

# Development of Prezi-Based Audio-Visual Learning Media to Improve Learning Outcomes in Economics for Class Xi IPS Students of SMA Negeri 1 Garoga

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**Abstract.** The problem in this study lies in the low academic achievement of students of SMA Negeri 1 Garoga. The purpose of the research is to develop and apply Prezi-based economic audio-visual learning materials to improve the learning outcomes of grade XI social studies students at SMA Negeri 1 Garoga. The results of this study are based on assessments conducted by validation experts and user feedback where the average rating achieved of 93.70 is included in the category of "very feasible" so that it is concluded that the Prezi-based Audio Visual Learning Material developed qualifies. Eligibility criteria. (valuable) to use. 6087>1643 independent T test with sig. 0.00 <0.05 In conclusion, the Prezi-based audio-visual economics learning material developed effectively helps students improve academic achievement in Class XI Social Studies of SMA Negeri 1.

**Keywords:** Learning Media, Audio Visual, Prezi, Learning Outcomes.

## 1 Introduction

Global competition is getting tougher along with the rapid development of information technology and science. Therefore, our human resources must be able to improve our ability to communicate, communicate and compete. Given the importance of education, the quality of education must be adjusted to current developments, namely in relation to the creation of a technological learning environment. The sophistication of technology in the world of education presents a great challenge for educators to continue to play an important role in educating the nation's children in the era of globalization, such as Sibilana, 2016; 1. Where One of the trends in the development of information and communication technology in the field of education is the development of educational media. In addition to facilitating the teaching and learning process, the learning environment can also improve the quality of learning. Proper use of media can enhance learning.

Prezi is one example of audiovisual media used in learning, where Prezi can combine human creativity with modern technology (Spernjak, 2014). The advantage of Prezi is that it can be used at any time via the Internet on a computer or mobile phone, and can be paid or free. This factor is very important, because nowadays learning is needed not only in the classroom, but flexibly anywhere and anytime. Prezi also has visual advantages like PowerPoint, but has a zoom effect to make it more interesting and visualize the material you want to deliver in learning (Burhanudin and Suyoso, 2018: 40).

We hope that the use of Prezi media can improve learning outcomes and students will not get bored in learning the material. Prezi has the ability to integrate text, images, animation, audio and video into a single presentation (Perron and Stearns 2011). In addition, the use of prezi on mobile phones can also be directed to a positive and weighted side, where this use also helps students learn anytime and anywhere so that they are more eager to read and understand material that has been given by the previous teacher, and the learning process carried out can run smoothly. Good.

## **2 Theoretical studies**

### **2.1 Learning theory**

There are several different learning theories in learning design, but they all highlight the importance of effective and optimal learning practices. According to Hasan et al. (2021: 7), learning practices will achieve the best results if supported by appropriate learning media. Constructivism is a philosophical view that emphasizes that the knowledge we have is the result of construction done by ourselves. In this century, Von Glasersfeld (1988) states that cognitive constructive ideas emerged through the writings of Mark Baldwin, which were later widely developed by Jean Piaget.

### **2.2 Learning outcomes**

According to Rusmono (2017), learning outcomes are changes in individual behavior which include cognitive, emotional, and psychomotor domains. "Student ability is a change in behavior resulting from the learning process that can be classified into certain dimensions" (Ahiri 2017: 18).

### **2.3 Learning media**

According to Arsyad (2013; 3), the word "media" comes from Latin, precisely the word "medius" in its literal sense means "middle" or "introduction". If we look at it from a more general perspective, media can include individuals, materials, or events that can help create an environment that allows students to learn and develop knowledge, skills, and attitudes. Media play an important role in improving human understanding and facilitating easier communication. In addition, the media has a dual function as a communication tool, a means to solve problems, as well as a tool for self-development (Musfiqon, 2011; 33). According to Hujair, to increase effectiveness and efficiency in achieving teaching goals, namely using media. Because it serves as an intermediary in the learning process. According to Rusman (2012; 162), learning media is a tool that facilitates students in understanding and remembering material easily and in a long period of time.

