

Googling Model based on Interactive Multimedia for Elementary School Students



Aslamiah¹, Wahdah Refia Rafianti², Celia Cinantya³, Rizky Amelia⁴
Universitas Lambung Mangkurat, Indonesia

ABSTRACT: This study aims to develop an interactive multimedia-based Googling learning model for elementary school students in Banjarmasin City. The research method used is Research and Development (R&D). The subject of this study was a Grade IV student at SD Surgi Mufti, Banjarmasin. Data collection techniques through questionnaires, observations, and tests. The data analysis technique used is a descriptive analysis using tables and graphs. The feasibility testing results of this interactive multimedia-based googling learning model product are categorized as feasible because the effects of media validation testing, materials, and individual and small group tests show excellent categories. In terms of practicality, the development of this learning model is categorized as very good because the score category of learning implementation results and learning activities of class students has a range between 3.5–4.0. Googling model can train and develop students' ability to think critically, become more active and passionate in learning, and train student cooperation in discussions. The interactive multimedia-based googling model clarifies the presentation of the material, overcomes the limitations of space, time, and sensory power, and can overcome students' passive attitudes.

KEYWORDS: googling model, interactive multimedia, learning, elementary school

I. INTRODUCTION

Education in the 21st century demands a balance between technology and learning (Bilyalova et al., 2019). The expected learning is innovative, creative, collaborative, and student-centered learning (Baroya, 2018). In the learning process, 21st-century skills known as 4C, namely critical thinking, creativity, communication, and collaboration (Boholano, 2017; Kuhlthau et al., 2015). The application of 4C in learning will tremendously impact the nation's next generation to face life's challenges in the 21st century (Sugiyarti et al., 2018). It also reveals that globalization relates to all aspects of life, including the social sphere (Nganga, 2019). The statement signalled that Social Science education in the global world is still needed. In elementary schools, social sciences examine events, facts, concepts, and generalizations related to social issues (Kurki & Wight, 2013). Social sciences aim to form a citizen who is socially capable and confident in his own life amid physical and social strength, becoming a good and responsible citizen of Java (Widodo et al., 2020).

Social sciences learning is essential in directing children to become democratic, responsible, and peace-loving citizens of the world (Bennett et al., 2017). That is in line with the objectives according to BNSP that social sciences learning aims to make students have the following abilities: (1) Get to know concepts related to the life of society and its environment, (2) have the essential ability to think logically and critically, curiosity, inquiry, problem solving, and skills in social life, (3) m Have commitment and awareness of social and human values, and (4) have the ability to communicate, cooperate and compete in a plural society, at the local, national and global levels (Azizah, 2021).

Social sciences learning should include optimally developing students' potential through debriefing and providing broad learning opportunities to develop knowledge, attitudes, moral values, and social skills (Aslamiah et al., 2021). In reality, which seems to occur in the field, it shows a pattern of mere knowledge transfer. The teacher only seeks to transfer the knowledge in his head to the head of the student without giving the student adequate opportunities to develop his potential. This condition gives birth to opinions and assumptions that social sciences are boring subjects and less challenging for students to learn. Many teachers assume that social sciences learning is to teach facts and historical knowledge to students. That resulted in social sciences being less popular and becoming a "second grade" subject in the eyes of students and parents of students (Lasmawan, 2009).

Many found behavioural deviations that are contrary to social values. The attitude of not wanting to appreciate differences, individualists, and intolerants is natural among elementary school students (Oktaviyanti et al., 2016). The attitude of tolerance is essential in maintaining the unity and unity of the nation. Social sciences education, as value education, cannot give meaning to students' lives. The learning of social sciences in elementary schools has been more emphasized on mastering as many materials/subject matter as possible so that the learning atmosphere is rigid and centered in one direction and does not provide

Googling Model based on Interactive Multimedia for Elementary School Students

opportunities for students to learn more actively. It indicates that the mission of learning social sciences to form good citizens can be said to be a failure. One of the causes of social sciences learning failure caused by a less innovative learning model (Indraswati et al., 2020). It is difficult to change the paradigm of social sciences education as an uninteresting subject among students. That is inseparable from using learning methods and ways of presenting social sciences material in the classroom that tends to memorize without meaning (Fanny, 2019). The learning culture is more characterized by rote memorization than the culture of thinking. Students consider social sciences lessons memorization lessons only (Novita14 & Maksum, 2020).

This condition is seen not only in student behaviour but especially in teachers' and school leadership policies and parents' expectations. As a result, the learning process emphasizes mastering as much material as possible, so that lecture methods are more widely carried out and seen as more effective in achieving these goals. In contrast, multimedia learning is seen as an innovation in social sciences, especially in elementary schools that have not been widely socialized (Gunawan, 2016). The learning process of social sciences subjects and the facilities owned by schools have not been optimized for their use to support learning. Therefore, teachers must have innovation, especially in increasing student activities in learning so that students have created learning and can think critically. These skills are needed to assist students in adapting to new situations, being flexible, and analyzing the information obtained well (Dwyer et al., 2014). Creativity and innovation undoubtedly influence people's lives and economic development (Kaufman, 2016). Therefore, every learning activity should direct toward developing creative, imaginative, and innovative thinking (Kaufman & Sternberg, 2010). The power of information technology has mastered the economic development of the 21st century. Such change requires individuals who can innovate, adapt, and think at a high level (Velez, 2012).

