

Development of Student Worksheets Based on The Search, Solving, Create and Share (SSCS) Learning Model to Improve Critical Thinking Skills in Biology Learning for Third Level (XII) of Senior High School SMA Negeri 1 Pantai Labu

Desvica Simanullang(*)¹, Ashar Hasairin Harahap², Martina Restuati²

¹Postgraduate Program Biology Education Study Program, Medan State University, Medan,

²Departemen of Biology Education Study Program, Medan State University, Medan, Jl. William Iskandar Ps. V, Kenangan Baru, District. Percut Sei Tuan, Deli Serdang Regency, North Sumatra, Indonesia, Postcode 20221

*Corresponding author: desvicasimanullang88@gmail.com

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Abstract

This project aims to (1) evaluated Student Worksheets (called as LKPD) based on Search, Solving, Create, and Share (SSCS) for material, design, and teacher response learning experts. (2) assess Search, Solving, Create, and Share (SSCS)-based Student Worksheets. This study used descriptive data analysis at SMAN 1 Pantai Labu. This Reserarch & Development follows Bord and Gall's development approach. The model has ten steps: research and information collection, planning, preliminary product development, preliminary field testing, main product revision, main field testing, operational product revision, operational field testing, final product revision, and final product revision. In 2023, Third Level (XII) students at SMA Negeri 1 Pantai Labu tested the Student Worksheets, which was developed at Medan State University. A validation expert team-approved Student Worksheets is the product, based on Search, Solving, Create, and Share. The material expert team rated the Student Worksheets "very good" based on the average percentage of 85.33%, design experts at 90.64%, learning design experts at 88.50%, teacher respondents at 93.06%, individual test of 82.50%, small group test of 90.73%, large group test of 93.36%, and t test value (tcount=3.468 and ttable=2.042). The Student Worksheets (LKPD) based on SSCS (Search, Solve, Create, and Share) models in Third Level (XII) biology was approved for classroom use.

Keywords: *Biology Learning, Critical Thinking Skills, Development, Student Worksheets (LKPD), SSCS model*



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INTRODUCTION

Active learning basically tries to strengthen and facilitate students' stimuli and responses in learning, so that the learning process becomes fun, not boring for them (Imamah, 2021). The primary objective of active learning is to enhance and facilitate students' responses and stimuli during the learning process, thereby ensuring that it is enjoyable and engaging

for them. The provision of active learning strategies to students can enhance their memory, thereby enabling them to successfully attain their learning objectives. Conventional learning pays less heed to this. Active learning is any educational approach that enables students to actively participate in the learning process, including interactions between students and instructors. The science learning process can be used to develop high-level thinking abilities, such as critical and creative thinking, according to (Zubaidah, 2010). In Indonesia, pupils continue to exhibit a low level of cognitive abilities. Not only are high-level reasoning skills employed during examinations, but they are also essential for the learning process. These abilities are crucial for students to establish connections between concepts and material, thereby enabling them to comprehend and resolve classroom issues (Beers, 2011).

The interaction between learning actions and instructional actions results in learning outcomes. The act of teaching concludes with the evaluation of learning outcomes from the teacher's perspective. Learning outcomes are the culmination of the term and the pinnacle of the learning process from the student's perspective (Dimiyati, & Mudjiono, 2013). Using appropriate material helps improve learning. Learning outcomes are changes in behavior, knowledge, and attitudes after independent study or learning (Arifin, 2017). Individual changes must improve the existing quo. Individual learning techniques affect cognitive, emotional, and psychomotor mental development. Teachers must choose and adapt media to learning material. Students learn better when they participate and use active learning tactics (Baharun, 2015)

One tool used to provide directed and systematic teaching materials is Student Worksheets (called as LKPD), which improve biology learning. According to the Ministry of National Education, LKPD sheets contain student tasks (Depdiknas, 2008). The LKPD includes the title, core competencies or fundamental competencies achieved, completion time, equipment/materials needed, brief information, activity phases, tasks, and reports. LKPD helps students complete curriculum-aligned activities. Curriculum learning activities include empirical learning. LKPD can also improve process skills, student engagement, and learning results. According to (Hendri, 2023) general benefits include: (1) assisting teachers in the preparation of lesson plans; (2) engaging students in the teaching and learning process; (3) assisting students in obtaining notes about the material to be studied through teaching and learning activities; (4) assisting students in adding information about the concepts studied through 16 systematic learning activities; (5) training students to discover and develop process skills; and (6) activating students in the development of concepts.

