Salsabila, A., Rahmawati, N. K., Ahmad, A.
Development of Canva Learning Media Based on Ispring Suite on Sequences and Series Material
DOI 10.37640/ice.832
In *Proceedings of the 3rd International Conference on Education* (ICE 2024), pages 34-41
e-ISSN 2964-7479

Development of Canva Learning Media Based on Ispring Suite on Sequences and Series Material

Ainun Salsabila[1]*, Nurina Kurniasari Rahmawati[1], Andy Ahmad[1]
[1]Mathematics Education, STKIP Kusuma Negara, Indonesia
*ainunsalsabila@stkipkusumanegara.ac.id

Abstract

The lack of student learning outcomes in mathematics learning, the large number of students who carry out Field Experience Practices so that students are left behind in mathematics learning and the lack of use of learning media at SMK Plus PGRI 01 Cibinong, Bogor Regency often makes students bored with learning mathematics. This research aims to develop canva learning media based on the ispring suitee on sequence and series material so that it can help students or teachers in learning mathematics. This research uses the Research and Development (R&D) method. The development model used is the ASSURE model. Validation results carried out by 2 experts, namely media experts and material experts, media experts got an overall average percentage of 75% in the decent category, while material experts got an overall average percentage of 83.25% in the very category. worthy. Students' learning outcomes increased after using this learning media and students' responses to this media were good. Based on the results, it can be concluded that the development of Ispring suitee-based Canva learning media on sequence and series material is feasible or good to use.

Keywords: Mathematics, media, learning, development.

1 INTRODUCTION

Mathematics is a scientific discipline that studies numbers, measurement, geometric shapes, algebra, calculus, arithmetic, statistics and probability (Rahmawati, et al., 2023). Purpose of learning mathematics contains formal and material mathematical values, because if someone learns mathematics, then that person is able to carry out simple calculations that are practical and easy, so that they are expected to be diligent, critical, thinking, logical, responsible and able to solve problems (Raharjo, et al., 2021). However, in fact there are still many students who are less able to solve problems related to the application of mathematics.

Bloom's taxonomy explains that the learning domain is divided into three, one of which is the cognitive domain. In the cognitive domain, it consists of six levels, namely C1 to C6, which each have their own learning objectives. One level in the cognitive realm is C3, namely applying. Applying is using ideas or concepts that have been learned to solve real problems or situations or can be interpreted as applying or using laws, formulas, methods and principles in other contexts or situations (Nafiati, 2021). The verb chosen at this level is operate so that students are expected to be able to operate problems related to concepts or real life 80% correctly. However, in reality, in the researcher's observations during PPL at SMK Plus PGRI 01 Cibinong, students were still unable to operate problems related to concepts or real life 80% correctly and answered repeated questions with different numbers. This is also proven by the learning results of students in the Final Semester

Examination which shows that out of 30 students only 30% of students or 9 students were able to operate problems related to concepts or real life 80% correctly.

One of the mathematical materials related to everyday life problems is sequences and series. Sequence and series material is used to model and predict various phenomena and patterns. This material can hone students' abilities in operating mathematical formulas in everyday life properly and correctly.

As a result of the researchers' observations, the SMK Plus PGRI 01 Cibinong school is a vocational-based school that requires class This is proven by the three classes from which data was taken totaling 113 students, there are 33% of students or around 37 students who take part in PKL. By providing appropriate digital learning media, it is hoped that students will easily access the material and be able to catch up with what they have left behind. Apart from that, the results of interviews with students that have been conducted show that students open their smartphones more often. One of the students also admitted that most students were lazy about reading their textbooks. This shows that students are more comfortable using their smartphones for learning activities.

Researchers observed that SMK Plus PGRI 01 still lacks the use of digital-based learning media. Mathematics teachers often use traditional learning with lectures and then give assignments to students, making most students bored with the ongoing learning. The learning media that is often used by teachers at this school is mathematics books. Meanwhile, in this digital age, there are many media that can support learning activities in the classroom, such as Quora, Quizizz, Canva, and ispring suitee. Some of these media can make it easier for teachers to create digital-based learning media that can encourage students to want to learn mathematics and can improve student learning outcomes. In several studies it has also been proven that the use of digital-based learning media can improve student learning outcomes.

Based on the problems explained above, researchers are interested in developing Ispring suitee-based Canva learning media on sequence and series material. The objectives of this research are: (1) To produce Ispring suitee-based Canva learning media on sequence and series material. (2) Knowing the feasibility of Ispring suitee-based Canva learning media on sequence and series material.