The learning innovation of the impact of Covid-19 opens a new paradigm for educational institutions (Fitriyani et al., 2020). Then the critical role of remote and online technology information systems in education must be prepared to run the learning from a home method. One alternative is to utilize technology in the learning process. Using technology in learning models can be an alternative solution to make students more active in the learning process (Tarman & Dev, 2018). The more active students will affect activities, critical thinking skills, and learning outcomes (Sweet & Michaelsen, 2012). The learning model that will develop in this study is the interactive multimedia-based Googling model, a combination and acronym of the Group Investigation learning model, Examples Non-Examples, and Snowball Throwing. Model Group Investigation is the primary model chosen because it can train and develop students' ability to think critically, become more active and enthusiastic in learning, and train student cooperation in discussion (Arsy et al., 2019). This learning model can encourage students to be active in the learning process and make learning more meaningful, meaning that students are required to think about problems and find ways to solve problems constantly.

Furthermore, the examples non-examples model chooses because this learning model design allows students to analyze images and provide a description of what is in the image (Novriani et al., 2019). Researchers also used snowball throwing models to address students' lack of involvement in learning. Snowball Throwing can increase student activity and creativity, train students to learn independently in knowledge based on discussion, and develop abilities (Januardana et al., 2014; Rosidah, 2017). In addition, the snowball throwing model provides a more enjoyable learning atmosphere where students actively learn while playing with questions that are packaged as attractively as possible (Y. E. Putri & Chatri, 2019).

The Googling learning model designed in this study is based on interactive multimedia. Multimedia is a wide variety of combinations of graphics, voice text, video, and animation. This merger is a unit that together displays the information, message, or content of the lesson (Prayogi et al., 2019). The multimedia-based googling model expects to facilitate students with visual, auditory, and kinesthetic learning styles so that all students can learn optimally. In this case, the role of teachers as learning facilitators is always required to innovate to create and develop an effective, creative, and educational learning process (Giardina, 2012). Using various media sources, one of which is interactive multimedia, is expected to increase teacher creativity in implementing the learning process. The interactive multimedia-based googling model clarifies the presentation of the material, overcomes the limitations of space, time, and sensory power, and can overcome students' passive attitudes. During the Covid-19 pandemic, its usefulness became very significant because interactive multimedia has advantages that can be used even with distance learning conditions. This research will discuss in detail the development of an interactive multimedia-based googling model on social sciences learning during the Covid-19 pandemic in elementary schools.

II. METHODS

A. Research Design Page Layout

The type of research used in this research is Research & Development (R&D). Research & development primarily bridges the gap between educational and research practice. The development model used in this study refers to the Borg and Gall development model, which consists of ten steps, including 1) analysis of potentials and problems, 2) data collection, 3) product design, 4) Validation of learning design, 5) Design Revision, 6) Small-scale trials, 7) Product revision, 8) Large-scale trials, 9) Product revision and 10) Mass production (Sugiyono, 2016). This development model chooses because it can produce a product with a high validation value and encourage continuous product innovation (Gall et al., 2007). The development procedure of the Borg

Googling Model based on Interactive Multimedia for Elementary School Students

and Gall development model has the main objectives, namely 1) developing the product and 2) testing the effectiveness of the product in achieving the goal (Borg & Gall, 1983). The design of the stages of this study can be seen in the chart below:

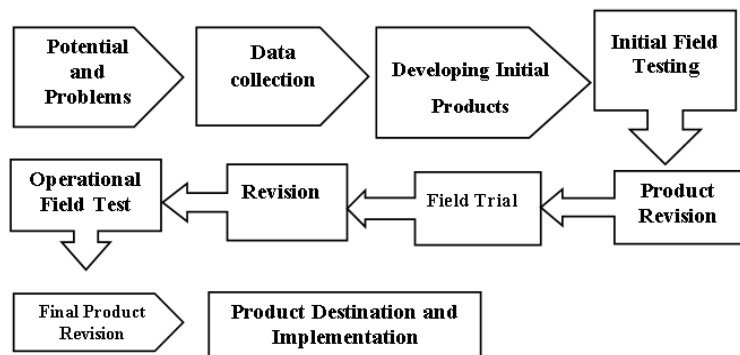


Figure 1. Borg & Gall Research Model

This research is conducted at SD Negeri Surgi Mufti 1, Banjarmasin City, South Kalimantan Province, with the study being grade IV elementary school students. Data collection techniques are used through questionnaires, observations, and tests. Questionnaires are used to assess the validity of interactive multimedia-based googling learning models. Observation sheets are used to assess the implementation of the Googling learning model, and tests are used to assess the improvement of student learning outcomes on social sciences content using a multimedia-based Googling learning model.