One of the biology professors at SMA Negeri 1 Pantai Labu told an interviewer on February 11, 2023, that they only used a textbook with learning content and no problem-solving activities. The book's plot doesn't encourage reflection or hypothesis testing. Poorly organized package texts discourage students from applying science process skills. Students' final semester evaluation scores are below 75 KKM. Research suggests that SMA Negeri I Tinambung Student Worksheets (LKPD) based on the Search, Solve, Create, and Share (SSCS) learning paradigm on ecological content may increase critical thinking and student learning. This makes instructive worksheets for students. Search, Solve, Create, and Share education. A Search, Solve, Create, and Share (SSCS)-based worksheet (LKPD) may increase critical thinking and biology learning for Third Level

(XII) semester 1 at SMA Negeri 1 Pantai. Possible validity problem in student learning outcomes, student responses, and teacher reactions.

The Search, Solve, Create, and Share (SSCS) learning model, which was devised by (Pizzini et al, 1988), challenges students to solve a daily-life problem using a work outcome. Additionally, model SSCS learning enhances learning. SSCS learning model benefits: (1) The teacher starts learning with actual challenges, which engages students. (2) Teachers provide students greater chances to discuss concerns and study in groups. (3) SSCS learning include discussions, experiments, and presentations to keep students engaged. The SSCS learning methodology requires students to actively discuss, analyze, and solve problems methodically. This SSCS paradigm encourages critical thinking and science comprehension. SSCS learning allows students practice problem-solving, explains Lartson. The SSCS model is comprised of four stages, as per (Pizzini, 1991) Following are the stages: search: students research the topic to identify questions, solve: students design investigations to solve problems, create: students prepare methods and present data to communicate problems, methods, and results, and share: students share their findings. Teachers can use this learning paradigm to get pupils to actively learn, interact, and get sensible results. Learning objectives depend on learning materials. By employing the Student Activity Sheet (LKPD) (Trianto, 2010), learning resources can facilitate the teaching and learning process activities that are crucial for students to develop their own knowledge.

In learning activities, the SSCS learning model is beneficial. SSCS learning model advantages: (1) The teacher presents real difficulties at the start of the learning process, which sparks interest. (2) Teachers give pupils additional group instruction and problem-solving possibilities. (3) SCSS lessons include conversations, experiments, and presentations to keep students involved and energized. The research and development of worksheet conducted by (Sanchia & Faizah, 2019) were developing worksheet based on SSCS to teach science process skills on Arthropoda material has enhanced students' study motivation. SSCS training was created. Students learn via teaching resources. SSCS materials should improve student growth and engagement across all areas. Teaching material based on SSCS has three parts: 1) Concepts, which explain the topic; 2) Student Worksheets (LKS), which provide directions and methods to accomplish a task; and 3) Evaluation Sheet (LE), which checks comprehension. SSCS-based learning aids help students succeed. Scientists learn with SSCS-LKPD. The researcher created worksheet (LKPD)-based SSCS for biology learning in MIPA SMA semester 1's Third Level (XII).

METHOD

This investigation was conducted in the XIIth grade of MIPA SMA Negeri 1 Pantai Labu. A model developed by Borg & Gall is employed in this development investigation. Development research is a method employed to create and verify educational products, as per (Borg and Gall, 1983). The process stages in research and development typically follow a consistent cycle to produce a specific product that meets the requirements of the customer. This process includes the initial design steps, the initial product trials, the identification of various weaknesses, and the subsequent testing and correction of the

product until a satisfactory product is determined. The research and development (R&D) approach in education comprises ten stages, as (Borg and Gall, 1983). Figure 1 illustrates the research procedures.