## 2.4 Prezi

According to Listiyan (2015: 32). Prezi is software for creating slides for online presentations. Unlike Power Point, Prezi gives us more space to express our creativity when creating presentation slides. Prezi's mission is "to make ideas more interesting, and Prezi was created as a tool to develop ideas in narrative and visual formats. Saroha (2019:34). Unlike Powerpoint, Prezi offers a large enough space/canvas to express creative ideas in slides (Chou, 2015).

## 3 Method

This research is an R&D (RandD) research based on a four-dimensional model developed by Triaganarajan and Semmel. This model consists of four main phases, namely: The defining phase is useful for identifying and defining the needs of the learning process and collecting various information about the product being developed. The purpose of the plan is to design financial education learning materials, the development goal is to create modified financial learning materials based on Prezi, based on professional training and experiential experience with students. and Distribution This stage aims to distribute media. This research only achieved a limited goal, namely to promote the final product of Prezi-based media to class teachers at SMA Negeri 1 Garoga on a limited basis.

Place and Time: This research was conducted at SMA Negeri 1 Garoga located on Jl. Maruhum Bosar S.T.S, Pasaribu, Garoga, North Tapanul Regency, North Sumatra. This research was carried out in the even semester of the 2022/2023 academic year. All Class XI social studies students participated in this study. Then 3 class XI social studies students with different academic conditions, namely high, medium and low were selected as individual subjects. Small Group Examination for 10 Class XI social studies students selected based on various academic levels and Limited Examination for 34 Class XI social studies students with evaluation by Economics teachers. The feasibility test of the developed media is through the results of experimental validation, namely. content experts, media experts, learning design experts and teacher evaluation, and student trials viz. individual tests, group tests, and limited tests. The effectiveness of data support was then tested using the t test, the average difference test, to determine whether there was a significant difference at the significance level of 0.05 using SPSS software version 20. The hypothesis proposed is:  $H_0: \mu_1 = \mu_2$  (there is no difference in mean between treated and untreated classes).  $P: \mu_1 \neq \mu_2$  (mean difference between treated and untreated classes).  $H_0$ 's decision making is accepted when the significance value is greater than 0.05. The following calculation by testing the mean difference between the two populations according to Sudjana (2009). where:  $\bar{x}_1$  : experimental class sample mean  $\bar{x}_2$  : control class sample mean S: standard deviation

## 4 Result and discussion

### 4.1 Defining Stage (Define)

The definition phase is carried out to define all needs during the teaching and learning process and collect various information related to the product that will be used and to be perfected

a. This step is divided into several stages, namely: Initial Analysis (Front-end Analysis)

Namely, the researcher identified the problems that existed in the teaching and learning process at SMA Negeri 1 Garoga by using interview and observation methods. Interviews were conducted with class XI economics teachers, while observations were made by observing the condition of the school.

b. Student Analysis (Learner Analysis)

This is done by taking into account the characteristics and needs of students. This analysis is carried out through consideration of student characteristics, abilities, and experiences, either individually or in groups

c. Task Analysis

This analysis is intended to find out the main tasks that students will do. This includes core competencies related to Prezi learning materials that will be updated

d. Concept Analysis

The goal is to explore the content of the device in emerging media. Concept analysis is transformed into a learning concept map, which is then used as a means of acquiring certain skills, by systematically identifying and organizing key parts of teaching resource

e. Analysis of Learning Objectives (Specifying Instructional Objectives)

Conducted to identify indicators of academic success based on document analysis and program analysis. Thus, researchers can find out what research will be shown in the media, identify problem networks and finally determine the extent to which learning objectives are achieved.