B. Trial Design

In the design of the trial, the required research subjects are as follows:

1. Expert Trials. The subjects in this trial are two experts: one learning media expert lecturer and one material expert lecturer.
2. Individual Trials. The subjects in this trial were 3 Grade IV students of SD Negeri Surgi Mufti 1, Banjarmasin City.
3. Usage Trials. The subjects in this trial were 15 Grade IV students of SD Negeri Surgi Mufti 1 Kota Banjarmasin, which did not include individual trials.
4. Product Trials. The subjects in this trial were 25 students of class IV-a of SDN Surgi Mufti 1 Banjarmasin City as an experimental class and 25 students of class IV-b of SDN Surgi Mufti 1 Kota Banjarmasin as a control class.

C. Data Analysis Techniques

1. Feasibility of an interactive multimedia-based *Googling* model

In this test, student response questionnaire data used in the use of an interactive multimedia-based Googling model was analyzed with the formula:

$$P = \frac{\Sigma A}{B} \chi 100\%$$

2. The practicality of the interactive multimedia-based Googling model

This test was carried out in 2 stages: observation of the implementation of learning and student activities filled using observation sheets. The calculation formulas are as follows, respectively:

$$P = \frac{\text{Number of learning stages carried out}}{\text{Number of all learning stages}} \chi 100\%$$

3. Effectiveness of interactive multimedia-based Googling model

At this stage, the tests used are validity, reliability, level of difficulty of the question, differentiating power of the question, normality, homogeneity, and t-test (hypothesis). The data processed results from control classes and experiments for pretest and posttest.

(a) Validity

Validity is obtained by analyzing the data from the trial questions using the product moment correlation formula with rough numbers (Arikunto, 2009).

$$r_{xy} = \frac{N \Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{[N \Sigma X^2 - (\Sigma X)^2][N \Sigma Y^2 - (\Sigma Y)^2]}}$$

Googling Model based on Interactive Multimedia for Elementary School Students

(b) Reliability

The data from the trial questions stated that the valuable question items calculate by the reliability of the questions using the Spearman-Brown formula (Riduwan, 2011).

(c) Difficulty level of the question

The data from the trial questions are searched for the level of difficulty of the questions with the formula below (Arikunto, 2009):

$$P = \frac{B}{Js}$$

(d) The Differentiating Power of the Problem

The data from the trial questions were searched for the differentiating power of the questions using the following formula (Arikunto, 2009):

$$DP = \frac{B_A}{J_A} - \frac{B_B}{J_B}$$

(e) Normality Test

The normality test is used to determine whether the sample is normally distributed or not through the results of pre-tests and post-test. Normality testing using the chi-squared test (Riduwan, 2011): (1) Looking for the most significant and most minor scores; (2) Look up the range value (R); (3) $R = \text{most significant score} - \text{most minor score}$; (4) Seeking the number of classes; (5) Looking for the long grade of class (i); (6) Tabulate with a helper table; (7) Looking for the mean; (8) Seeking standard deviation; (9) Make a list of expected frequencies; and (10) Looking for Chi-squared counts

(f) Ji Homogeneity:

(1) Formulating the null hypothesis and its alternative hypotheses

Ho: Both homogeneous variances ($v_1 = v_2$)

Ha: Both variances are inhomogeneous ($v_1 \neq v_2$)

(2) Determining the F-number value

(3) Determining the F-table value

(4) Test criteria: If the F-count > F-table, then Ho is accepted (Homogeneous Variance)

(g) Hypothesis Test (t-Test)

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2} \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

The hypotheses in this difference test are:

Ho: There is no difference in learning outcomes using an interactive multimedia-based *Googling* model in learning social sciences class IV SDN Surgi Mufti Kota Banjarmasin.

Ha: There are differences in learning outcomes using an interactive multimedia-based *Googling* model in learning social sciences class IV SDN Surgi Mufti Kota Banjarmasin.

III.RESULTS

A. Googling Model Feasibility Test Results

In terms of feasibility, the development of interactive multimedia-based *Googling* model development products in social sciences learning can be feasible or usable. That is based on an expert validation assessment of 85% and an average total media and material validation assessment of 3.40. In addition, the feasibility of developing an interactive multimedia-based *Googling* model development product is supported by the results of individual and small group trials conducted on grade IV students of SDN Surgi Mufti, Banjarmasin City. The average score of each indicator was 3.75, an excellent category, and percentage of the feasibility of the *Googling* model of 93.7%.

Table 1. Googling model feasibility test results

Average Total Ratings	Assessment Results	Information
3,40	85%	Feasible and usable

Googling Model based on Interactive Multimedia for Elementary School Students

As for the small group trial results, the average score of each indicator was obtained at 3.68, with an excellent category with a percentage of the feasibility of an interactive multimedia-based *Googling* model of 92.2%. So it can conclude that this interactive multimedia is classified as feasible to use and can be continued for extensive group testing.

