The Effect of Search, Solve, Create, And Share (SSCS) Learning Models Assisted Multimedia Interactive to Improve Creative Thinking Ability and Student Learning Outcomes

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Abstract: The educational curriculum facilitates students to improve their abilities in dealing with the 4.0 era, where students are asked to get used to solving problems, critically, and creatively. The purpose of this study was to determine the effect of the Search, Solve, Create, and Share (SSCS) Learning Model Assisted by Interactive Multimedia to improve Creative Thinking Ability and Learning Outcomes of MAN 1 Mataram Students. The type of research used is a quasi-experimental (quasi-experimental). Place and Time of Research The research was conducted at MAN 1 Mataram. The study was conducted from 12 February to 17 April 2022. The population in this study were all students of class X MAN 1 Mataram which consisted of 2 classes with a total of 64 people. The steps taken in experimental research are: (1) giving a pretest to both groups; (2) perform the treatment by applying the interactive multimedia assisted SSCS model in the experimental group and the SSCS learning model in the control group; (3) give posttest to both groups. The research design used a nonrandomized control group pretest-posttest design. The analytical technique used is SPSS consisting of Levene univariate homogeneity test, Kolmogorov Smirnov normality test. Furthermore, the analysis of the effect of treatment on each group uses the paired t-test with the condition that the decision is made if the value of Sig <0.05. The last step is to test the difference in the final ability in the two classes using an independent t test with the condition that the decision is made if the value of Sig < 0.05. The results showed that the results of the difference test in the control group and the experimental group showed that there was an effect of using the Search, Solve, Create, and Share (SSCS) Model.

Keywords: Search, Solve, Create, and Share (SSCS); Interactive multimedia; Creative thinking; Learning outcomes

Introduction

Creative thinking is an ability that must be possessed to face the life of the 21st century. Creative thinking is a person's skill in analyzing new information, and combining unique ideas or ideas to solve a problem (Widana et al., 2020; Hsia, 2021). According to Retnawati et al., (2018) the ability to think creatively can be seen from the expertise in analyzing a data, as well as providing various problem-solving responses. High creativity indicates that someone has been able to think creatively (Aini et al., 2020; Takase, 2020). Complex thinking branches into cognitive and non-cognitive thinking. Creative thinking indicators include five indicators, namely: (1) Fluency thinking, the achievement of this indicator students can find answer ideas to solve problems; (2) flexible thinking, the achievement of this indicator students can provide varied solutions (from all angles); (3) Thinking original (original thinking), the achievement of this indicator students can produce unique answers (using their own language or words that are easy to understand); and (4) elaboration ability (Perry, 2017).

Research Kurniawati et al., (2022) explains that the ability to think creatively in Indonesia is still low, this fact can be confirmed from the results of The Global Creativity Index in 2015, Indonesia is ranked 115 out of 139 countries. The low competence of students' creative thinking, due to the teacher's lack of training in students' creative thinking competence, this is confirmed by the responses of students who tend to memorize not understanding concepts, because the language given tends to be the same as that in books (Ibrahim et al., 2017). Research Bahtiar & Ibrahim, (2022) states that students' creative thinking competence on flexibility and elaboration indicators is still low. In line with research which also states that the indicators of flexible and elaborative thinking have a low percentage, compared to indicators of fluent and original thinking. One of the learning models that can bridge the improvement of students' creative thinking skills is the Search, Solve, Create, and Share (SSCS) learning model (Susilawati & Rosidah, 2020).

The Search, Solve, Create, and Share (SSCS) learning model is the SSCS learning model is a simple and practical model to be applied in learning because it can involve students actively at every stage. At the search stage, students are involved in collecting ideas and asking questions and formulating the problems given. In the solve stage students are involved to solve the problems found. At the create stage, students are involved in concluding the answers they have found. While at the share stage students are involved to present the results of their answers (Nastiti et al., 2017; Sartika, 2020). Each stage of learning with the SSCS model can involve students investigating new situations, thinking about several questions, and solving problems realistically. So that the SSCS learning model can encourage students to think creatively in every learning process (Harahap et al., 2019; Rosalia, 2019). The SSCS model of learning provides a great role for students to encourage students to think critically, creatively, and independently. Thus it will increase students' learning motivation which will ultimately affect students' mathematics learning outcomes (Della, 2018; Nuryani, 2019). In addition, this learning model can be combined with the use of interactive multimedia that supports student learning success.