Learning is essentially a process of interaction between students and the environment, so that changes in behavior occur for the better (Harefa, et al., 2024). In another sense, learning is a teaching and learning process activity which is basically a communication process involving the sender of the message and the recipient of the message, who acts as the sender of the message is the teacher and the recipient of the message is the student (Rachmawati, et al., 2019). In short, the meaning of the learning process itself is the learning activities of students in achieving a learning goal. Learning objectives can be achieved with the active role of students during the teaching and learning process. In the learning process, what is achieved is not only from the physical aspect of the students but also from the mental aspect of the students. If the student's physical condition changes but the student's mental condition does not change, then the learning objectives cannot be achieved. In terms of education, needs are conditions that require the fulfillment of something to carry out the educational process well, such as meeting the availability of teachers, infrastructure, curriculum, and so on (Meliyani, et al., 2022). One thing teachers need in learning is media to encourage students' interest when learning.

Learning media is anything that can be used to channel messages from a teacher to students which can stimulate students' thoughts, feelings, attention and interests, so that the learning process occurs (Yasin, et al., 2023). Learning media is not only about the media that is usually used. It's not just book media that is website-based or writing from books that is just copied and then transferred to a website or application. Interactive learning media includes the use of images, audio, video, animation and other interactive elements to present information actively and interactively, so as to increase student involvement during learning (Jafnihirda, et al., 2023). It is hoped that as technology develops, the presentation of the learning media used will become more developed and creative. The learning media used is expected to provide interaction with students.

If grouped, each type of learning media has been developed by educational practitioners. One of them is learning media which is divided into eight parts, namely (1) print media, (2) OHP, (3) audiotape recorder, (4) slides and films, (5) presentation with multiple images, (6) recording, videotape and videodisc, and interactive media (Wahab, 2021). Apart from that, the types of media can generally be divided into: (1) visual media is media that can be seen and this media relies on sight, (2) audio media is media that can be heard and this media relies on hearing, (3) audio media visual is media that can be heard and seen simultaneously, and (4) multimedia is all types of media summarized into one (Satrianawati, 2017). The general characteristics of learning media are (1) learning media is identical to the meaning of demonstration which comes from the word "raga", meaning an object that can be touched, seen and heard and which can be observed through the five senses, (2) the main emphasis located in objects or things that can be seen and heard, (3) learning media is used in the context of relationships (communication) in teaching between teachers and students, (4) learning media is a kind of teaching and learning aid, both inside and outside outside the classroom, (5) learning media is an "intermediary" (medium, media) and is used in the context of learning, and (6) learning media contains aspects, as tools and as techniques that are closely related to learning methods (Firmadani, 2020).

In this research, the media developed is multimedia because it includes all interactive activities. Ispring suitee based Canva learning media on sequences and series will later be able to help students in learning mathematics, especially on sequence and series material.

Based on the background of the problem, a problem formulation was obtained, namely how to develop Ispring suitee-based Canva learning media in rows and series.

2 RESEARCH METHODS

The research was carried out at SMK Plus PGRI 01 Cibinong, which is located at Puri Nirwana Road I Cikaret Highway, Pabuaran Village, Cibinong District, Bogor Regency. This research will start in January – August 2024.

This research method is research and development (R&D). In this research, researchers developed learning media, namely Canva learning media based on the Ispring suitee on rows and series material. The model used in developing this media is the ASSURE model which consists of several stages, as follows: (1) Analyze Learner Characteristics: identifying learner characters, including previous knowledge and learning styles, (2) State Standard and Objectives: formulate specific learning objectives using the ABCD formula (Audience, Behavior, Conditian, and Degree), (3) Select Strategies and sources: choosing the right media and methods for achieve learning objectives, (4) Utilize Resources: use media in learning activities, (5) Require Learner Participation: encourage active participation of students in learning, (6) Evaluate and Revise: evaluate the suitability of learning media and make revisions if necessary (Yaumi, 2018).

Testing the feasibility of this learning media was carried out by 2 expert validators, 1 media expert and 1 material expert. Apart from that, this media can be said to be suitable for use after knowing the increase in learning outcomes of students before and after using this media and knowing the students' response to the learning media that has been used in learning. The data population in this research is class as well as field tests carried out by 20 students to determine improvements in learning outcomes and student responses to learning media.