B. The practicality of the interactive multimedia-based *Googling* model

The implementation of this learning shows that the interactive multimedia-based *Googling* model developed is well implemented and practical to use in education. That is based on the results of the average percentage of learning implementation in the experimental class (using the interactive multimedia-based *Googling* model), which is 90.7%. In comparison, the average percentage of learning implementation in the control class (without using the interactive multimedia-based *Googling* model) is 93%.

Student activities also show that the developed interactive multimedia-based *Googling* model well implements in learning, it is based on tables 4.22, and 4.23 results the average percentage of student activity in the experimental class (using the interactive multimedia-based *Googling* model) overall was 92.5%, while the average percentage result of learning implementation in the control classroom (without using the interactive multimedia-based *Googling* model) as a whole was 72.2%. The results of this percentage are in the high category, so it can be concluded that student activities and the implementation of learning in the learning process using the *googling* model based on interactive multimedia are declared practical to use in social sciences learning.

C. Effectiveness of interactive multimedia-based *Googling* model

Before the learning outcomes test was given to the research subjects, validation was still carried out to experts and empirical trials were carried out. This empirical trial was carried out to grade V students at SDN Surgi Mufti, Banjarmasin City. The results of this trial were then tested using tests of validity, reliability, level of difficulty of the questions, and differentiating power tests.

1) Empirical Testing of The Problem

Empirical testing on the test questions is carried out with 4 stages of calculation, namely the test of validity, reliability, the level of difficulty of the questions and the differentiating power of the questions.

a) Validity Testing

The results of the validity test show that there are 5 valid question items and 5 invalid question items. Of the 5 valid question items, so the developer took 5 valid questions as individual learning outcomes test instruments. As for the valid questions, they are the questions in numbers 3, 4, 5, 8, and 10, with successive r-count values of 0.710, 0.835, 0.678, 0.618 and 0.605 which are all greater than the r-table which is 0.3515 so it is said to be valid.

b) Reliability Testing

After the validity test is carried out, the five questions that pass the test will then be tested for the reliability of the questions. From the five questions using the Alfa Cronbach formula, the reliability value of the question was 0.7544, while for the comparison, the r-table was 0.3515. So it can be concluded that the five questions are reliable.

c) Problem Difficulty Testing

Based on the results of the calculation of the level of difficulty of the questions for categorization of questions, it is divided into 3. Questions number 1, 4, 6, 7 and 8 are included in the questions with easy categories because the kindergarten scores range from 0.7 – 1.00. For questions number 2, 3, 5 and 9, they are included in the medium category because the kindergarten value ranges from 0.3 – 0.7 and for the difficult category it is located in question number 10 because the kindergarten value is in the range of 0.0 – 0.3.

d) Problem Differentiating Power Testing

Based on the results of the calculation of the differentiating power of the questions, it can be seen that the differentiating group of the questions is divided into 3, namely the questions are very good, good and sufficient. For the category of very good questions, there are in questions number 1, 3, 4, 5, 8 and 10, the category of good questions is found in number 2, 6 and 9, and for the category it is enough only in question number 7.

2) Normality Testing

After the empirical testing above, then in the next stage, an interactive multimedia-based *Googling* model effectiveness test was carried out using normality, homogeneity and T-tests. The following are the interpretation results for pretest normality testing and posttest control classes and experiments.

- a) Normality of Pretest In the experimental class for a significant degree obtained criterion $2count < 2table$ or $5.452 < 9.488$. Then the data comes from a normally distributed population. Meanwhile, the results of the calculation of the pretest value data of the control class normality test obtained criterion $2count < 2table$ or $6.898 < 9.488$. Then the data comes from a normally distributed population.

Googling Model based on Interactive Multimedia for Elementary School Students

b) Normality of Posttest In the experimental class obtained criterion $2count < 2table$ or $3.286 < 9.488$. Then the data comes from a normally distributed population. Meanwhile, the results of the calculation of the posttest value data of the control class normality test obtained criteria $2counted < 2table$ or $6.722 < 9.488$. Then the data comes from a normally distributed population.

3) Homogeneity Testing

The next test is testing the homogeneity of the questions to see the uniformity of the pretest and posttest values. Based on the results of the homogeneity calculation listed in table 4.27 for the pretest value, the calculated F value $< F-table$ the table or $1.484 < 2.168$, it can be concluded that the IVA and IVB are homogeneous. As for the posttest value obtained, the F-count value $< F-table$ or $0.819 < 0.584$, it can be concluded that the IVA and IVB are homogeneous.

4) T Test

The T-test is the last stage of testing carried out on a series of assessments of the effectiveness of the googling model product based on interactive multimedia. This test is carried out 2 times, namely for pre-test and post-test values. Testing is performed by comparing the pretest and posttest values of the control class with the experiment. This aims to see if there are differences between the two classes before and after being given treatment, namely using an interactive multimedia-based Googling model in learning material types of work. The following are the results of the difference test (T-test) for the two values.

Based on the calculation results using a significant test for the pretest value in the study, a t-table of 2.024 and a calculation of 0.401 were obtained. Or t-count is smaller than t-table then H_0 is accepted, so H_a is rejected, it can be concluded that there is no significant difference in learning outcomes using an interactive multimedia-based Googling model in learning social sciences class IV SDN Surgi Mufti Kota Banjarmasin.