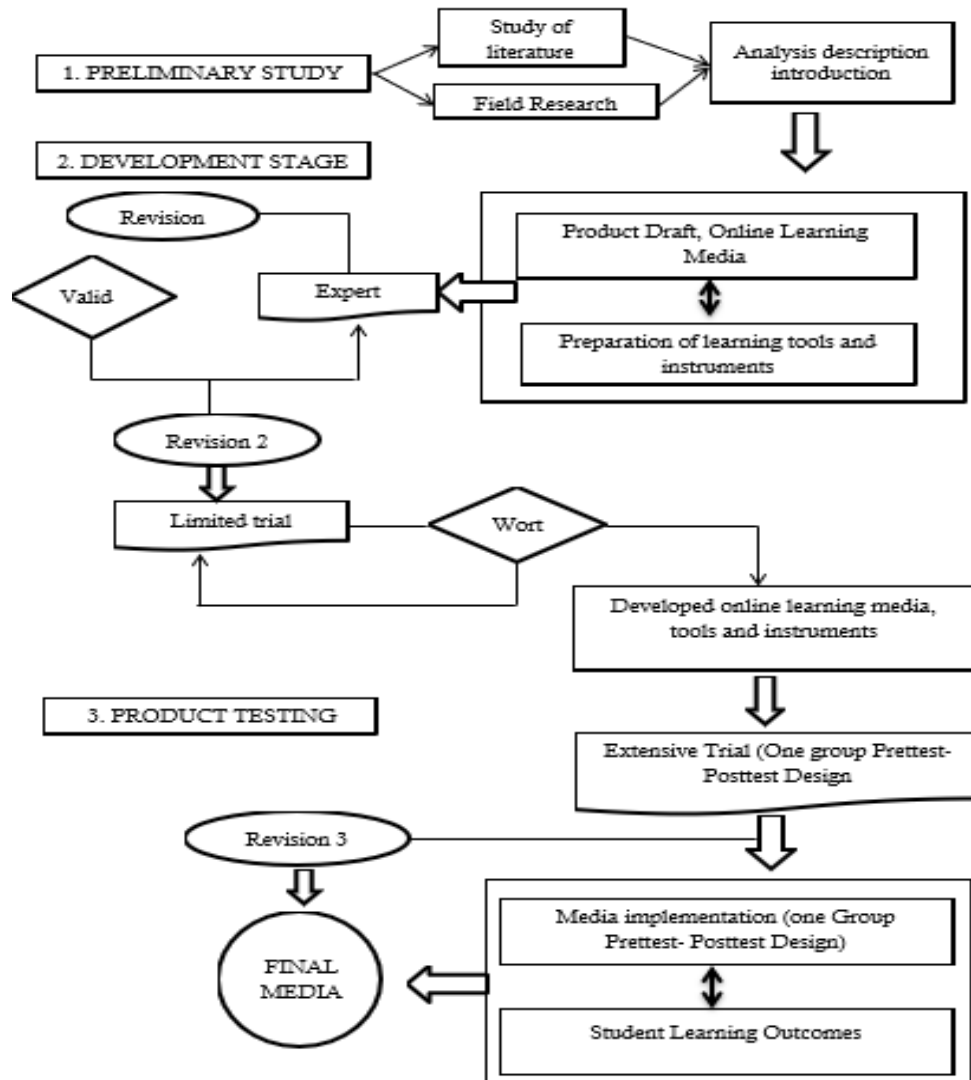


Figure 1. Research and Development Procedures (Arif & Muthoharoh, 2021)

Instruments

The data collection instruments employed in the development of this worksheet (LKPD) i.e validation questionnaire for material experts, validation questionnaire for material experts, biology teacher response questionnaire, student response questionnaire as follows,

Validation Questionnaire for Material Experts

The material team's validation questionnaire is designed to offer criticism or recommendations for the worksheet (LKPD)-based SSCS that is currently under development. The SSCS model, language, and the appropriateness of presenting worksheet material are the three assessment criteria that have been developed. Worksheet quality validation grid for material specialists.

Validation Questionnaire for Material Experts

The design expert team's validation questionnaire is intended to offer criticism or recommendations for the worksheet (LKPD)-based SSCS that is currently being developed. There are four assessment criteria that have been developed: skin design, skin topography, LKPD content design, and LKPD content illustration. Grids of superior quality for professionals in the field of design from LKPD.

Biology Teacher Response Questionnaire

We created surveys to see how biology teachers react to criticism or ideas for the product under development. Teachers will assess 4 indications of the worksheet (LKPD)-based SSCS: sufficient material presentation, practice questions, student learning activities, and SSCS-based learning components. The product's teacher response questionnaire grid uses the worksheet (LKPD)-based SSCS.

Student Response Questionnaire

Responses to questionnaires from students to worksheet in small group tests and limited field group tests. In order to ascertain students' opinions regarding the products that were being developed, a questionnaire was developed. In order to enhance the quality of student learning activities, students will evaluate four indicators of SSCS-based LKPD: appearance, quality of material coverage presentation, quality of practice questions in worksheet, and worksheet quality. For the product that has been developed, the student response questionnaire grid is a worksheet (LKPD)-based SSCS models.

Data analysis

Material Expert validation sheet

The research data is presented in the form of a validation scale that was obtained from material and design experts. The scale is structured as a Likert scale and is accompanied by a score. The Likert scale, as illustrated in Table 1, demonstrates the feasibility of a worksheet.