The use of interactive multimedia is expected to stimulate students' thoughts, feelings, interests, and attention in such a way that the learning process can be more optimal. This is important because there are various ways students process unique information (Bahtiar et al., 2022; Maimun & Bahtiar, 2022). Some find it easier to process visual information, some find it easier with sound, and some will understand easily or get better with practice. Several previous studies have also shown several advantages of interactive multimedia in learning. Research conducted by (Nugroho, 2019;

Bahtiar et al., 2022) that interactive multimedia can facilitate students to increase their curiosity and activeness in learning by doing, experiencing, and associating. Experts find different phenomena to improve science process skills. mobile-based interactive learning multimedia is more effective for improving science process skills among students who learn to use mobile-based interactive learning multimedia and classical models with student books (Takeuchi, 2010; Ariani, 2021; Komalasari, 2019).

Based on observations made by researchers through observations at MAN 1 Mataram, class X students of social science subjects that in social science learning, namely the lack of creative thinking skills, due to ongoing learning tends to use conventional learning, namely the lecture method in the learning process. Based on research conducted by Kurnia & Bahtiar, (2015; Radford et al., (2011) at the junior secondary level, data obtained from the level of students' creative thinking skills as much as 2.73% were at the high level of creative thinking skills, 15.45% were moderate levels of creative thinking skills, 46.36 % the students' creative thinking skills were low and 35.45 % the level of students' creative thinking ability is very low. In addition, education in Indonesia is still lacking in supporting the development of children's creative thinking skills, especially in the fields of mathematics and science (Ahyansyah et al., 2020; Bahtiar & Ibrahim, 2022; Rahmatullah et al., 2022).

Learning that was previously centered on the teacher, must go to the center of learning for students. Where the teacher's role is only as a facilitator, learning designer, and learning manager (Bahtiar & Ibrahim, 2022; Ahyansyah, 2019). So that students and teachers are more actively involved in learning so that learning is not considered boring, uninteresting, unpleasant, and not scary for students. Meanwhile, students are also encouraged to be creative in interacting with fellow friends, teachers, lesson materials and all learning aids, so that learning outcomes can improve.

One alternative that is used to develop students' creative thinking skills is by learning that provides challenges to children, namely. The application of learning by providing experience encourages students to monitor their ability to plan and monitor learning outcomes related to the level of mastery of learning materials and success and complete their tasks well. A strong will to learn and setting learning goals will encourage every student to study hard. The search, solve, create, and share (SSCS) learning model is assisted by interactive multimedia to improve students' creative thinking skills and learning outcomes.

Several studies on the SSCS learning model are according to Damayanti, (2020) that the mathematical creative thinking ability of students who are taught with the SSCS learning model is better than students who are taught using the conventional learning model. Thus,

there is an influence of the SSCS learning model on students' mathematical creative thinking abilities. Fikrah, (2018) in the results of his research said that the average mathematical problem-solving ability of students who were taught using the sscs learning model was significantly higher than the average mathematical problem-solving ability of students who were taught using conventional learning models. so it can be concluded that the sscs learning model has an effect on the mathematical problem solving ability of class students. Auliya (2019) also stated that critical and creative thinking skills are needed by individuals to be able to compete with the global community, which includes the ability to make decisions in solving problems. One of the efforts to develop students' critical and creative thinking skills is by applying innovative learning models in the classroom, the SSCS learning model is a learning model that trains students to be able to solve problems.Based on the description above, it is necessary to research the effect of the Search, Solve, Create, And Share (SSCS) Learning Model Assisted by Interactive Multimedia on Creative Thinking Ability and Student Learning Outcomes at MAN 1 Mataram.

Method

The type of research used is a quasi-experimental (quasi-experimental). This design uses two treatment groups. The experimental group was given treatment by applying the Search, Solve, Create, and Share (SSCS) model with interactive multimedia assistance, while the control class only used the Search, Solve, Create, and Share (SSCS) model without interactive multimedia applied in schools. Place and Time of Research The research was carried out at MAN 1 Mataram. The study was conducted from 12 February to 17 April 2022. The population in this study were all students of class X MAN 1 Mataram which consisted of 2 classes with a total of 64 people.

The steps taken in experimental research are: (1) giving a pretest to both groups; (2) perform the treatment by applying the interactive multimedia assisted SSCS model in the experimental group and the SSCS learning model in the control group; (3) give posttest to both groups. The research design used a nonrandomized control group pretest-posttest design.