Table 2. T-Test Results Control and Experimental Class Pretest Scores

<i>t-table</i>	<i>t-count</i>
2,024	0,401

As for the posttest value based on the calculation results using a significant test in this study, a t-table value of 2,024 and a calculation of 2,435 were obtained. Or t-count is greater than t-table then H_0 is rejected, so H_a is accepted, then it can be concluded that there are significant differences in learning outcomes using the interactive multimedia-based Googling model in learning social sciences grade IV SDN Surgi Mufti Kota Banjarmasin.

Table 3. T Test Results Posttest Scores Control and Experimental Classes

<i>t-table</i>	<i>t-count</i>
2,024	2,435

IV. DISCUSSION

A learning model is said to be good if it is carried out in accordance with the nature of the knowledge taught (Clement, 2000; A. Putri et al., 2020). The knowledge taught to students is a tool to improve the way of thinking (Wang, 2019). This cannot be done by simply transferring knowledge to students, while students are left passive and only play the role of recipients of knowledge. Siswa should be given the opportunity to actively search for various data and the latest information to be applied in solving problems (Haris, 2020). That activity is what the interactive multimedia-based Googling model offers.

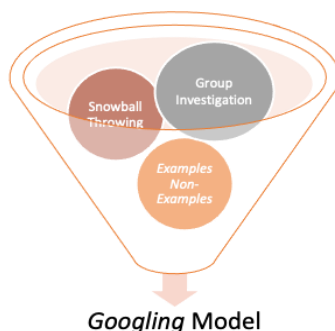


Figure 2. Googling Model

The Googling model is a combination and acronym of the Learning Model Group Investigation, Examples Non-Examples, and Snowball Throwing. Model Googling uses Group Investigation as the primary model because it can train and develop students'

Googling Model based on Interactive Multimedia for Elementary School Students

ability to think critically (Arsy et al., 2019), students become more active and enthusiastic in learning (Sojayapan & Khlaisang, 2020), and train student cooperation in discussion (Haryono, 2020). This learning model can encourage students to be active in the learning process and make learning more meaningful, meaning that students must always think about problems and find ways to problems solving (Arsy et al., 2019). Furthermore, the Googling model is designed so that students can analyze images and provide descriptions of what is in the picture (Novriani et al., 2019). It can be said that images are the primary learning medium in this learning technique. That image medium is arranged and designed so the child can analyze the image into a brief description of what is in the image.

The researchers also used the snowball throwing model in the Googling model to overcome the lack of student involvement in learning. The Googling model can increase student activity and creativity, train students to learn independently in knowledge based on discussion, and develop abilities (Januardana et al., 2014). In addition, this model also stimulates students in solving problems, communication, reasoning, and self-confidence (Sipayung et al., 2021). From this description, it can be concluded that snowball throwing provides a more enjoyable learning atmosphere in the Googling model. Students actively learns while playing with questions packaged as attractively as possible.

After the learning process using an interactive multimedia-based Googling model, grade IV students gave a very good response. That is because multimedia has an attractive appearance. The colors chosen for the text, images and backgrounds of the interactive multimedia-based Googling model are contrasting colors that support learning. Colours has physiological effects on anxiety, heart rate, and blood flow. Each color has a wavelength, and each wavelength can affect the body and brain differently. The dominant colors that are widely used are blue and pink. The use of an interactive multimedia-based Googling model encourages student activity in learning (Phillips, 2014). Based on the description of the student response results above, it was concluded that the interactive multimedia-based Googling model developed was practical. This means that in addition to being able to be used by trial schools, the Googling model developed can also be used by students in other schools.

The benefit of using an interactive multimedia-based Googling model by teachers is that it facilitates teacher work in managing the learning process time (West Java & Ahmad, 2018). This means that the availability of an interactive multimedia-based Googling model is one of the factors that can support the learning process to run well and can improve the quality of education. Other benefits or advantages of model, such as: (1) allowing uniform presentation of learning in large classes, but the foundation of individual learning is higher, (2) there is flexibility for students and teachers to learn units of lessons that can be arranged in a variety of formats; (3) prepare students with maximum freedom in learning independently; (4) prepare for active participation of students; (5) when used properly, it is free for the teacher to teach the same material repeatedly in a class; and (6) may be designed to evoke interactions between students in learning (Martin et al., 2013; Rachmadtullah et al., 2018).

To examine the various research results that have been carried out theoretically, the author explains the findings of the research results while still paying attention to three points of study, namely learning planning, implementation results and the influence of the interactive multimedia-based Googling model on student learning outcomes. In addition, there is also a compatibility between theoretical studies and learning technology practices which include: design, development, implementation, management, and evaluation. Based on some of the most important research findings in the form of principles, they are: (1) the interactive multimedia-based Googling model can improve students' learning competencies in the cognitive realm, (2) through software, students' skills can improve the ability to cooperate in study groups, train creative thinking, and communicate; and (3) able to apply various abilities skillfully when working on worksheets.

