DEVELOPMENT OF THE BANNA GAME INTEGRATED CONTEXTUAL LEARNING INSTRUCTION ON ECOSYSTEM MATERIALS IN JUNIOR HIGH SCHOOL

Retno Dwi Purwaningsih¹, Suratno¹*¹, Mochammad Iqbal¹
¹University of Jember, Jember, Indonesia
Email: suratno.fkip@unej.ac.id

ABSTRACT

The implementation of the curriculum 2013 revised edition was reinstated by the government in 2016 that made all elements of the school especially teachers should adapt the learning tools used in the teaching system. Learning tools include syllabus, RPP, Textbooks, LKS, and learning media. Science learning according to the 2013 curriculum is done contextually for example by applying environment based learning by maximizing the enviromental potential that exists in the area around the school. Ecosystem is a material that must be done contextually. One of methode for teachers to improve their learning motivation and student learning outcomes is by developing a The Banna Game integrated contextual learning instruction. Game The Banna is an educational game themed Baluran National Park. This study aims to develop The Banna Game integrated contextual learning instruction on the subject of Ecosystems on Learning Motivation and Student Cognitive Learning Outcomes at SMPN 1 Asembagus Situbondo. This research is a developmental research using ASSURE model. The developmental research is carried out in Biology Education Study Program which involves several validators, Baluran National Park experts, application experts, learning device experts, learning media experts and materials experts. Test validity based on the validation assessment of the five validators to test the feasibility of the product to be used in the school. Validity test results obtained are TNB Expert 92.1%, Media Experts 89.70%, Expert Learning Tool 71.875%, Media Experts 77.083% and Expert Content 73%. Based on it shows that the level of validity of learning devices obtain valid categories and can be used in learning activities in the school.

Key Words:
Learning Instruction, Contextual, The Banna Game

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INTRODUCTION

The education curriculum in Indonesia has undergone several changes, one of them with the enactment of the revised edition 2013 curriculum in the 2016 ago. The implementation of the revised 2013 curriculum has been done by SMPN 1 Asembagus as its education system. The application of the curriculum makes all elements of the school especially teachers should adapt the learning tools used in the teaching system with the revised 2013 edition curriculum. Learning tools include syllabus, RPP, Textbooks, LKS, and learning media used. Based on observations at SMPN 1 Asembagus that learning tools are still not ready for use in the classroom, so it can be ascertained that the readiness of teachers in teaching has not been paid attention to learning tools that include RPP and learning media.

Science lessons at SMPN 1 Asembagus according to Wakakurikulum schools still use conventional learning tools and not contextual. Contextual learning is a strategy used in the hope that students are involved and encouraged to fully engage in the learning process (Puspitasari, 2010). Contextual science learning is actually very easy to do, namely by applying environment-based learning to maximize the potential of nature that exist in the area around the school. SMPN 1 Asembagus has great natural potential in the form of Baluran National Park (TNB) around the school area. Teachers of SMPN 1 Asembagus should utilize TNB as a means of learning to apply science-based science lessons because their conservation areas are in the school area. The lack of utilization as a means of learning causes students in the park area to be less familiar with TNB. With the development of integrated learning tools Baluran National Park as the object of learning will motivate students in learning because students are invited to learn directly about the natural environment contained in the region where they live.

The motivation to learn is a mental boost possessed by students so that students can feel compelled to continue to increase knowledge and show interest to develop all the competence in pouring his mind into a problem with respect to the subject matter (Nurseto, 2011). Student learning motivation in SMPN 1 Asembagus is considered as being seen from the learning process and the result of repetition semester semester. The average student got a little IPA score above KKM that is 68. Through the improvement of motivation is expected student can optimally and earnestly in follow the learning process with good impact student can maximize result of cognitive learning.

In addition, the improvement of students' learning motivation SMPN 1 Asembagus can also be improved through the integration of learning with the game The Banna. The integration of science learning with The Banna game is in the form of integrated learning tool of The Banna game. The Banna is a game app that takes Baluran National Park content as its object, so there is no need to invite students to come directly to TNB to learn. Game is a means of playing a very familiar in the world of school play especially junior high school students. Educational games are games that are accompanied by learning and are the latest learning media that are expected to improve understanding quickly as it supports an interesting game and keeps students active (Kurniawan, 2012). Thus through integrated learning IPA game The Banna is expected to be easily accepted and more motivate student learning that impact on student learning outcomes. The Banna game invites students to play within the park, which includes animations depicting the physical atmosphere of the park's ecosystems, both the flora and fauna that live in various Bunaken ecosystems. Learning tools cause
students to actively learn and easily find material concepts, as they are designed with a variety of material concepts integrated within the game. Thus, this study aims to introduce Baluran National Park ecosystem, improve motivation and cognitive learning outcomes of students through learning activities that use integrated contextual learning tools The Banna Game to students in Situbondo area is SMPN 1 Asembagus.