Table 1. Schematic of Nonrandomized Control Group, Pretest–Posttest Design

Group	Pretest	Independent Variable	Posttest
C	YC	A	ZC
E	YE	B	ZE

Information:
E   : Experimental Group
C   : Control Group
YE   : Pretest experimental group

Yc   : Control group pretest
A   : Treatment with SSCS Model
B   : Treatment with Interactive Multimedia-assisted SSCS Model
ZE   : Experimental group posttest
ZC   : postcontrol group test

The data in this study are the results of tests of creative thinking skills and student learning outcomes. Data were collected using pretest and posttest techniques. The instrument used in this research is a test instrument in the form of a description to measure creative thinking skills and student learning outcomes.

The analytical technique used is SPSS consisting of Levene univariate homogeneity test, Kolmogorov Smirnov normality test. Furthermore, the analysis of the effect of treatment on each group uses the paired t-test with the condition that the decision is made if the value of Sig <0.05. The last step is to test the difference in the final ability in the two classes using an independent t test with the condition that the decision is made if the value of Sig < 0.05.

Result and Discussion

This research is quantitative research that aims to determine the effect of the Search, Solve, Create, and Share (SSCS) Learning Model Assisted by Interactive Multimedia to improve Creative Thinking Ability and Learning Outcomes of MAN 1 Mataram Students. Collecting data on students' creativity abilities and learning outcomes using pretest and posttest questions.

The pretest and posttest data that have been collected are then tabulated and prerequisite analysis is carried out before testing the hypotheses of this study. The results of the prerequisite test showed that the data on creativity ability and student learning outcomes were homogeneous and normally distributed. This indicates that the data can be used to test hypotheses using parametric statistics. The data from the hypothesis test results are explained as follows.

Paired t-test on the control group
1.   Paired sample t-test creative thinking
Table 2. Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest BK Control	71.84	32	3.629	.641
	BK Control Posttest	78.62	32	4,006	.708

Based on Table 2, it is known that there is an increase in the average value between before and after being given treatment in the control group. The mean value of the pretest in the control group was 71.84 and

the average value of the post-test in the control group was 78.62. This means that there is an increase in the average value of 6.78. The number of students who took part in the pretest and posttest were 32 people. The standard deviation of the control group was 3.629 with an average standard error of 0.61 and the standard deviation of the posttest group was 4.006 with an average standard error of 0.708.

Based on the result of paired sample t test, that the average value is -6.781, standard deviation is 5, 222, the standard error is 0.923, and the significance value is 0.000 <0.05 so it can be concluded that there is an effect of treatment on students' creative thinking skills at control group.

2. Paired Sample T-Test Learning Outcomes
Table 3. Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest HB Control	78.34	32	4.653	.823
	HB Control Posttest	79.22	32	3.129	.553

Based on Table 3, it is known that there is an increase in the average value between before and after being given treatment in the control group. The mean value of the pretest in the control group was 78.34 and the average value of the post-test in the control group was 79.22. This means that there is an increase in the average value of 0.88. The number of students who took part in the pretest and posttest were 32 people. The standard deviation of the control group was 4.653 with an average standard error of 0.823 and the standard deviation of the posttest group was 3.129 with an average standard error of 0.553.

Based on the result of the paired sample t test, that the average value is -0.85, the standard deviation is 4, 956, the mean standard error is 0.876, and the significance value is 0.326> 0.05 so it can be concluded that there is no effect of treatment on learning outcomes. in the control group.

Results of Paired T-Test on the Experiment Group
1. Paired Sample T-Test Creative Thinking
Table 4. Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Experimental BK Pretest	72.91	32	3.186	.563
	Experimental BK Posttest	91.19	32	4.381	.774

Based on the Table 4, it is known that there is an increase in the average value between before and after

being given treatment in the experimental group. The average pretest value in the experimental group was 72.91 and the post-test average value in the experimental group was 91.19. This means that there is an increase in the average value of 18.28. The number of students who took the pretest and posttest were 32 people. The standard deviation of the experimental group was 3.189 with an average standard error of 0.563 and the standard deviation of the posttest group was 4.381 with an average standard error of 0.774.

Based on the result of paired sample t-test, the average value is -18.281, the standard deviation is 5.543, the mean standard error is 0.980, and the significant value is 0.000 <0.05 so it can be concluded that there is an effect of treatment on students' creative thinking abilities in the group. experiment.