In addition, the use of interactive multimedia as a learning medium can be used to overcome several obstacles for students who have different learning style characteristics (Ocepek et al., 2013). Interactive multimedia-based learning media allows for a direct interaction between students and learning resources (Carlson, 1991; Cheng et al., 2012). With the application of interactive multimedia-based learning media, it is hoped that it will be able to provide changes in the learning atmosphere, so as to improve student learning outcomes (Surjono, 2015). With modules and computer-aided learning media packages, students can learn according to their learning needs based on the characteristics of their respective learning styles. A person's learning is a combination of how he absorbs, and then organizes and processes information (State, 2017). Each student must have a different learning style according to their habits in participating in a lesson. An educator in carrying out management in the classroom must know the learning styles that usually exist in students so that educators are able to apply learning strategies and methods that are in accordance with classroom conditions, so that learning objectives can be achieved optimally (Yulianci et al., 2021).

Furthermore, in the implementation of the learning process using this interactive multimedia-based Googling model, to achieve effective and efficient learning goals, it is necessary to support the school in the form of learning media that can motivate students in learning, including: (1) interactive multimedia-based Googling model using attractively designed animations is able to improve learning, so that students seriously listen to the lesson well and not boring; (2) this interactive multimedia-based Googling model is designed based on parts and fragments into the smallest units, so that students can easily understand the content of the material presented; (3) an interactive multimedia-based Googling model with communicative language and containing interesting illustrations will be effective to listen to, thereby stimulating students to learn independently; (4) This interactive multimedia-based Googling model can improve learning outcomes, so that students can easily check their learning success independently; and

Googling Model based on Interactive Multimedia for Elementary School Students

(5) this interactive multimedia-based Googling model each part / fragment has reinforcement, so that students will be able to improve their learning outcomes.

CONCLUSIONS

In terms of feasibility, the interactive multimedia-based Googling model development product can be concluded to be feasible or usable, this is based on the results of an expert validation assessment of 85% and an average total media and material validation assessment of 3.40. In addition, the feasibility of developing an interactive multimedia-based Googling model development product is also supported by the results of individual and small group trials conducted on grade IV students of SDN Surgi Mufti, Banjarmasin City. For individual trials, the average score of each indicator was 3.75 with an excellent category, with a percentage of feasibility of an interactive multimedia-based Googling model of 93.7%. As for the results of the small group trial, the average score of each indicator was obtained at 3.68 with an excellent category with a percentage of feasibility of the googling model based at 92.2%. So, it can be concluded that this interactive multimedia-based Googling model is quite feasible to use and can be continued for large group testing.

In terms of the prevalence of the product development of an interactive multimedia-based Googling model on social sciences learning, it can be seen from the results of the implementation of learning and student learning activities. For the results of the implementation of experimental class learning, an average score of 3.63 was obtained with an excellent category. Meanwhile, in the control class, an average score of 3.63 was obtained with an excellent category. Furthermore, for the results of the learning activities of the experimental class, an average score of 3.70 was obtained with an excellent category, and the control class obtained an average score of 2.89 with a good category. Based on these data, it can be concluded that in terms of practicality of the product, the development of an interactive multimedia-based Googling model in social sciences learning is categorized as very good.

The effectiveness of learning using an interactive multimedia-based Googling model can be seen through student learning outcomes in experimental classes and with control classes. Based on calculations using a significant test for the posttest value in this study, a t-table of 2,024 and a calculation of 2,435 were obtained. In other words, that the calculation value is greater than the t-table, it can be concluded that there is no significant difference in student learning outcomes using the interactive multimedia-based Googling model in social sciences learning for grade IV students of SDN Surgi Mufti, Banjarmasin City.

Model Googling can train and develop students' ability to think critically, become more active and passionate in learning, and train student cooperation in discussions. The interactive multimedia-based googling model clarifies the presentation of the material, overcomes the limitations of space, time, and sensory power, and can overcome students' passive attitudes. During the Covid-19 pandemic, its usefulness became very significant because interactive multimedia has advantages that can be used even with distance learning conditions.

ACKNOWLEDGMENT

The authors are thankful to the editors of the International Journal of Social Science and Human Research (IJSSHR) for publishing this paper. The Faculty Research Support Fund provided funding for this study.

REFERENCES

- 1) Arsy, H. I., Prasetyo, A. P. B., & Subali, B. (2019). Predict-Observe-Explain Strategy with Group Investigation Effect on Students' Critical Thinking Skills and Learning Achievement. *Journal of Primary Education*, 8(4), 75–83.
- 2) Aslamiah, A., Abbas, E. W., & Mutiani, M. (2021). 21st-Century Skills and Social Studies Education. *The Innovation of Social Studies Journal*, 2(2), 82–92.
- 3) Azizah, A. A. M. (2021). Analysis of Social Studies Learning in SD/MI in the 2013 Curriculum. *Journal of Madrasah Ibtidaiyah Education*, 5(1), 1–14.
- 4) Baroya, E. H. (2018). 21st century learning strategies. *As-Salam: Scientific Journal of Islamic Sciences*, 1(1), 101–115.
- 5) Bennett, N. J., Roth, R., Klain, S. C., Chan, K., Christie, P., Clark, D. A., Cullman, G., Curran, D., Durbin, T. J., & Epstein, G. (2017). Conservation social science: Understanding and integrating human dimensions to improve conservation. *Biological Conservation*, 205, 93–108.
- 6) Bilyalova, A. A., Salimova, D. A., & Zelenina, T. I. (2019). Digital transformation in education. *International Conference on Integrated Science*, 265–276.
- 7) Boholano, H. (2017). Smart social networking: 21st century teaching and learning skills. *Research in Pedagogy*, 7(1), 21–29.
- 8) Carlson, H. L. (1991). Learning style and program design in interactive multimedia. *Educational Technology Research and Development*, 39(3), 41–48.
- 9) Cheng, Y.-H., Cheng, J.-T., & Chen, D.-J. (2012). The effect of multimedia computer assisted instruction and learning style on learning achievement. *WSEAS Transactions on Information Science and Applications*, 9(1), 24–35.

Googling Model based on Interactive Multimedia for Elementary School Students

- 10) Clement, J. (2000). Model based learning as a key research area for science education. *International Journal of Science Education*, 22(9), 1041–1053.
- 11) Dwyer, C. P., Hogan, M. J., & Stewart, I. (2014). An integrated critical thinking framework for the 21st century. *Thinking Skills and Creativity*, 12, 43–52.
- 12) Fanny, A. M. (2019). Implementation of hots-based learning in improving the analytical ability of social studies learning courses in elementary schools. *Journal of Primary Education*, 10(2), 44–52.
- 13) Fitriyani, Y., Fauzi, I., & Sari, M. Z. (2020). Student learning motivation in online learning during the COVID-19 pandemic. *Journal of Education: A Journal of Research Results and Literature Studies in the Fields of Education, Teaching and Learning*, 6(2), 165–175.
- 14) Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational research: An introduction 8th edition*. United States: Pearson Education, Inc.
- 15) Giardina, M. (2012). *Interactive multimedia learning environments: Human factors and technical considerations on design issues* (Vol. 93). Springer Science & Business Media.
- 16) Gunawan, A. (2016). Utilization of Information and Communication Technology through the Use of Educational Media in Elementary Social Studies Learning. *Pedagogy: Journal of Educational Research*, 3(2).
- 17) Haris, H. (2020). Development of a Protection Model for Teachers as Professional Educators in the Indonesian Legal System. *3rd International Conference on Social Sciences (ICSS 2020)*, 759–762.
- 18) Haryono, H. E. (2020). The influence of cooperative learning model type group investigation toward results of learning science materials of students. *Scientific Journal of Physics Education*, 4(1), 1.
- 19) Indraswati, D., Marhayani, D. A., Sutisna, D., Widodo, A., & Mauluda, M. A. (2020). critical thinking and problem solving in social studies learning to answer the challenges of the 21st century. *Social Horizon: Journal of Social Education*, 7(1), 12–28.
- 20) West Java, S. A., & Ahmad, A. C. (2018). The design of multimedia interactive courseware for teaching reading to hearing impaired students. *International Journal of Academic Research in Progressive Education and Development*, 7(4), 223–230.
- 21) Januardana, I. G. A., Zulaikha, S., & Made Putra, M. P. (2014). The Influence of The Simple Media-Assisted Snowball Throwing Method on Mathematics Learning Outcomes of Grade V Students of Sd Cluster 1 Kuta Badung. *Pulpit of Pgsd Undiksha*, 2(1).
- 22) Kaufman, J. C. (2016). *Creativity 101*. Springer publishing company.
- 23) Kaufman, J. C., & Sternberg, R. J. (2010). *The Cambridge handbook of creativity*. Cambridge University Press.
- 24) Kuhlthau, C. C., Maniotes, L. K., & Caspari, A. K. (2015). *Guided inquiry: Learning in the 21st century: Learning in the 21st century*. ABC-CLIO.
- 25) Kurki, M., & Wight, C. (2013). International relations and social science. *International Relations Theories: Discipline and Diversity*, 14–35.
- 26) Lasmawan, W. (2009). Reconstructing Ips-an Based on Technohumanistic Paradigms. *Papers, Presented at seminars on social studies education by FIS Undiksha*, 30.
- 27) Martin, F., Hoskins, O. J., Brooks, R., & Bennett, T. (2013). Development of an interactive multimedia instructional module. *The Journal of Applied Instructional Design*, 3(3), 5–18.
- 28) State, I. K. R. Y. (2017). The effect of animation in multimedia computer-based learning and learning style to the learning results. *Turkish Online Journal of Distance Education*, 18(4), 177–190.
- 29) Nganga, L. (2019). Preservice teachers perceptions of teaching for global mindedness and social justice: Using the 4Cs (Collaboration, Critical thinking, Creativity and Communication) in teacher education. *Journal of Social Studies Education Research*, 10(4), 26–57.
- 30) Novita14, L. D., & Maksum, A. (2020). IMPROVING CRITICAL THINKING SKILLS THROUGH GROUP INVESTIGATION IN ELEMENTARY SOCIAL STUDIES LEARNING. *PROCEEDINGS OF BASIC EDUCATION SEMINARS AND DISCUSSIONS*.
- 31) Novriani, L., Arwin, A., & Eliyasni, R. (2019). Improving Student Learning Outcomes in Social Studies Learning With an Example Non Example Model. *E-Journal of Innovation Learning, Scientific Journal of Basic Education*, 7(10).
- 32) Ocepek, U., Bosnić, Z., Šerbec, I. N., & Rugelj, J. (2013). Exploring the relation between learning style models and preferred multimedia types. *Computers & Education*, 69, 343–355.
- 33) Oktavianti, I., Sutarto, J., & Atmaja, H. T. (2016). Implementation of social values in shaping the social behavior of elementary school students. *Journal of Primary Education*, 5(2), 113–119.
- 34) Phillips, R. (2014). *The Developer's Handbook of Interactive Multimedia*. Routledge.
- 35) Prayogi, D. S., Utaya, S., & Sumarmi, S. (2019). Internalization of Local Wisdom in Learning through the Development of Interactive Multimedia Social Studies Learning Content. *Journal of Education: Theory, Research, And Development*,

