

DEVELOPMENT OF E-LKPD BASED ON THE SSCS (SEARCH, SOLVE, CREATE, AND SHARE) MODEL IN SCIENCE LESSONS FOR CLASS V STUDENTS IN ELEMENTARY SCHOOL

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Abstract

This study aims to develop an E-LKPD product based on the SSCS Model (Search, Solve, Create, and Share) in science subjects for fifth grade elementary school students. This study uses the Research and Development (R&D) method with a 4D development model. Research respondents were teachers and students of fifth grade elementary school. Data collection techniques in this study were carried out through interview instruments, questionnaires, observation, and documentation. The data analysis technique used descriptive qualitative and quantitative analysis. The results of this study indicate that the feasibility value by media experts gets a percentage of 93.75% in the very feasible category, the feasibility value by linguists gets a percentage of 80% in the appropriate category, and the feasibility value of material experts gets a percentage of 92.5% with the appropriate category. very worthy. Furthermore, the small group trial response showed 91.67% results or in other words the students gave a positive response. This shows that the E-LKPD based on the SSCS (Search, Solve, Create, and Share) model is very suitable for use in science subjects in fifth grade elementary school.

Keyword: E-LKPD; SSCS Model; IPA

INTRODUCTION

Learning can now be accessed through various sources by utilizing technology. Technology allows a person to learn without being limited by time and place. An educator is required to be able to design teaching materials that utilize technological developments in the learning process. In the learning process, the use of teaching materials is very important for students and teachers. Students will more easily understand the subject matter if the learning process is accompanied by complete teaching materials and teachers will have difficulty in increasing the effectiveness of their learning if they are not accompanied by complete teaching materials. A teacher is required to be able to design learning by utilizing various types of learning resources so that the learning process can run effectively (Sanjaya, 2015;

Atmojo, S. E., & Lukitoaji, B. D. 2022). Thus, developing teaching materials needs to be done by teachers as an effort to improve the quality of learning.

Teaching materials that can be used by teachers to create active and independent learning is to use Student Worksheets (LKPD). LKPD refers to the 2013 curriculum and the basic competencies that must be achieved (Purworejo, 2017) as well as to make students active, think scientifically and add to an experience. Educators can determine the appropriate learning model in order to achieve learning. The learning model used to instill critical, active, scientific thinking skills and train students to get direct experience in the problem solving process is the SSCS (Search, Solve, Create, and Share) model.

Based on the results of needs analysis with observation instruments on

teaching materials used in science subjects and interviews with teachers and fifth grade elementary school students, it was found that at the time of learning the teacher had not used teaching materials that involved students in solving a problem. In addition, learning is still dominated by the teacher while students are not actively involved in constructing their own thoughts. Therefore, it takes a Student Worksheet (LKPD) as a teaching material that makes students active to construct their own ideas about the concept of science subjects. Science subjects that contain natural phenomena need to be taught with teaching materials and learning models that are able to support students to get closer to these natural phenomena. The learning model that can be used as an alternative is the SSCS (Search, Solve, Create, and Share) model. According to Pizzini, the SSCS learning model can be implemented in science learning, providing an effective and creative way for students to learn science concepts, as well as problem solving skills in science (Pizzini et al., 1989).

The results of previous studies stated that the SSCS learning model was able to provide an influence in learning, such as the research conducted by Yasin, et al with the title "The effect of SSCS learning model on reflective thinking skills and problem solving abilities" revealed that the application of the SSCS learning model on reflective thinking skills mathematics and mathematical problem solving abilities of students have a high level of effectiveness (Yasin et al., 2020; Ananda, P. D., & Atmojo, S. E. 2022). In line with this research, the research conducted by Zulkarnain et al (2021) entitled "Effects of SSCS Teaching Model on Students' Mathematical Problem-solving Ability and Self-efficacy" which explains that the SSCS learning model has an effect on increasing students' mathematical problem solving abilities and efficacy. themselves (Zulkarnain et al., 2020). The results of previous research by Handican showed that learning with the SSCS model was better

than students who received conventional learning (Handican, 2018). Then, research conducted by Prawindaswari proves that there are significant differences in science learning outcomes between groups of students taught with the SSCS learning model and groups of students taught using conventional learning models (Prawindaswari, 2015; Anggriani, M. D., Haryanto, H., & Atmojo, S. E. 2022). However, based on the results of these studies, it shows that there is no research related to the SSCS learning model that is combined with E-LKPD.

This SSCS learning model refers to four problem-solving steps whose sequence starts from investigating the problem (search), planning problem solving (solve), constructing problem solving (create), and finally communicating the solution obtained (share) (Yasin et al., 2020). The SSCS model synthesizes the problem solving model into simpler steps that are suitable for use by elementary school students. This SSCS learning model has been studied by Meika, et al. It shows that the SSCS learning model can have a significant influence in efforts to improve students' mathematical problem solving abilities (Meika et al., 2021; Antika, L. T., & Mukarromah, A. 2021). This is because learning creates a conducive, active learning atmosphere, and increasing collaboration. In line with that, the SSCS learning model defines the role of students as active participants through questions to stimulate students' knowledge (Pizzini & Shepardson, 1991).

Based on the findings above, the researchers are interested in conducting a research entitled "Development of E-LKPD Based on the SSCS (Search, Solve, Create, and Share) Model in Science Subjects for Grade V Elementary School Students".

METHOD

This study uses the Research and Development (R&D) method with a 4D development model according to Thiagarajan and Sammel which includes four stages, namely Define, Design,

Develop, and Disseminate. However, the model was modified so that in this study it was only carried out until the Develop stage followed by expert validation tests. The purpose of this research is to develop an E-LKPD (Electronic-Student Worksheet) product based on the SSCS Model (Search, Solve, Create, and Share) in science subjects for fifth grade elementary school students. Respondents in this study were teachers and students of class V SD Laboratory PGSD FIP UNJ. The sampling used is purposive sampling.

This research was conducted at the SD Laboratory of PGSD FIP UNJ in February-April 2022. The research instruments used in this development were observation, interviews, questionnaires, and documentation. The data analysis technique used descriptive qualitative and quantitative analysis. Questionnaire data obtained from material expert validation questionnaires, media experts, linguists related to the feasibility of the SSCS Model-Based E-LKPD (Search, Solve, Create, and Share) as well as teacher and student response questionnaires to the attractiveness of the SSCS Model-Based E-LKPD (Search, ., Solve, Create, and Share) using the Linkert scale.

The feasibility level of E-LKPD is obtained by calculating the average of each assessment indicator on the validation sheet with the formula:

$$\text{Percentage} = \frac{\text{achieved score}}{\text{maximum score}} \times 100\%$$

The percentage results that have been obtained are then seen for the validity categories based on the following table:

Table 1. Eligibility Category

Percentage	Category
81% - 100%	Very Eligible
61% - 80%	Eligible
41% - 60%	Enough Eligible
21% - 40%	Not Worth it
< 21%	Not Eligible

RESULTS AND DISCUSSION

This research produces a product in the form of developing an E-LKPD based on the SSCS (Search, Solve, Create, and

Share) model on ecosystem materials to train students' science process skills which consists of three activities, namely Activity 1 with the topic of the relationship between food webs and ecosystems, Activity 2 with the topic of how to protect the ecosystem, and Activity 3 with the topic of a simple water purification experiment. The development of E-LKPD based on the SSCS model is carried out through three stages, namely the definition stage, the design stage, and the develop stage which will be described as follows:

1. Defining Stage

The define stage is the stage of defining the problem which consists of four steps, namely, (1) Needs analysis obtained through observation and interviews with teachers and students of class V Elementary School. Furthermore, information related to teaching materials, LKPD used in learning, and student interest in science learning will be obtained, (2) Student analysis found that students or users of E-LKPD products based on the SSCS model are students of class V Elementary School, (3) Material analysis, namely the material used is the ecosystem material contained in KD 3.5. The selection of ecosystem materials is adjusted to the 2013 curriculum and the use of E-LKPD based on the SSCS mode, and (4) Analysis of learning objectives is to formulate learning objectives based on the KD listed in the 2013 Curriculum regarding ecosystem subject matter adapted to the SSCS learning model.

2. Stage of Design

The design stage includes the selection of formats, selection of instruments, and making an initial design of the E-LKPD based on the SSCS model on the main material of the ecosystem. E-LKPD is divided into three activities, namely Activity 1 with the topic of the relationship between food webs and ecosystems, Activity 2 with the topic of how to maintain ecosystems, and Activity 3 with the topic of simple water purification experiments. These activities are designed using the stages in the SSCS learning

model, namely the Search stage, Solve stage, Create stage, and Share stage.

The E-LKPD validation instrument is arranged based on the category of feasibility of teaching materials according to the BSNP which consists of a validation sheet and a validation rubric. The user response questionnaire consists of a teacher response sheet and a student response sheet composed of several statements whose purpose is to find out the responses or responses of teachers and students to the use of LKPD during the learning process.

3. Development Stage

At this stage, it produces an E-LKPD product based on the SSCS model in science subjects that contains ecosystem material that has been developed then expert validation and trials are carried out. Validation is carried out to assess the feasibility of the E-LKPD by three experts, namely language experts, material experts, and media experts. The assessment covers aspects of content feasibility, characteristics of the SSCS model, language, presentation and graphics of the E-LKPD. Based on the results of the analysis of the feasibility value data by media experts, the average percentage value of 93.75% is in the very feasible category, the feasibility value by linguists gets an average percentage value of 80% in the appropriate category, and the feasibility value by material experts shows the average percentage value of 92.5% is in the very feasible category.

After the validation was completed and declared feasible by the experts, then a small group trial was conducted to obtain responses from users, namely students, to the use of the SSCS model-based E-LKPD. Small group trials were obtained through student response questionnaires given to students after learning activities using E-LKPD based on the SSCS model on ecosystem materials. Based on the results obtained, it can be seen that the students' responses to the SSCS-based E-LKPD that were developed were included in the very good category, namely 91.67% or in other

words, students gave positive responses. Based on the positive response, it can be concluded that the E-LKPD is based on the SSCS model on the final ecosystem material.

CONCLUSION

Based on the research that has been carried out, it can be concluded that an E-LKPD based on the SSCS (Search, Solve, Create, and Solve) model for science subjects has been developed using a 4-D development model. The quality of the E-LKPD based on the aspects of the linguistic test, material expert test, and media expert test has a value of 80%, 92.5%, and 93.75%, respectively, in the very valid category. Small group trials in the very good or decent category, namely getting an average percentage of 91.67%.

Suggestions that can be submitted based on the research that has been done are: (1) the results of this study can be used as a reference for teachers to carry out learning that fosters student independence and cooperation. In addition, teachers can be more innovative in applying the SSCS learning model in science subjects, (2) further research is needed to determine the effectiveness of E-LKPD teaching materials based on the SSCS model (Search, Solve, Create, and Share) in the classroom learning process. V SD which has been developed in this research.

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