This study aims to find out the product development of integrated contextual learning tools Game TheBanna on the subject Ecosystem affects the motivation of learning and cognitive learning outcomes Students in SMPN 1 AsembagusSitubondo.

METHODS

This research is a development research consisting of several stages. Design of learning device development using ASSURE model developed by Heinich, Molenda and Russell. The ASSURE model has stages that are the elaboration of the ASSURE Model Analyze Learner (analyze the learner), State Objective (Select the objectives or competencies), Select methods, media, and materials (choose methods, media and teaching materials), Utilize media And materials (using media and teaching materials), Require learner participation and Evaluate and Revise (assess and improve). The validity level of the integrated contextual learning device The Banna Game is validated by five validators to find out the feasibility and validity of the developed product. Validators required in validation of integrated contextual learning tools The Banna Game consists of Baluran National Park experts, Game app media specialists, learning tool specialists, learning media specialists and material experts.

The research instruments used in this study are interview guides, expert validation sheets, pretest-posttest, observation sheets, and ARCS motivation questionnaires written by Keller (2010) that include Attention (attention), Relevance (relevance), Confidence ) And Satisfaction (satisfaction).

The data used from the validation result is quantitative data using four levels with several criteria that is.

| No | Score | Description |
|----|-------|-------------|
| 1  | 4     | Very valid  |
| 2  | 3     | Valid       |
| 3  | 2     | Less valid  |
| 4  | 1     | Invalid     |

Scores obtained from the validation results are calculated using the formula:

\[ P = \frac{\text{Percentage of ratings}}{\text{Number of scores obtained}} \times \frac{1}{\text{Maximum score}} \]

The value of \( P \) which is the value of the validity of a learning device is determined based on the validation assessment conducted by the expert, then follow the reference interval of several validity criteria

RESULTS AND DISCUSSION

The first stage is Analyze Learners which is the stage of the teacher by preparing the students psychically and physically followed by asking some questions that relate the initial knowledge that students have with the material to be studied (Jayanti, 2014).
Activities Analyze Learners is an activity needs analysis of students conducted by conducting early observation activities to the school and to interview science teachers in schools that serve as the object of research in SMPN 1 Asembagus.

The analysis of students' needs is based on the characteristics of students: gender, age, level of development, culture and socioeconomic and ethnic factors that determine the early ability of the learners. Survey activities are conducted by conducting interviews that include curriculum, learning method, learning innovation in school, student characteristics include motivation and cognitive learning outcomes, and learning tools used by teachers to support learning activities. Based on the results of the interview it is known that the curriculum applied in SMPN 1 Asembagus is the 2016 Curriculum revision 2016 with KD 3.7 is "Analyzing the interaction between living creatures and their environment and population dynamics due to such interaction" and KD 4.7 "Presenting observations on the interaction of living things with the surrounding environment ". Based on KD 3.7 and 4.7 that the learning activities undertaken must be carried out contextually through field observations with environmental-based learning activities, but this has not been fully implemented by SMPN 1 Asembagus teachers in teaching in the classroom. The Ecosystem material taught by the teacher to the students is still theoretical or lectures that are only carried out in the classroom. This is caused by the limitations of the natural environment contained in the school as a means of learning. Thus the learning activities undertaken less motivate students in learning and actively involved in learning activities. Besides the problem is also caused by the lack of teacher exploration in developing learning innovation, so that learning has not developed and attract students. Based on the results of the interviews it is known that teachers at SMPN 1 Asembagus have not utilized Baluran National Park which is an area that can be used as a learning resource for students. It is known that the motivation of studying students of SMPN 1 Asembagus is moderate to low, it can be proved by the student learning outcomes which averages only slightly above the KKM is 68. Based on the problem which became the background research development of integrated learning contextual learning The Banna Game on the subject Material Ecosystem.