2. Paired Sample T-Test Learning Outcomes
Table 5. Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest HB Experiment	79.00	32	4.421	.782
	HB Experiment Posttest	91.53	32	4.635	.819

Based on the Table 5, it is known that there is an increase in the average value between before and after being given treatment in the experimental group. The average pretest value in the experimental group was 79.00 and the post-test average value in the experimental group was 91.53. This means that there is an increase in the average value of 11.53. The number of students who took the pretest and posttest were 32 people. The standard deviation of the experimental group was 4.421 with an average standard error of 0.782 and the standard deviation of the posttest group was 4.635 with an average standard error of 0.819.

Based on the result of paired sample t-test, the standard deviation is 6.623, the mean standard error is 1.171, and the significant value is 0.000 <0.05, so it can be concluded that there is an effect of treatment on student learning outcomes in the experimental group.

Independent Sample T-Test for Creative Thinking
Table 6. Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Significant(2-tailed)
Creative Thinking Posttest	2.454	.122	-11,97	62	.000
			-11,97	61.51	.000

Based on the results of the independent sample test analysis table, the significance value is 0.000 <0.05,

meaning that there is a significant difference between the two classes in students' creative thinking abilities after treatment.

The results of this test are supported by research conducted by (Amelia, 2019; Nasihah, 2020; Tiyaswati, 2021) that creative thinking skills can be improved through interactive multimedia-assisted learning. In line with the results of research by Yasin (2020) that creative thinking skills can be improved through innovative learning, one of which is by implementing interactive media and using learning models that provide opportunities for students to practice and develop problem solving skills such as the SSCS model.

Independent Sample T Test for Learning Outcomes
Table 7. Independent Samples Test

	Levene's Test for Equality of Variances				t-test for Equality of Means	
	F	Sig.	t	df	Significant(2-tailed)	Mean Difference
Posttest Learning Results	8.905	.004	-12.455	62	.000	-12.312
			-12.455	54.394	.000	-12.312

Based on the Table 7 of independent analysis of the sample test, the significance value is 0.000<0.05, meaning that there is a significant difference between the two classes in student learning outcomes after treatment. Based on the table of independent analysis of the sample test, the significance value is 0.000 <0.05, meaning that there is a significant difference between the two classes in student learning outcomes after treatment.

The results of this test are in line with the results of the study Riani, (2017); Sukariasih (2019); Takda et al., (2021) stated in the results of his study that the learning outcomes of students who were given SSCS learning assisted by interactive media were better than those given conventional learning. In the SSCS method students are faced with a scientific process so that they need to think systematically to solve a given problem, so as to improve overall learning outcomes. In research Phonna (2021) that the application of the SSCS model needs to be repeated through several stages.

The results of the study indicate that the results of the study indicate that the SSCS learning model can streamline the teaching and learning process in the classroom so that (1) Improve student learning outcomes which is marked by an increase in the average student learning outcomes in cycle 1 which is 71.37 and increases in cycle 2 to 77 ,14. Classical completeness in the first cycle is as many as 16 students or (51.6%), in the second cycle students completeness reaches 24 students or (77.42%). (2) The activity of students who experienced an increase in cycle I and cycle II were 53.57% (quite active) to 85.71% (very active). Research was also conducted by

Muspidayanti et al., (2022) that in the first cycle the teacher did not provide guidance to the students so that the students did not dare to express their opinion, while in the second cycle the students had the courage to express their opinion with the help and guidance of the teacher which indicated the existence of a teaching and learning process that resulted in changes as learning outcomes that showed the learning objectives were achieved by Thus, the application of the SSC learning model can improve students' science learning outcomes.

Conclusion

Based on the results of the research and discussion, it can be concluded that the control group (Class XA) shows that there is an effect of the search, solve, create, and share (SSCS) learning model in improving the creative thinking skills of class XA MAN 1 Mataram students and there is no effect of the search learning model, solve, create, and share (SSCS) in improving student learning outcomes in class XA MAN 1 Mataram. Meanwhile, the experimental group (class XB) showed that there was an effect of the search, solve, create, and share (SSCS) learning model assisted by interactive multimedia in improving creative thinking skills and student learning outcomes in class XB MAN 1 Mataram. The results of the difference test in the control group and the experimental group showed that there was an effect of using the Search, Solve, Create, and Share (SSCS) Model.

Acknowledgements

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