#### **4.2 Design Stage (Design)**

After answering the questions at the defining stage, the design stage will be carried out. This design stage aims to design learning aids that can be used in economic learning. These design steps include:

a. Preparation of Test (Criterion-test Construction)

The purpose of learning in the form of products, processes, psychomotor during and after learning activities is what is a benchmark for student ability

b. Media Selection (Media Selection)

Made to find out learning support that is in accordance with the characteristics of the material and in accordance with student needs. Media are selected based on student analysis, concept and task analysis, target user characteristics, and deployment plans with a variety of different media attributes. This is useful in helping students learn basic skills and expected core competencies.

c. Selection of Formats (Format Selection)

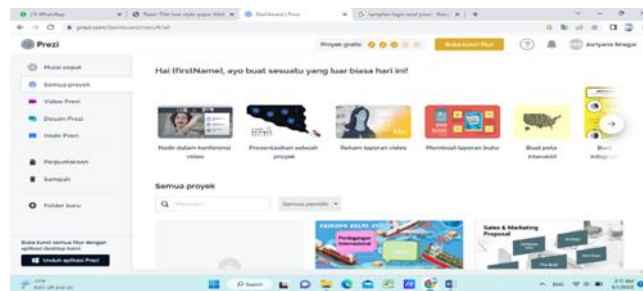
The selection of presentation formats is adjusted to the learning material used. The choice of the form of development consists of the design of learning content, selection of learning

methods and resources, organizing and designing communication content, making communication designs including layout bumps, images and text.

#### d. Initial Design (Initial Design)

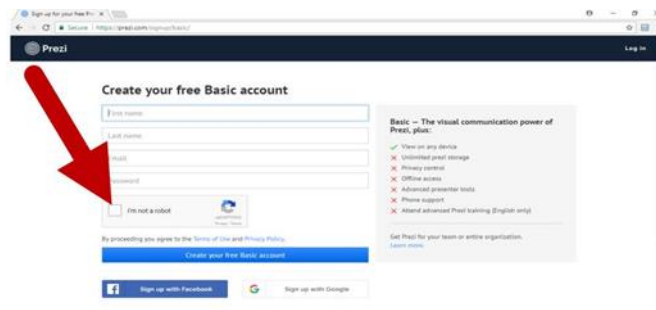
Specifically, the media design is made by the researcher and then contributed by the supervisor.

Feedback from supervisors will be used to improve pre-production communication. In this Prezi-based learning document, there is a main menu in the form of a web page and document display as well The main menu screen can be seen in the picture:



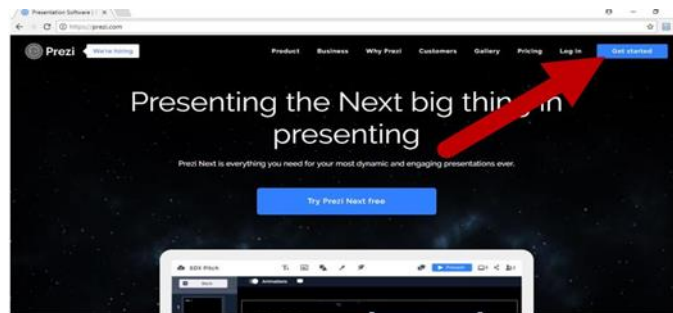
**Fig.1.** Main Menu Online Display

In the first stage of using Prezi, users must first log in to [www.prezi.com](http://www.prezi.com). On this home page, users will see various features and information about Prezi. These features and information include: company, Prezi reason, customers, library, pricing and connections, as shown in the following figure.



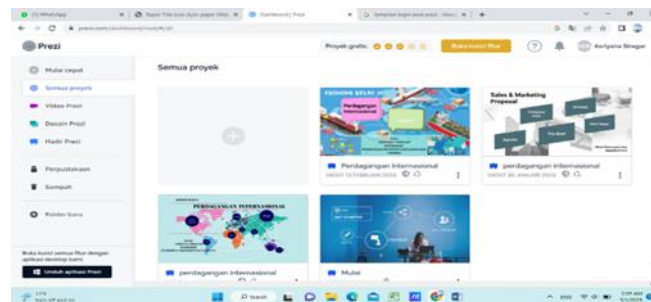
**Fig. 2.** Initial Display of the Prezi Main Menu

To access additional content Before running Prezi, users must first log in. Meanwhile, when selecting the login menu, the user will be directed to the login screen. On this screen there is a registration and login menu. The registration menu is used if the user does not have an account yet and must first create an account to access the desired content. If the user has previously created an account The login menu is used, where the user is required to enter the email and password that has been created. The login menu screen can be seen in the following image.