The next step is to formulate the learning objectives to be achieved by teachers in carrying out learning activities. The steps of the formulation of this learning objective in the ASSURE model are called State Standards and Objectives which are the stages of setting specific learning objectives (Hamzah, 2006). Activity of objective formulation and learning standard is done by considering the basis of strategy, media and appropriate media selection. The formulation of learning objectives based on the curriculum and syllabus used in SMPN 1 Asembagus is the 2013 revision curriculum 2016. Learning objectives used are based on science subjects Ecosystem material listed in the learning objectives in the design of the implementation of learning researchers. The objective formulation activity is based on ABCD technique (Mager, 1997) which comes from four words: Audience, Behavior, Condition, and Degree. Audience is the perpetrators of learners who serve as the target of learning in this case is the students of class VII SMPN 1 Asembagus. Behavior is a specific behavior that must be done in learning activities. Condition is the condition of students who demonstrate the ability of learning outcomes after implementing the learning process. Degree is the quality of the behavior targeted to be achieved learners who demonstrate the ability of learning outcomes. Based on the above, the researcher has formulated 8 learning objectives that must be achieved by the students after following the learning activity, among others, the
students are able to explain the understanding of the environment after careful attention to the environment, the students are able to explain the understanding of the interaction that occurs in the environment, The students can identify the components of Biotics and Abiotics in the environment after considering the components of the surrounding environment correctly, the students are able to mention the kinds of human behavior that can cause environmental damage, the students are able to analyze the role and position of each - Biotic and Abiotic components in the environment after playing Baluran National Park based educational games about ecosystem well, students are able to analyze the role of each living creature in the environment based on their food, students Able to provide solutions to prevent environmental damage.

After knowing the problems and needs required by students, then the appropriate media selection used in the learning process. This stage is a step Select Strategies, Technology, Media, and Materials. Based on the problems obtained by the research team to do research development by making the product in the form of integrated contextual learning device The Banna Game. Learning tools consist of RPP, Textbooks, and Game media. The developed RPP consists of learning implementation plan with methods and strategies that are expected to improve learning motivation and student cognitive learning outcomes. Selection of appropriate methods, media and teaching materials will be able to optimize student learning outcomes and help students achieve competence or learning objectives(Pribadi,2009). The textbook developed in the form of a student book consisting of ecosystem material with a more simple discussion. Game in question is a Game that contains content about Baluran National Park, so that students are expected to know more about Baluran National Park and certainly can motivate students in following the learning process that will impact on student cognitive learning outcomes.

The next step done by researchers is Utilize Technology, Media And Materials is to test before utilizing the media and existing materials. The integrated contextual learning device The Banna Game which has been developed by the researcher is then tested by involving several validators as the appraiser. At this stage the integrated contextual learning device The Banna Game will be declared as a valid product and feasible to be used in the field. Before using the media and materials, it is advisable to follow the following steps: 1) check the material (still worth using it or not), the educator should preview the material before delivering it in the classroom and during the learning process the educator must determine The right material for the audience and paying attention to its purpose; 2) preparing materials, educators should record all the materials and media needed by educators and learners (Purwanti, 2015). The teacher must determine the order of materials and media usage. This assessment was undertaken to review the feasibility and suitability of the learning activities in the integrated contextual learning tool of The Banna Game that has been developed.

The next step is the Require Learner Participation by involving the students' participation in the material and media in the integrated contextual learning tool The Banna Game which the teacher show to arouse his curiosity, so that later the students will find out and expand the understanding of the material. The integrated contextual learning device The Banna Game is developed in such a way that it can make students actively participate in the learning process.

Evaluate and Revise Events conducted by researchers is to analyze and revise the effectiveness of integrated learning tools contextual The Banna Game used in the learning process. Evaluation and revision activities are conducted to see how far the technology, media and materials we select / use can achieve the goals we have set
before (Muslih, 2016). Thus this evaluation activity serves to determine the success of integrated learning tools product contextual The Banna Game developed in improving learning motivation and student cognitive learning outcomes. This activity is done by observation in every learning activity using motivation observation sheet and final test through posttest. Through observation and posttest value results is known success rate of developed products. Revision activity is done after conducting validation activities by experts.