Table 1 Criteria for Answering Validation Instrument Items with Likert Scale (Sugiyono, 2015)

No.	Answer	Score
1	Very good/Strongly Agree	4
2	OK/Agree	3
3	Not good/Disagree	2
4	Not good/ Disagree	1

The data will be analyzed descriptively by calculating the percentage score for each criterion on the worksheet, which is generated using (Sudjana, 2005) the following formula:

$$P = \frac{\sum}{N} X 100 \%$$

Information

P = Percentage of category

\sum = Total score of the selected category

N = Total ideal score

$$\text{Score percentage} = \frac{\text{Total Scores per category}}{\text{Total category score}} \times 100 \%$$

Numbers are derived in the form of percent (%) from the results of calculations performed using the aforementioned formula. Then, qualitative sentences are employed to describe the ratings in accordance with Table 2.

Table 2. Content Eligibility Percentage Criteria worksheet which has been developed (Fimala et al., 2022)

Percentage Interval	Criteria	Description
81.25% < P ≤ 100%	Very good	The worksheet contents are prepared for use in the real world within the context of learning activities without the need for revision.
62.5% < P ≤ 81.25 %	Good	The worksheet contents are prepared for use in the real world within the context of learning activities, with only minor modifications.
43.75 % < P ≤ 62.5 %	Not good	In order to enhance the product, it is imperative to meticulously and comprehensively review the worksheet contents to identify any deficiencies.

Design Expert Validation Sheet and Teacher Assessment

The data obtained from the validation process conducted by design experts and teacher assessments on LKPD were evaluated using a scale instrument. Subsequently, the outcomes are examined utilizing the prescribed equation by (Sudjana, 2005):

$$P = \frac{\sum xi}{\sum x} X 100\%$$

Information

P = % Assessment

$\sum xi$ = Number of Validator/teacher Scores

$\sum x$ = Number of Highest Scores

Table 3. Percentage Criteria According to Indicators on LKPD by Design Experts and Teacher Assessment (Fimala et al., 2022)

Percentage Interval	Criteria	Description
81.25% < P ≤ 100%	Very good	The worksheet contents are prepared for use in the real world within the context of learning activities without the need for revision.

Percentage Interval	Criteria	Description
$62.5\% < P \leq 81.25\%$	Good	The worksheet contents are prepared for use in the real world within the context of learning activities, with only minor modifications.
$43.75\% < P \leq 62.5\%$	Not good	In order to enhance the product, it is imperative to meticulously and comprehensively review the worksheet contents to identify any deficiencies.
$25\% < P \leq 43.75\%$	Very less	The worksheet contents require significant revision.

Student Response Sheet

The formula can be employed to analyze the data collected from student responses to the worksheet (LKPD) guide by (Sudjana, 2005):

$$P = \frac{A}{N} \times 100\%$$

Information :

P = % Student responses

A = Total score for each respondent

N = Number of highest scores

Table 4. Criteria of Student Responses according to the worksheet indicators (Fimala et al., 2022)

Percentage Interval	Criteria	Description
$81.25\% < P \leq 100\%$	Very good	The contents of the LKPD are prepared for use in the real world within the context of learning activities without the need for revision.
$62.5\% < P \leq 81.25\%$	Good	The contents of the LKPD are prepared for use in the real world within the context of learning activities, with only minor modifications.
$43.75\% < P \leq 62.5\%$	Not good	In order to enhance the product, it is imperative to meticulously and comprehensively review the contents of the LKPD to identify any deficiencies.
$25\% < P \leq 43.75\%$	Very Not Good	The LKPD's provisions are fundamental and require significant revision.

RESULTS AND DISCUSSION

The following are the phases that have been completed in the development of SSCS-based LKPD (Search, Solve, Create and Share) in biology learning for Third Level (XII) MIA semester 1,

Preliminary Study (Research and Information Collecting)

The purpose of this preliminary investigation phase is to ascertain and identify requirements by evaluating the objectives and constraints of the material in the context of

the development of SSCS-based LKPD (Search, Solve, Create, and Share). As follows are the phases that have been implemented:

Problem analysis

The results of the questionnaire that was disseminated to 36 students in the class demonstrate that students acquire knowledge beyond the confines of the classroom, including outdoor study and nature exploration. The development of SSCS-based LKPD in learning is necessary, as indicated by the results of the LKPD requirements questionnaire analysis. Additionally, there are no specifics regarding the subject matter that is being instructed in the instructional materials. The management of critical thinking skills has not been effectively managed, and independent learning has not been completely implemented. Boredom and a lack of empowerment of students' critical thinking abilities are the result of the continued reliance on teachers as the primary source of information, and learning remains teacher-centered. The observations necessitated the development of LKPD for the purpose of biology education. (2) Assisting students in studying independently and in groups, particularly during classroom instruction; (3) Facilitating the comprehension of biology learning topics for Third Level (XII) MIA semester 1 by converting this LKPD into an additional LKPD for both students and teachers; (4) Providing students with examples of biology in their environment to facilitate their comprehension of biology learning for Third Level (XII) MIA semester 1.