**Fig.3.** Display of the Login Menu

From the main menu, users can choose which documents need to be explained or presented by clicking Present. While to enhance the presentation, users select the content they want to improve and click Edit. In this material menu there are several materials about international trade. The material menu screen can be seen in the following image:



**Fig. 4.** Display of the Material Menu

The appearance of one of the materials in Prezi-based learning media can be seen in the following figure.



**Fig. 5.** the Material Menu

Aims to create revised Prezi-based economics learning materials based on expert input and student testing. There are two steps in this phase, namely:

### 4.3 Development Stage (Develop)

#### a. Product Expert Validation (expert appraisal)

Prezi-based audio-visual learning materials on economics subjects will be reviewed by experts. Endorsements are carried out by certain resource persons who are experts in the fields of communication, materials and design. The validation technique is in the form of giving questionnaires (authentication panels), after which researchers modify Prezi-based audio-visual teaching materials based on input, suggestions, and assessments provided by grant authenticators to modify the original design. The confirmation results of the three validators are:

- Material expert

**Table 1.** Expert Assessment After Revision

No	Component	Assesment	Criteria
1	Material converage	90	Very Worth it
2	Assessment aspect	85	Very Worth it
3	Material on media	90	Very Worth it
	Total percentage	89%	Very Worth it

This final result was obtained after the researcher made one revision with the subject matter expert. The feasibility score after revision is 86% with very decent criteria. The scope of the material is appropriate, the review aspect is very good and the communication material is interesting and clear. Thus, the results of the assessment of document value by document experts in the development of cost-effective Prezi-based audio-visual learning materials are considered quite feasible.

- Learning Devices Expert After Revision

**Table 2.** Expert Assessment of Learning Devices After Revision

No	Component	Assesment	Criteria
1	Material converage	86	Very Worth it
2	Learning Design with Prezi Media	84	Very Worth it
3	Learning Aspects	82.5	Very Worth it
	Total percentage	84%	Very Worth it

The eligibility score after revision is around 84% with very feasible criteria. The material coverage is complete, the design aspects of using Prezi are clear, and the expediency is appropriate. That way, the results of the originality study conducted by learning device experts in developing Prezi-based audio-visual learning materials are declared quite feasible.

- Media expert

**Table 3.** Expert Assessment After Revision

No	Component	Assesment	Criteria
1	Display Design	85	Worthy
2	Audio Aspect	80	Worthy
3	Video Aspect	90	Worthy
4	Animation Aspect	95	Worthy
5	Usage Aspect	100	Very Worth it
	Total percentage	88.8%	Very Worth it

The eligibility rating achieved after the revision was 88.8 with high eligibility criteria for each aspect confirmed by learning communication experts. Thus, the results of evaluating the validity of Prezi-based audio-visual economics learning materials developed in this study are considered quite feasible.

- Eligibility According to Content Experts (Budang Studi Teachers)

**Table 4.** Teacher Assessment

No	Component	Assesment	Criteria
1	Material Coverage	94.2	Very Worth it
2		93.28	Very Worth it
3	dia	94.24	Very Worth it
	Total percentage	92.8%	Very Worth it

Based on the validity of the test carried out, no revision was made by the teacher. because the validation reached a total rate of 92.8%, it can be concluded that Prezi-based audiovisual economic learning materials have been developed Very suitable for use in teacher-based learning.