Based on the results of the assessment analysis conducted by the validator, obtained the result that the average result of validation of integrated contextual learning device The Banna Game for The Game of The Banna media by Baluran National Park experts is 92.1% with validity level is very valid, thus that learning device Integrated contextual The Banna Game that has been developed can be used appropriately in the learning process. The result of validation assessment conducted by application media expert for Game The Banna is equal to 89.70% with validity level is very valid, so The Banna Game media can be used appropriately for learning process. The result of validation assessment conducted by expert learning device for Learning Implementation Plan (RPP) is equal to 71.875% with valid validity level, so that The Banna Game Integrated Learning Plan (RPP) can proceed with revision according to suggestion and notes of instructional media expert. The result of validation assessment conducted by expert of instructional media for textbook is equal to 77.083% with valid validity level, so the integrated textbook of The Banna Game can proceed with revision as per the suggestion and the material expert notes.

Validation is the stage of finding and determining what still needs to be improved or revised so that the products produced are more effective and efficient (Lestari, 2013). The result of validation is known that the level of validity of contextual learning apparatus integrated The Banna Game in both good and valid category, so that integrated learning tool of integrated The Banna Game which has been developed ready to be used in actual learning process. Assessments made by the validator are some important suggestions and notes that serve as a reference for revision in the integrated contextual learning device The Banna Game. [Subanin] A learning device product that has been developed after it meets the valid category of the competent validation assessment of the expert in its field, the learning device is revised based on input or advice from the expert so that the product is eligible for use. Instructions or suggestions from experts have significance to the development of the instrument so that the product is feasible to use.

Learning tools are tools used by learners, especially teachers as facilitators of student learning (Muslich, 2011). The learning tools include RPP, syllabus, Student Activity Sheet (LKM), and media power point. [15] Syllabus is a learning sub-system consisting of several components that are interconnected in the achievement of learning objectives. RPP consists of competency standards, basic competencies, indicators, learning objectives, standard materials, learning activities, and assessment. MFI is a set of activities undertaken by students when the learning process to assess competencies that have been mastered. Media power point contains materials that will be delivered by teachers and lecturers to students or students.
In the process of developing learning tools, the researcher attempts to establish a consistent linkage of each component of the learning device developed with the characteristics of the applied instruction model as directed (Fatmawati, 2016). There are several suggestions given by the expert learning tool by that is the addition of time allocation and evaluation tools are clear. The suggestion is an input for researchers to make improvements. These improvements by allocating each of the learning scenarios clearly. Evaluation tools used in the learning process have been improved in the form of posttest and student discussion sheet at each meeting. Post Test, meaning that researchers take the results of the media after the test, after being found the results of tests from the media, can be known student learning outcomes are increased or decreased.

The purpose of the preparation of teaching materials is (1) to provide instructional materials in accordance with the demands of the curriculum by considering the needs of students, schools and regions, (2) assisting students in obtaining alternative teaching materials; And (3) facilitate teachers in implementing learning (Depdiknas, 2008). Thus the development of textbooks conducted can help teachers in carrying out learning activities and improve student learning outcomes.

Researchers also develop learning media in the form of educational games. Education Games is one type of media used to provide teaching, adding to the knowledge of its users through a unique and interesting medium (Dewi, 2012). The educational game is a game containing content about Baluran National Park, so that students are expected to know more about Baluran National Park knowledge and motivate students to follow the learning process that impact on students’ cognitive learning outcomes. Strategy, technology and media and teaching materials are arranged in the integrated contextual learning tool of The Banna Game, so that it will be appropriate to support the developed learning tools.

Based on the validation results of integrated learning tools integrated game The Banna shows that the product is feasible and ready for use in school in learning activities.

CONCLUSION

Result of validity test of integrated learning contextual device The Banna Game on ecosystem subject which has validated by validator that is Media Game The Banna of Baluran National Park Expert reach 92,1% with category very valid, Media Game The Banna from Media Expert reach 89,70 % With very valid category, RPP of Learning Device Experts reaching 71.875% with valid category, Textbook from Media Expert reached 77,083% with valid category and Textbook of Expert Material reaches 73% with valid category. Based on the results of validity test shows that the level of validity of contextual learning tools integrated Game TheBanna as a learning tool is valid and can be used in learning activities in the school.

Based on the results of research that has been done, then there are some suggestions proposed by researchers as follows.

1. For teachers, in improving learning motivation and students' cognitive outcomes teachers should be able to increase their creativity in developing learning tools equipped with appropriate learning strategies by utilizing the natural potential that exists in the area around as a learning resource to implement science learning contextually.
2. For other researchers who will be doing research with the same type, can develop integrated learning tools integrated educational games that are tailored to the material and needs in learning.

For further researchers, the results of research that has been implemented can be used as a basis for consideration in conducting further research activities that serve as an innovation in developing learning activities.

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