The data analysis technique in this research is mixed research (mixed methods). The type of Mixed Methods used is Sequential Exploratory Strategy. The quantitative data analysis technique used in this research is descriptive quantitative. Assessing the average suitability of this learning media requires the following formula:

$$P = \frac{\sum X}{\sum X_1} \times 100\%$$

Information:
P : Percentage sought
$\sum X$: Total respondents' answers
$\sum X_1$: Total ideal answer

The average score from the percentage obtained in the previous stage is grouped into several criteria (Dewi and Handayani, 2021). The percentage criteria are as follows:

Table 1. Product Eligibility Criteria

Presentation	Qualification
81% - 100%	Very Worth It
61% - 80%	Worth it
41% - 60%	Decent Enough
21% - 40%	Not feasible
< 20%	Not Worth It

3 RESEARCH RESULT AND DISCUSSION

This research developed Canva learning media based on the Ispring suitee on class XI class XI SMK Plus PGRI 01 Cibinong material. The research was conducted using the ASSURE model.

3.1 Analyze Learner Characteristics

At this stage the researcher analyzes the characteristics of students to link them to competency. Several important parts to consider in analyzing students are (1) general characteristics which include age, gender, ethnicity, culture and socio-economics, (2) prerequisite competencies, based on the Final Semester Examination that students have taken in mathematics subjects. students are still relatively low because students' scores are still below 78, which means they are below the KKM that has been set by the school, (3) learning style, at this school learning activities still use the lecture method so that students easily get bored while learning is taking place, (4) motivation, using the ispring suitee-based Canva learning media in mathematics learning, especially in rows and series material, is expected to be able to attract students' attention and be able to improve learning outcomes.

3.2 State Standart and Objectives

The learning objectives were developed using the ABCD formula (Audience, Behavior, Condition, and Degree) so that the learning objectives are through ispring suitee-based Canva learning media, students are expected to be able to operate problems related to concepts or real life 80% correctly on the line material and series.

3.3 Select Strategies and Sumber

The first step in selecting media is observing the learning conditions in the classroom and interviewing teachers and trial students. Based on the results of observations and interviews, researchers obtained information that teachers and students need learning media that can improve student learning outcomes. Finally, the researcher determined the media from the results of observations and interviews, namely the Canva learning media based on ispring suitee.

The material chosen was based on the students' lack of ability to operate problems related to concepts or real life, so the researcher chose sequence and series material. The learning model used is a combination learning model, namely lectures, discussions and practice questions.

The process of creating media requires main material and supporting aspects such as text and learning videos. A flowchart is needed that contains the workflow of the media

and produces a prototype product which then enters the expert validation and individual testing stages. The more detailed stages are as follows:

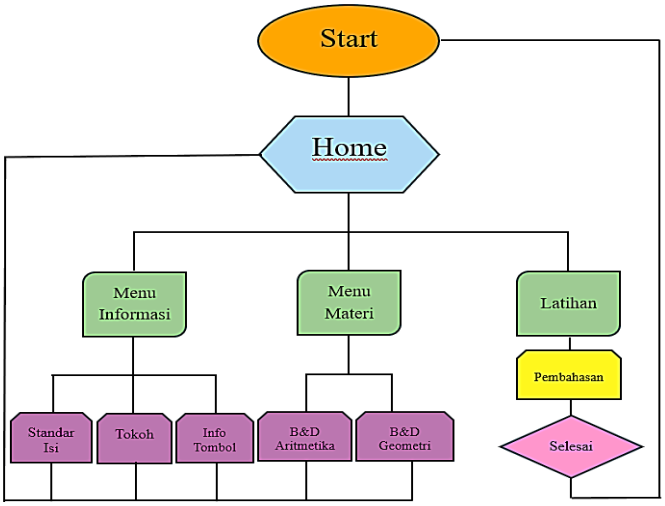

Figure 1. Learning media flowchart

Figure 2. Initial view of the prototype

3.3.1 Member Test

There are two results from this expert validation, namely validation by media experts and validation by material experts. Validation from media experts is obtained from an assessment of the product design which has been adapted to the aspects specified in the questionnaire. Based on the results of the media expert assessment that has been carried out, the overall data analysis is, the percentage is 72% for the display aspect, 75% for the navigation aspect, and 77% for the implementation aspect. The overall average percentage is 75% which falls into the "Decent" category. This media is suitable for testing with revisions according to suggestions given by media experts. After being revised according to the direction of media experts, the media is suitable for testing in the field.

As for the results of the material expert analysis that has been carried out, the overall data is, namely, a percentage of 88% for the material coverage aspect, 75% for the linguistic aspect, 90% for the training and evaluation aspect, and 80% for the implementation aspect. The overall average percentage is 83.25% which is in the "Very Eligible" category. This media is suitable for testing with revisions according to suggestions given by material experts. After being revised according to the direction of material experts, the media is suitable for testing in the field.