Googling Model based on Interactive Multimedia for Elementary School Students

4(11), 1457–1463.

- 36) Princess, A., Roza, Y., & Maimunah, M. (2020). Development of learning tools with the discovery learning model to improve the critical thinking ability of mathematics. *Journal of Educational Sciences*, 4(1), 83–92.
- 37) Princess, Y. E., & Chatri, M. (2019). The Effects of Snowball Throwing (ST) Model Aided by Activity Sheets with Nuances of Problem Solving on Student Skills. *International Journal of Progressive Sciences and Technologies*, 15(2), 191–194.
- 38) Rachmadtullah, R., Ms, Z., & Sumantri, M. S. (2018). Development of computer-based interactive multimedia: study on learning in elementary education. *Int. J. Eng. Technol*, 7(4), 2035–2038.
- 39) Rosidah, A. (2017). Application of the Snowball Throwing Cooperative learning model to improve student learning outcomes in social studies learning. *Pendas Horizon Journal*, 3(2), 280151.
- 40) Sipayung, E. F. S., Gusar, M. R. S., Siahaan, K. W. A., Purba, T. A. D., & Haloho, U. N. (2021). The Influence of The Snowball Throwing Learning Model on The Science Learning Outcomes of Grade 5 Students. *IJECA (International Journal of Education and Curriculum Application)*, 4(2), 47–57.
- 41) Sojayapan, C., & Khlaisang, J. (2020). The effect of a flipped classroom with online group investigation on students' team learning ability. *Kasetsart Journal of Social Sciences*, 41(1), 28–33.
- 42) Sugiyarti, L., Arif, A., & Mursalin, M. (2018). 21st Century Learning in Elementary School. *PROCEEDINGS OF BASIC EDUCATION SEMINARS AND DISCUSSIONS*.
- 43) Sugiyono. (2016). Quantitative, qualitative and R & D. Bandung Education Research Methods: Alfabeta. *Research Methods*.
- 44) Surjono, H. D. (2015). The effects of multimedia and learning style on student achievement in online electronics course. *Turkish Online Journal of Educational Technology-TOJET*, 14(1), 116–122.
- 45) Sweet, M., & Michaelsen, L. K. (2012). *Team-based learning in the social sciences and humanities: Group work that works to generate critical thinking and engagement*. Stylus Publishing, LLC.
- 46) Tarman, B., & Dev, S. (2018). Learning transformation through innovation and sustainability in educational practices. *Research In Social Sciences And Technology*, 3(1), i–ii.
- 47) Velez, A. (2012). *Preparing students for the future—21 st century skills*. University of Southern California.
- 48) Wang, T. (2019). Competence for students' future: Curriculum change and policy redesign in China. *ECNU Review of Education*, 2(2), 234–245.
- 49) Widodo, A., Indraswati, D., Sutisna, D., Nursaptini, N., & Anar, A. P. (2020). Social Studies Education Answers the Challenges of the 21st Century: A Critique of social studies learning practices in elementary schools. *ENTITA: Journal of Social Sciences And Social Sciences Education*, 2(2), 185–198.
- 50) Yulianci, S., Nurjumiati, N., & Adiansha, A. A. (2021). The Effect of Interactive Multimedia and Learning Styles on Students' Physics Creative Thinking Skills. *Journal of Science Education Research*, 7(1), 87–91.



There is an Open Access article, distributed under the term of the Creative Commons Attribution–Non Commercial 4.0 International (CC BY-NC 4.0) (<https://creativecommons.org/licenses/by-nc/4.0/>), which permits remixing, adapting and building upon the work for non-commercial use, provided the original work is properly cited.