Curriculum Analysis

The curriculum analysis revealed that the 2013 curriculum contains four core competencies, with core competency 3 being as follows: "Applying procedural knowledge in specific fields of study in accordance with their talents and interests to solve problems, as well as comprehending, applying, and analyzing factual, conceptual, and procedural knowledge based on curiosity about science, technology, arts, culture, and the humanities with insight." This includes exploring the complexities of nationality, statehood, and civilization in relation to phenomena and events".

Learner Analysis

According to Piaget's learning theory, pupils between the ages of 15 and 16 exhibit abstract thought processes. The LKPD that researchers will develop has the capacity to transition students from concrete to abstract reasoning. In order to foster critical thinking among students, the LKPD was devised to include concepts, theories, and methods of individual and group investigation.

Research Planning Stage (Planning)

The objective of this stage was to develop a LKPD (Search, Solve, Create and Share) on biology learning material for Third Level (XII) MIA semester 1 in accordance with the learning objectives that were established during the definition stage (SSCS). At this juncture, the following activities are underway: the preparation of Third Level (XII) biology material, the worksheet development of writing format, and the development of the initial design.

Initial Section

The sections contained in the initial section are:

- (1) LKPD Cover: The LKPD cover is a description of the type of LKPD, which is SSCS-based LKPD (Search, Solve, Create and Share). It is used in biology learning material for class picture about biology learning for Third Level (XII) MIA semester 1.

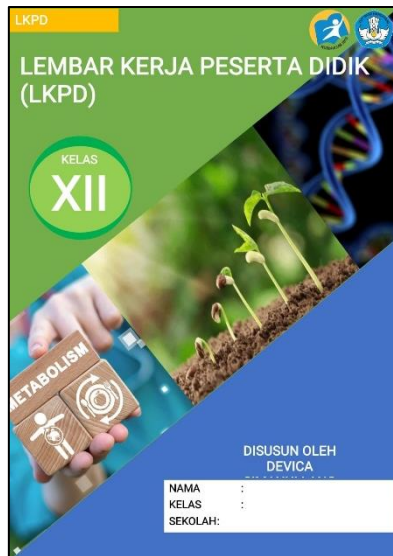


Figure 2. LKPD cover

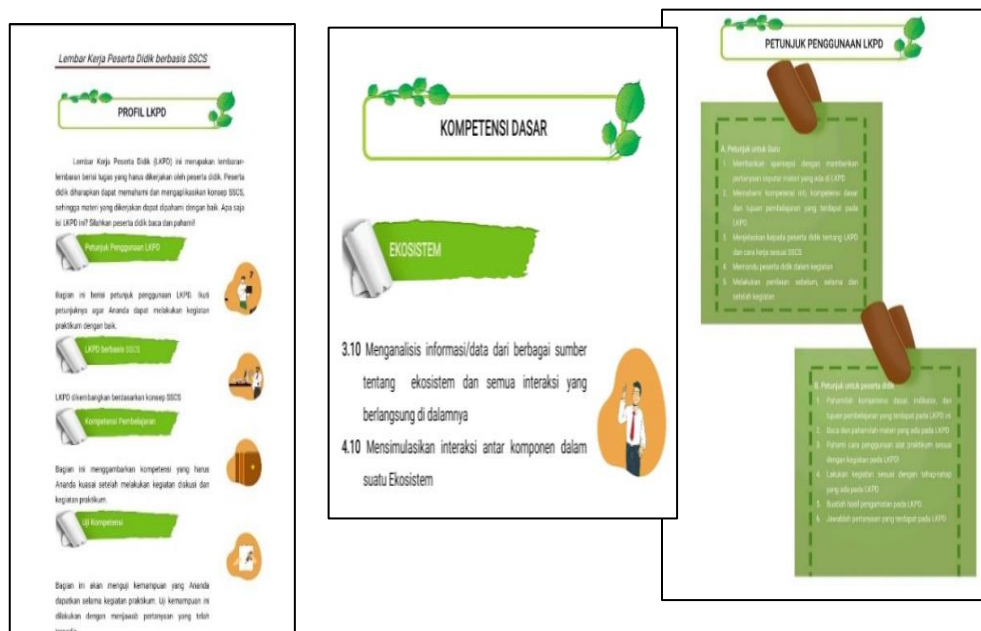


Figure 3. Snapshot of Worksheet Profile, Instructions for use and Basic Competencies

(2) Content/Material Section

This section comprises information regarding the study of biology for the first semester of Third Level (XII) at MIA. In addition to the content, this section includes supplementary information regarding the study of biology for the first semester of the XII MIA class. In the form of assignments that students can work on, there are student activities and general examples of each sub-chapter that is discussed. The examples and material in this LKPD are typically those that are frequently employed in LKPD packages or exemplified by educators. Theories concerning matter are also included in this intermediate section.

The teaching materials are organized in the form of a class biology learning LKPD XII MIA semester 1, which includes a foreword, table of contents, description of the LKPD biology supplement, guide for readers, competencies and objectives, materials, additional information, and character images.

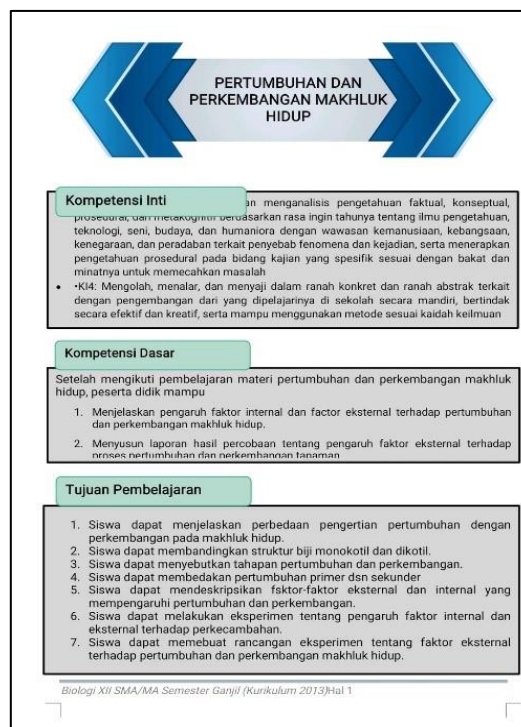


Figure 4. Snapshot of the contents of the LKPD

(3) Product Development Stages (Develop Preliminary of Product)

The objective of expert assessment (expert evaluation) is to produce a prototype that is scientifically valid. Three Biology Lecturers at Padang State University served as validators for the SSCS-based LKPD validation. The product planning that was conducted in the preceding stage is implemented during the development stage. The objective of this phase is to generate a final product of SSCS-based LKPD (Search, Solve, Create and Share) in biology education for Third Level (XII) MIA semester 1 that is suitable for use.

Material Expert Validation Result Data

The purpose of product validation is to ascertain the opinion of material experts regarding the suitability of the content, presentation, and SSCS components. This information will be used to enhance the quality of the LKPD that has been developed. The worksheet (LKPD) indicates that the content feasibility component is in the very excellent category, as indicated by the validation results of the material's content feasibility. In general, it can be inferred that the material expert's evaluation of the material's suitability meets the highest standards, specifically 88.67%. The attachment contains the validation results in the form of assessment scores that indicate the appropriateness of the learning material presented for Third Level (XII) MIA semester 1 biology. The LKPD indicates that the feasibility component of the presentation is in the high category, with a score of 85.33%, as indicated by the results of the validation of the feasibility of presenting the material.

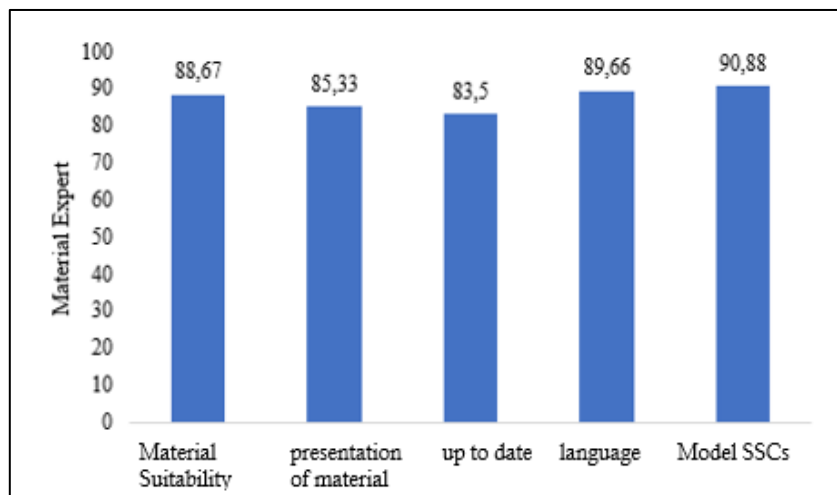


Figure 5. Average Material Expert Validation Results

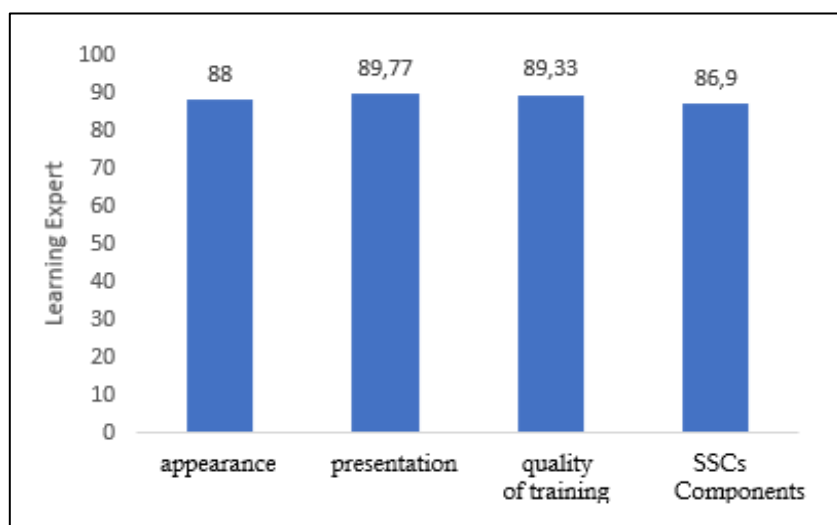


Figure 6. Average Learning Expert Validation Results

Learning Expert Validation Results Data

The purpose of product validation is to gain insight from learning experts regarding the quality of the exercises and SSCS components, as well as the appearance and presentation of the product. This information will be used to enhance the quality of the LKPD that has been developed. Validation scores for biology learning LKPD for Third Level (XII) MIA semester 1 are attached. The learning's feasibility validation shows that all four components score 88.50% very good. Table 5 details data before and after design revisions.

Table 5. Results of Revision of LKPD for Biology Learning for Class XII MIA

NO	Before Revision	After Revision
1	Each activity that is generated must emphasize the SSCS model.	Already repaired
2	In order to facilitate the learning process for students, it is necessary to provide them with clear instructions for utilizing LKPD.	Already repaired
3	To ensure that instructors and students are aware of the learning objectives, it is essential to demonstrate basic competencies at the outset.	Already repaired
4	It is necessary to reevaluate the consistency of the margin space between paragraphs.	The consistency of margins and spacing between paragraphs has been improved
5	The font of the chapter contents does not correspond with the font at the commencement of each chapter title.	The font at the beginning of each chapter title has been corrected
6	If LKPD is included in the teaching materials, it is necessary to create a GLOSSARY at the conclusion.	Already repaired
7	The contents and font type of the LKPD's footer should be distinct.	The footer font type and contents of the LKPD are different
8	Please be mindful of any typographical errors.	typos have been corrected

Data from Teacher and Student Respondents

The LKPD that will be employed in this field test has been revised in accordance with the research data collected during the trial. Biology instructors and students were subjected to field tests.

Results of LKPD assessment by Biology Subject Teacher

The assessors evaluate SSCS-based LKPD (Search, Solve, Create, and Share) in biology learning for Third Level (XII) MIA semester 1 to improve the LKPD. Search, Solve, Create, and Share will be assessed by the reviewer. The reviewer's validation results in Appendix 4 rate the SSCS (Search, Solve, Create, and Share)-based LKPD in biology learning for Third Level (XII) MIA semester 1 as "Very Good". Mean score is 93.06%.

LKPD Assessment ResultsSSCS based (Search, Solve, Create and Share)by Students (Individual Trial)

The students will evaluate the components that are the outcome of individual trials, including the extent to which the LKPD developed affects learning activities in the classroom and the SSCS components. The SSCS (Search, Solve, Create and Share) based LKPD in biology learning for Third Level (XII) MIA semester 1 is in very good criteria, as evidenced by the results of individual trials, with an average percentage of 82.50%.

Table 6. Individual Test Results by students

Individual Assessment	Students (6 people)					
	1	2	3	4	5	6
% evaluation	75	83.75	87.5	76.25	91.25	81.25
Average % rating	82.50 %					
Criteria	Very good					

LKPD Assessment ResultsSSCS based (Search, Solve, Create and Share)-Small Group Trial

The small group students will evaluate the following components: the extent to which the LKPD developed impacts classroom learning activities and the SSCS components. The SSCS (Search, Solve, Create and Share) based LKPD in biology learning for Third Level (XII) MIA semester 1 is in very good criteria, as evidenced by the results of small group trials, with an average percentage of 90.73%.