3.3.2 Individual Trial

After passing the expert feasibility test stage (media and materials), the researcher conducted an individual trial stage on 3 respondents, namely students consisting of 1 student with good abilities, 1 student with fairly good abilities, and 1 student with poor abilities. Good. Involving respondents of varying ability levels helps in validating the media design and can ensure that the media is neither too easy nor too difficult for certain groups, thereby achieving an optimal balance. Prior to the media assessment by respondents, they were shown the media being developed. Assessment of media suitability is carried out by asking respondents to fill out a questionnaire on student responses to the media that has been created.

The assessment results are, (1) Respondent 1: The assessment results are that the Ispring suitee-based Canva learning media is in the very good category with a percentage of 97.04%. Comments and suggestions, namely that Ispring suitee-based Canva learning media in rows and rows are very helpful and make it easier to understand the material and Ispring suitee-based Canva learning media is good so there is nothing that needs to be improved, (2) Respondent 2: The results of the assessment are Canva-based learning media ispring suitee is in the good category with a percentage of 75.56%. Comments and suggestions, namely that the learning media is easy to use because the instructions for use are clear and easy to access even when using Chrome, (3) Respondent 3: The results of the assessment are that the Ispring suitee based Canva learning media is in the very good category with a percentage of 88.15%. Comments and suggestions, namely Canva learning media based on Ispring suitee on rows and series material, are very useful for increasing knowledge apart from reading books, this media can be a medium for learning, learning media is also interesting, and there is nothing that needs to be improved on this learning media.

From the three respondents above there were several comments and suggestions regarding this media. Overall, it can be concluded that the Canva learning media based on the Ispring suitee on sequences and series material is suitable for use without revision.

3.4 Utilize Resources

The media used at this stage is Canva learning media based on ispring suitee on rows and series material which is addressed to teachers and applied by students in the learning process to achieve learning objectives. This stage was carried out with small group trials and field trials. Details of the activities are as follows:

3.4.1 Small Group Trials

In this stage, researchers conducted learning with 10 students. Before learning, students are first given pre-test questions to find out the results of students before using the media and after learning, students are given post-test questions to find out differences in student learning outcomes after using the media. The average pre-test result of the small group test was 26.7 while the average post-test result was 81.8. After calculating using the t formula, the results are as follows,

$$-t_{table} < t_{count} < t_{table}$$
$$-2{,}1009 < -29{,}3638 < 2{,}1009$$

The results obtained are that students' learning outcomes experience differences. This is shown by the tcount results which are not in the ttable interval so it can be concluded that the learning media is suitable for use.

From the results obtained, it can be concluded that the learning media developed is in the good category or suitable for use in learning.

3.4.2 Field Trials

After carrying out the small group trial stage, the researcher conducted a field trial. At this stage the researcher conducted learning with 20 students. Before learning, students are

first given pre-test questions to find out the results of students before using the media and after learning, students are given post-test questions to find out differences in student learning outcomes after using the media. The average pre-test result of the field trial was 27.65 while the average post-test result was 80.9. After calculating using the t formula, the results are as follows,

$$-t_{table} < t_{count} < t_{table}$$
$$-2{,}0243 < -59{,}9559 < 2{,}0244$$

The results obtained are that students' learning outcomes experience differences. This is shown by the tcount results which are not in the ttable interval so it can be concluded that the learning media is suitable for use.

From the results obtained, it can be concluded that the learning media developed is in the good category or suitable for use in learning.

3.5 Require Learner Participation

Student participation activities in the classroom and active involvement of students so that students have better learning outcomes show that the media can be used appropriately. This media makes it easier for students to understand sequence and sequence material.

3.6 Evaluate and Revise

Researchers carried out an evaluation to obtain a complete picture of the feasibility of ispring suitee-based Canva learning media for sequence and sequence material. This activity is carried out by providing student response questionnaires.

The results of students' responses to the learning media that have been used, namely learning media, are 76.66% which are in the "Good" category. The comments and suggestions given by students are that the media used is very helpful when learning is taking place and is easily accessible using Chrome, but because it uses the internet, it depends on whether the signal is strong or not. If the signal is weak, sometimes it takes a little longer to open the learning media.

The results of student responses given during field trials on learning media were 80.48% which was in the "Good" category. The comments and suggestions given by students are easy to use and interesting learning media.