- Analysis of Individual Trial Student Responses

**Table 6.** Assessment of Response Small group trials

No	Component	Assesment	Criteria
1	Display Aspect	96.66	Very Worth it
2	Aspects of use	92	Very Worth it
3	Material aspect	97.33	Very Worth it
	Total percentage	94.4%	Very Worth it

The recommendation given in this small group essay is that the media used in learning should be provided first to students before learning begins. Because if introduced at the beginning of the lecture, students will have difficulty opening the application or have to wait a long time



until all students open the media to be used. Therefore, in order for learning to take place smoothly and optimally, it is better for media to be distributed to students before learning begins and students can prepare media for learning the next day.

- Analysis of Limited Trial Student Responses

**Table 7.** Assessment of Response Small group trials

No	Component	Assesment	Criteria
1	Display Aspect	95.68	Very Worth it
2	Aspects of use	92.20	Very Worth it
3	Material aspect	94.70	Very Worth it
Total percentage		92.11%	Very Worth it

The total value is 92.11% with a very decent category without any other suggestions and improvements. Thus it can be concluded that the media has become a product that can be used as a product that can be used as a very appropriate learning media in economics class XI IPS SMA Negeri 1 Garoga.

#### b. Product Trial (development testing)

After expert validation, the product was tested twice, namely a limited trial and an extensive trial. Product trials were carried out to find out the results of applying Prezi-based media in economics learning in class, including student responses to learning media, and measuring student learning outcomes. The results obtained from this stage are in the form of revised media.

#### 4.4 Stage of Spread (Disseminate)

After product testing and tool modification, the next stage is the dissemination stage. The purpose of this step is to socialize the media. In this study, we only conducted limited socialization, including promoting the final product of Prezi-based media on a limited basis to teachers at SMA Negeri 1 Garoga.

- Description of Student Learning Outcomes

From the data obtained from the assessment conducted by researchers to students, both from the pre-test and post-test assessments of the experimental class as well as from the pre-test and post-test, the highest score ( $X_{max}$ ), the lowest score ( $X_{min}$ ) and the average score ( $X$ ) were obtained in the table.

**Table 8.** Pretest and Posttest Result Data of Experimental Class and Control Class

Class	Data	The value of learning outcomes		
		$X_{min}$	$X_{max}$	$X$
Experiment	Pretest	30	60	45.00
	Posttest	75	95	85.00

<b>Control</b>	Pretest	25	60	42.16
	Pistest	65	85	75.00

- Normality test

**Table 9.** Tabulation of Normality Test Calculation Results

No	Data	D <sub>max</sub>	D <sub>kritis</sub>	Sig.	Sig.α	Information
1	Experiment Class Pretest	0.116	0.934	0.200	0.05	Normal
2	Experiment Class Posttest	0.118	0.838	0.200	0.05	Normal
3	Control Class Pretest	0.150	0.903	0.052	0.05	Normal
4	Control Class posttest	0.142	0.898	0.058	0.05	Normal

In the calculation of the normality of the experimental class data, the pretest Dmax was 0.116 and the posttest Dmax was 0.118 with a pretest significance of 0.200 and a posttest significance of 0.200. Then in the control class obtained Dmax 0.150 and Dmax posttest 0.142 with a pretest significance of 0.052 and a posttest significance of 0.058. Analyzing these results it can be concluded that  $D_{max} < D_{kritis}$  and significance value  $> 0.05$ . So that the pretest and posttest data for both classes are normally distributed.

- Homogeneity Test

**Table 10.** Tabulation of Homogeneity Test Calculation Results

Uji Homogenitas Varians						
			Statistik Levene	df1	df2	tanda tangan.
Prates	Berdasarkan Rata-rata		1.496	1	69	.225
	Berdasarkan Median		1.255	1	69	.266
	Berdasarkan Median dan dengan df yang disesuaikan		1.255	1	67.488	.267
Posting	Berdasarkan rata-rata yang dipangkas		1.494	1	69	.226
	Berdasarkan Rata-rata		.009	1	69	.925
	Berdasarkan Median		.009	1	69	.925
	Berdasarkan Median dan dengan df yang disesuaikan		.009	1	68.962	.925
	Berdasarkan rata-rata yang dipangkas		.009	1	69	.925

From tabulating uniformity calculations using Ms.Excel and SPSS. 20, the pre-test data of both classes, namely the experimental class and the control class, obtained positive results based on the test the average value of the pre-test was  $0.225 > 0.05$  and SIG. Based on the average post-test value of  $0.925 > 0.05$ , it can be concluded that the data variance compared to the pre and post-test results of the experimental class and the control class is declared the same best.

- Independent T-Test test

**Table 11.** T-Test Independent Test Results Tabulation

Data	Class	X	T <sub>hitung</sub>	T <sub>tabel</sub>	sig	Conclusion
Posttest	Experiment	85.00	6.087	1.643	0.00	Student learning outcomes
Posttest	Kontrol	75.00				

From the table above it can be seen that the magnitude of the increase in learning outcomes from the experimen clas is 0.717 and the control class is 0.542. If analyz from the score obtain

by the experimental class, it is in the high category, while the comparison class or control class is in the medium category. This means that both classes experienced an increase in learning outcomes, but what made the difference was that the experimental class experienced a higher increase than the control class. With these results, it can be concluded that the increase in student learning outcomes using Prezi-based economic The material in the updated learning in this study has increased more than learning using simple economics learning materials.

## **5 Conclusion**

1) The experts conducted an analysis of feasibility of the audio-visual learning environment developed by Prezi, and the results of the student examination gave an average of 93.70% in the "very feasible" category, so that the media-based economic education Prezi developed was very suitable. for use in financial education.

2) The results of data analysis showed that there was a significant difference in students' independent T test learning outcomes between experimental and control class learning outcomes. In addition, the N-Gain results also showed that learning outcomes in the experimental class increased compared to the control class. Therefore, it can conclude the Prezi-based economic learning media developed is suitable for use to improve the learningh outcomes of Class XI social studies students.

## References

- [1] Sibilana, A.R: Development of Android-based Islamic religious education subject learning media for class Xi at SMP Negeri 2 82 Malang. Thesis. Malang: Maulana Malik Ibrahim State Islamic University Malang (2016).
- [2] Salim, T : Research, methods, approaches and types of education. Jakarta: Kencana (2019).
- [3] Sanjaya, W: Standards-Oriented Learning Strategy of the Educational Process. Jakarta: Kencana (2013).
- [4] Recently, A: is prezimore usefullness education tool than powerpoint? Icemst 2014, 406 (2014).
- [5] Rizal Burhanudin, S: Development of Prezi software as a learning support tool to increase learning motivation and cognitive achievement of Physics in class X Senior High School. Journal of Physics Education, 7(1), 38-49 (2018)
- [6] Perron, B.E. and Stearns, A.G.: Recent technology review: Prezi.Research On Social Work Practice, 21(3), 376- 377 (2011)
- [7] Huda, H.N., Maftuhah, Y. and Shamsiah, S: The use of Prezi media to improve mathematics learning outcomes on fractional materials.
- [8] Journal of Educational Research, 4(1), 44-53 (2022).
- [9] Abimanyu. : Strategi Pembelajaran. Jakarta: Ditjen Dikti Depdiknas (2008)
- [10] Masnur Muslich: KTSP National Education Standard Competency-based and contextual learning guide for teachers, principals, and school supervisors. Jakarta: PT Bumi Aksara (2007).
- [11] Sudjana, N: Evaluating the results of the teaching and learning process. Bandung : PT Remaja Rosdakarya. (2010).
- [12] Rusmono: Learning Strategies with Problem Based Learning are Necessary: to improve teacher professionalism. Bogor : Ghalia Indonesia Publisher (2017).
- [13] Anik Ghufron, et al: A Guide to Research and Development in Education and Learning. Yogyakarta: Uny Research Institute (2007).
- [14] Nana Sudjana: Assessment of Teaching and Learning Outcomes. Bandung: Pt. Remaja Rosdakarya (2017).
- [16] Musfiqon: Pengembangan Media Dan Sumber Pembelajaran (2011).
- [17] