, students are required to be more active in class, the teacher is no longer the only center in learning, but the teacher becomes a facilitator, mediator and motivator for students (Anisa et al., 2022). Thematic learning will make students happier in learning activities.

Thematic learning will be even more meaningful if learning is done using a contextual approach. Contextual learning (Contextual Teaching and Learning) is a learning concept that helps teachers relate material to students' real-world situations and encourages students to make connections between their knowledge and its application in their daily lives (Santoso, 2017). Contextual learning is said to be important because the learning process emphasizes active involvement of students in learning or student-centered and learning context (Nilasari et al. 2018). The process of understanding student knowledge will be easier if the teaching materials are developed in accordance with the context in which students will be (Anwar et al., 2017). Thus, students will be more active and creative in learning activities.

Based on the results of observations in class VI of SD Negeri 3 Taskombang Manisrenggo Klaten, it is known that in learning activities the teacher is more dominant in learning activities. Students are not yet active, so teaching and learning activities have not run optimally. Package books from the Ministry of Education and Culture are still the main source of learning activities. Teachers have not fully utilized the surrounding environment in learning activities. For this reason, it is necessary to develop teaching materials in the form of contextual-based modules for thematic learning in class VI of SD Negeri 3 Taskombang.

METHODS

This study uses the method of research and development. The development model used is 4-D, which was developed by Thiagarajan et al. (1974), with the stages of Define, Design, Development, and Disseminate. The data in this study were (1) problem identification and initial information and (2) the validity of teaching materials by experts.

At the define stage, a needs analysis is carried out through observation and interviews. Observations were made on the learning process and analyzing the implementation of the learning carried out. Interviews were also conducted with teachers to find out the obstacles encountered during the learning process.

At the design stage, a study was carried out regarding the characteristics of a good module, and determining the appropriate learning model. This stage is followed by the develop stage. At this stage a learning module based on a contextual learning model was developed that can be used to improve student learning outcomes. After being developed, the module was validated by two experts and an effectiveness test was carried out on 11 grade VI elementary school students in a limited trial and 24 students in a wide trial. The results of this research were then disseminated at national seminars and published in journals as the end of the research phase, namely the disseminate stage.

Data collection techniques used in this study were interviews, observation, validation questionnaires. The instruments used for data collection in this study were interview guides, requirement sheets, and product assessment sheets. In this study, it has only reached the Development stage, namely small group trials. Disseminate stage will be continued in further research.

RESULTS AND DISCUSSION

Result

The development research procedure used was a modification of the 4D model developed by Tiagrajaan. This research is limited to 3 stages, namely the define, design, and development stages. The disseminate stage will be carried out in further research.

The first stage is Define. The first step on this stage is Front-End Analysis. The initial analysis is the process of identifying the problems encountered when carrying out the process of learning activities. This analysis was carried out by making direct observations. The results of the observations show that there are still some problems encountered in the teaching and learning process. These problems include the absence of learning modules as learning materials, the conventional learning process, the lack of students' understanding of learning, students cannot study independently because there are no adequate teaching materials. At this stage, an analysis was also carried out on the thematic learning syllabus for theme 9 class VI Elementary School, in order to be able to determine the materials that would be included in the learning module.

The second step is Concept Analysis. Material analysis aims to identify and arrange systematically and sequentially what will be taught to students. This analysis is adjusted to the Core Competencies (KI) and Basic Competencies (KD) of the 2013 Curriculum which include science (IPA) and social studies (IPS) material.

The third step is Task Analysis. This task analysis is carried out by means of interviews with the aim of identifying the main skills to be studied and analyzing them into a set of additional skills. This analysis ensures a thorough review of the tasks in the learning materials. Furthermore, after the analysis of the concept (concept analysis) followed by analysis of the task (task analysis). Based on the results of the analysis, an overview of the tasks required in learning is obtained in accordance with the Content Standard.

The fourth step is Specifying Instructional Objectives. The formulation of learning objectives is to summarize the results of concept analysis and task analysis to determine the behavior of the research object. This collection of objects forms the basis for compiling tests and designing teaching materials which are then integrated into teaching materials. Based on this analysis, it is obtained that the learning objectives to be achieved in the thematic teaching materials for science and social studies are based on the developed contextual approach.

The second stage is Design. This stage aims to design a learning device prototype to obtain an initial draft. This stage includes: (a) Selection of Teaching Materials. The selected teaching materials are

module teaching materials which aim to facilitate the learning process, because the module teaching materials are very relevant to use in thematic learning. (b) Format Selection. The choice of format in the development of learning tools is intended to design learning content. In this case the format developed is contextual based. (c) Initial Design. Based on the analysis, the initial design of draft I was obtained, namely the design of all learning tools, namely teaching materials and media that had to be worked on before the trial was carried out.

The third stage is Development. The development stage is the process of producing a product that has been developed. Design validation is an activity process to assess whether product design, in this case teaching materials in the form of modules as a support for thematic learning is more interesting than previous teaching materials. Design validation consists of three stages, namely: the first stage, Material Expert Test. The questionnaire used 22 assessment items with a score range of 1-4. Aspects of assessment by material experts include aspects of self instruction, self contained, stand alone, adaptive, user friendly, constructivism, inquiry, questioning, learning community, modeling, reflection, and authentic assessment.

The assessment scores that have been obtained through a questionnaire are then averaged into an assessment score with a range of 1 to 4. The results of the average score that has been obtained are then categorized as a level of validity in the form of a percentage. The data on the results of the assessment by material experts are shown in following Table 1.

Table 1. Assessment Results from Material Expert

Assessment Aspects	Average Expert score	Percentage	Category
Self Instruction	3,43	85,71%	Valid
Self Contained	4,00	100%	Very Valid
Stand Alone	4,00	100%	Very Valid
Adaptive	3,00	75,00%	Quite Valid
User Friendly	3,00	75,00%	Quite Valid
Constructivism	4,00	100%	Very Valid
Inquiry	4,00	100%	Very Valid
Questioning	4,00	100%	Very Valid
Learning Community	3,00	75,00%	Quite Valid
Modelling	3,00	75,00%	Quite Valid
Reflection	3,00	75,00%	Quite Valid
Authentic Assessment	3,00	75,00%	Quite Valid
Average Total Score	3,45	86,31%	Valid

Module assessment for material experts is divided into 12 aspects. The results of the assessment of each aspect get a different average score. In the self-instruction aspect, the average score is 3.43 with a percentage of 85,71%, which means it is in the "valid" category. On the self-contained aspect, an average score of 4,00 is obtained with a percentage of 100%, which means it is in the "very valid" category. The stand-alone aspect gets an average score of 4,00 with a percentage of 100%, which means it is in the "very valid" category. The adaptive aspect gets an average score of 3,00 with a percentage of 75,00% which means it is in the "quite valid" category. In the user-friendly aspect, a score of 3,00 is obtained with a percentage of 75,00%, which means it is in the "quite valid" category. In the aspect of constructivism, inquiry, questioning with an average of 4,00 with a percentage of 100% which means it is included in the "very valid" category. The learning community, modeling, reflection, and authentic assessment get an average of 4,00 with a percentage of 100% which means it is in the "very valid" category. The average material expert validation result is 3,45 with a percentage of 86,31%, which means that the module is valid to use.

Table 2. Assessment Results from Media Expert

Assessment Aspects	Average Expert score	Percentage	Category
Module size	4,00	100%	Very Valid
Module cover	3,27	81,82%	Valid
Module content	3,53	88,24%	Valid
Average Total Score	3,60	90,02%	Very Valid

The second stage is the Media Expert Test. The questionnaire consists of 30 assessment items with a score range of 1-4 items. Aspects of assessment by media experts include module size, module cover

design, and module content design. Assessment scores that have been obtained through questionnaires are then averaged into assessment scores with a range of 1-4. The results of the average score that has been obtained are then categorized as the level of feasibility. The data on the results of the assessment by media experts are shown in Table 2.

The media expert's assessment is divided into 3 aspects. The results of the assessment of each aspect get a different average score. For the module size aspect, an average score of 4,00 is obtained with a percentage of 100%, which means it is in the "very valid" category. The cover module aspect gets an average score of 3,27 with a percentage of 81,82%, which means it is in the "valid" category. While the aspect of module content gets an average score of 3,53 with a percentage of 88,24%, which means it is in the "valid" category. The average media expert validation result is 3,60 with a percentage of 90,02% which means the module is very valid to use.

The third stage is the Practitioner Expert Test (Teacher). This test aims to determine the accuracy of the minimum standards applied in the preparation of contextual-based modules to determine the attractiveness, effectiveness, graphics, presentation, language, and suitability of contextual-based modules in the learning process. The expert practitioner test was carried out by a teacher at SD Negeri Tuguran.

Table 3. Assessment Result from Expert Practitioner (Teacher)

Assessment Aspects	Average Expert score	Percentage	Category
<i>Self Instruction</i>	3,57	85,71%	Valid
<i>Self Contained</i>	4,00	100%	Very Valid
<i>Stand Alone</i>	4,00	100%	Very Valid
<i>Adaptive</i>	3,50	87,50%	Valid
<i>User Friendly</i>	4,00	100%	Very Valid
<i>Constructivism</i>	4,00	100%	Very Valid
<i>Inquiry</i>	3,00	75%	Quite Valid
<i>Questioning</i>	4,00	100%	Very Valid
<i>Learning Community</i>	3,00	75%	Quite Valid
<i>Modelling</i>	4,00	100%	Very Valid
<i>Reflection</i>	4,00	100%	Very Valid
<i>Authentic Assessment</i>	4,00	100%	Very Valid
Module size	3,50	87,50%	Valid
Module Cover	3,64	90,91%	Very Valid
Module content	3,76	94,12%	Very Valid
Average Total Score	3,69	92,22%	Very Valid

Module assessment for material experts is divided into 15 aspects. The results of the assessment of each aspect get a different average score. In the self-instruction aspect, the average score is 3,57 with a percentage of 85,71%, which means it is in the "valid" category. On the self-contained aspect, an average score of 4,00 is obtained with a percentage of 100%, which means it is in the "very valid" category. Stand-alone aspect gets an average score of 4,00 with a percentage of 100% which means it is in the "very valid" category. The adaptive aspect gets an average score of 3,50 with a percentage of 87,50%, which means it is in the "valid" category. In the user-friendly aspect, a score of 4,00 is obtained with a percentage of 100%, which means it is in the "very valid" category.

In the constructivism aspect, a score of 4,00 is obtained with a percentage of 100%, which means it is in the "very valid" category. In the aspect inquiry, it gets a score of 3,00 with a percentage of 75,00%, which means it is in the "quite valid" category. In the questioning aspect, a score of 4,00 is obtained with a percentage of 100%, which means it is in the "very valid" category. In the learning community aspect, a score of 3,00 is obtained with a percentage of 75,00%, which means it is in the "quite valid" category. In the aspects of modeling, reflection, and authentic assessment, an average of 4,00 is obtained with a percentage of 100% which means it is in the "very valid" category. In the aspect of module size, an average score of 3,50 is obtained with a percentage of 87,50%, which means it is in the "valid" category. The cover module aspect gets an average score of 3,64 with a percentage of 90,91%, which means it is in the "very valid" category. While the aspect of module content received an average score of 3,76 with a percentage of 94,12%, which means it is in the "very valid" category. The average result of the validation of expert practitioner (teacher) is 3,69 with a percentage of 92,22%, which means that the module is very valid for use in the thematic learning theme 9 sub-themes 1 class VI of elementary schools.

Modules that have been validated by experts are then revised if necessary. This revision was carried out based on suggestions and input provided by material experts and media experts. In terms of material, the things that are revised are language clarity, completeness of pictures, and assessment sheets in modules. In terms of media, the things that have been revised are: (1) on the front cover, the illustration is better if it emphasizes the solar system, not the astronauts, there is no university logo and supervisor's name yet; (2) there is no back cover on the module, so a cover needs to be made behind it; and (3) in the sub-chapter, it should be bold. In "let's read" activities, it's better to give a colored box to make it more attractive, the color header doesn't match well.

The revised module is then tried out by small groups. The number of respondents was 11 students of class VI. Respondents were given an explanation of the contextual based module and the revised printed module. After that, students were asked to provide an assessment using the questionnaire provided to assess the feasibility of the module.

Table 4. Results of trials in small groups

No.	Aspect	Average score	Percentage	Criteria
1.	Material	23,73	84,74%	Feasible
2.	Language	13,00	81,25%	Feasible
3.	Interest	23,09	82,47%	Feasible
	Average	19,94	82,82%	

Based on the results of small group trials, the material aspect obtained an average score of 23,73 with a percentage of 84,74%, the aspect of language presentation obtained an average score of 13,00 with a percentage of 81,25%, the interest aspect obtained an average score of 23 ,09 with a percentage of 82,47%. So that the average score of all aspects is 82,82% with feasible criteria and can be continued at the field test stage. This is in line with the research results of Saputra et al. (2022) with the results of practicality assessments by students in product trials with 12 students as subjects obtaining a score of 97.5% with very practical criteria, the resulting teaching material products meet very valid criteria and very practical, then this teaching material product is feasible to use for learning.

Based on the explanation above, it can be concluded that this innovation of contextual-based module can foster student independence in learning. This is in line with research conducted by Nisa et al. (2022) which concluded that module learning resources can develop student independence, especially elementary students. This independence is also an aspect developed in the Pancasila Student Profile and familiarizes students with higher-order thinking which is believed to be very important for students to develop (Supriyoko et al., 2022; Uktolseja et al., 2022; Yuniharto & Nisa, 2022).

The development of learning resources in the form of modules that are integrated with this innovative learning model can simultaneously enrich material in order to achieve learning objectives which can make science learning more meaningful in particular (Nisa, 2020). So, indirectly this innovation also participates in creating quality learning.

CONCLUSION

The development products are in the form of contextual-based modules on thematic learning theme 9 sub-theme 1 class VI Elementary School by using research and development procedures adopted from the 4D model, namely Define, Design, and Development. Contextual-based modules on thematic learning theme 9 sub-theme 1 class VI Elementary School based on expert obtained an average percentage of module validity of 88,17% in the "valid" category. The breakdown of the percentage of experts is material experts 86,31% and media experts 90,02%. The results of small group trials of the developed modules obtained an average score of all aspects of 19,94 with a percentage of 82,82% with feasible criteria. Based on the assessment of material experts, media experts, and the results of the module assessment in small group trials, it was shown that the results of contextual-based module development in theme 9 sub-theme 1 class VI Elementary School learning could be continued to the Desiminate stage.

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