From the results obtained, it can be concluded that the learning media developed is in the good category or suitable for use in learning. Then below is the Ispring suitee based Canva learning media that has been improved.

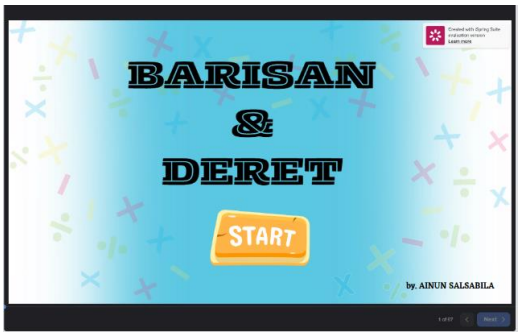

Figure 3. Initial display of learning media

4 CONCLUSION

Based on the results of the research and discussion, it can be concluded that, (1) the development of Ispring suitee-based Canva learning media for class Student learning has

increased and the student questionnaire responses to the media developed are in the good category so it can be concluded that the media is suitable for use.

5 REFERENCES

Dewi, F.F., Handayani, S.L. (2021). Development of En-Alter Sources Animation Video Learning Media Based on Powtoon Application for Elementary School Alternative Energy Sources Material. *Basicedu Journal* 5(4), 2530-2540.

Firmadani, F. (2020). Technology-based learning media as a learning innovation in the industrial revolution 4.0 era. *KoPeN: National Education Conference*" 2(1), 93-97.

Harefa, E., Afendi, H.A.R., Karuru, P., Sulaeman, S., Wote, A. Y. V., Patalatu, J.S., & Sulaiman, S. (2024). Textbook of Learning and Teaching Theory. PT. Sonpedia Publishing Indonesia.

Jafnihirda, L., Suparmi, Ambiyar, Rizal, F., Pratiwi, K.E. (2023). Effectiveness of Designing Interactive Learning Media E-Modules. Innovative, *Journal Of Social Science Research* 3(1), 227-239.

Kusuma, A. P., Rahmawati, N. K., & Ramadoni, R. (2020). The Application of the Accelerated Learning Cycle, Brain-based Learning Model, and Direct Instruction Model toward Mathematical Reasoning in Terms of Mathematical Communication. *Al-Jabar: Jurnal Pendidikan Matematika*, 11(1), 21-28.

Meliyani, A.R., Mentari, D., Syabani, G.P., Zuhri, N.Z. (2022). Analysis of Digital Learning Media Needs for Teachers to Create Effective Learning Activities and Active Students. *Jurnal Jendela Pendidikan* 2(2), 264-274.

Nafiati, D. A. (2021). Revision of Bloom's Taxonomy: Cognitive, affective and psychomotor. Humanika, Scientific Study of General Courses 21(2), 151-172.

Raharjo, I., Rasiman., Mei F. A. Untari. (2021). Factors of Difficulty in Learning Mathematics Reviewed by Students*. Journal for Lesson and Learning Studies* 4(1), 96-101.

Rachmawati, Wijayanti. R., Kartika, E. D. (2019). Mobile Learning Media in Mathematics Based on Character Education in Supporting the Revitalization of Vocational High Schools. Media Nusa Creative.

Rahmawati, N. K., Kusuma, A. P., Widyawati, S., & Putra, F. G. (2020). Google-based learning and learning motivation: The impact and interaction on students' mathematical communication. *Tadris: Jurnal Keguruan Dan Ilmu Tarbiyah*, 5(2), 215-223.

Rahmawati, N. K., Kusuma, A. P., & Nurrahmah, A. (2023). Students' Problem Solving Ability in Derivative Applications (Maximum and Minimum) Assisted by Geogebra. *Delta: Scientific Journal of Mathematics Education*, 11(1), 13-28.

Satrianawati. (2017). *Media and Learning Resources*. Yogyakarta: DEEPUBLISH PUBLISHER (CV BUDI UTAMA Publishing Group).

Wahab, A., Junaedi, S., Effendi, D., Prastyo, H., PMat, M., Saru, D. P., & Wicaksono A. (2021). Mathematics Learning Media. Muhammad Zaini Publishing Foundation.

Yaumi, M. 2018. *Learning Media & Technology*. Prenada Media.

Yasin, M., Kelrey, F., Ghony, M. A., Syaiful, M., Karuru, P., Pertiwi, A., & Aryanti, N. (2023). *Innovative Learning Media (Implementing Creative Learning Media to Welcome Education in the Society 5.0 Era).* PT. Sonpedia Publishing Indonesia.