Table 7. Results of Small Group Trials by Students

Limited Group Assessment	Students (20 people)
Total Score	1379
Average % rating	90.73
Criteria	Very good

LKPD Assessment Results SSCS based (Search, Solve, Create and Share)-Limited Group Trial

Biology students were the subjects of a restricted group trial. This experiment was conducted on fifty students. The objective of this group trial is to generate data that will be subsequently employed to determine the extent to which pupils benefit from and respond to the LKPD. The SSCS (Search, Solve, Create and Share) based LKPD in biology learning Third Level (XII) MIA semester 1 is in very good criterion, as evidenced by the results of individual trials, with an average percentage of 93.36%.

Table 8. Assessment of Limited Group Trials by Biology Students

Limited Group Assessment	Students (50 people)
Total Score	3396
Average % rating	93.36
Criteria	Very good

LKPD Effectiveness Test SSCS based (Search, Solve, Create and Share)

Multiple-choice objective test research instruments can be employed to determine the results of the pretest and posttest for the students. With a total of 20 instrument objects, each containing a unique set of multiple-choice questions. Secondly, the pretest and posttest were selected from two distinct classes: the control and experimental classes.

Homogeneity

We conducted data homogeneity analysis on the pretest data from the experimental class at the research location. Table 9 provides the following explanation of the homogeneity of data for each group. According to the data above, the homogeneity value for the pretest is 0.331, and for the posttest it is 0.240, both of which are greater than 0.05. Consequently, it can be inferred that the data in this study is homogeneous.

Table 9. Homogeneity data description

		Test of Homogeneity of Variance			
		Levene Statistics	df1	df2	Sig.
Pretest	Based on Mean	11,437	1	70	,331
Posttest	Based on Mean	20,831	1	70	,240

Normality

Data normality is employed to verify the normality of the data. The results of the normality data can be displayed in the table. Table 10 displays the normality data in both experimental and control conditions, as well as the corresponding explanations for each group. The homogeneity value in the pretest and posttest is greater than 0.05, as indicated by the data results. Consequently, it can be inferred that the data in this study is normal.

Table 10. Normality data description

		Tests of Normality					
		Kolmogorov-Smirnov			Shapiro-Wilk		
class		Statistics	df	Sig.	Statistics	df	Sig.
pretest	control	,199	36	,091	,878	36	,001
	experiment	,233	36	,112	,814	36	,000
posttest	control	,320	36	,076	,765	36	,000
	experiment	,232	36	,200	,868	36	,000

a. Lilliefors Significance Correction

Hypothesis test

The t-count and t-table results are compared to compute the data from hypothesis testing. Utilization of posttest data to calculate and verify research hypotheses. The posttest data in the control and experimental classes is known to be $t = 3,468$ and t table = 2,042, respectively. This implies that the utilization of SSCS (Search, Solve, Create and Share) -based LKPD in the biology curriculum of Third Level (XII) MIA semester 1 has a positive impact on the development of students' critical thinking abilities.

The efficacy of the LKPD used is determined by the N-Gain test. The N-gain score test is conducted by determining the discrepancy between the pretest and posttest scores. Table 11 below displays the results of the n-gain score test conducted in this study. The N-Gain value for the experimental class has an average percentage of 0.25, as indicated by the table above. This indicates that the score falls within the medium category. Conversely, the control class's N-Gain value is classified as low, with an average percentage of 0.23. From this data, it is evident that the LKPD founded on SSCS (Search, Solve, Create and Share) is not being effectively utilized for learning.

Table 11. N-Gain Score Test Results Data

Class	N-Gain Score
Experiment	0.25
Control	0.23

CONCLUSION

The suitability of the material from the SSCS (Search, Solve, Create and Share) Class Feasibility by learning experts of the presentation of LKPD Biology learning for Third Level (XII) MIA semester 1 based on SSCS models was determined by the results of the research and discussion. The biology teacher's assessment questionnaire for the biology learning worksheet for Third Level (XII) MIA semester 1 based on SSCS was rated as very good by both teacher and student respondents. The effectiveness of the standard LKPD for biology learning for Third Level (XII) MIA semester 1 based on SSCS was tested. Utilization of posttest data to calculate and verify research hypotheses. It is recognized that the posttest data in the control and experimental classes is $t = 3,468$ while t table = 2,042. Based on the calculations, it is evident that the scores of students in the worksheet (LKPD) of biology learning on Third Level (XII) MIA semester 1 have increased for critical thinking skills as measured by SSCS models.

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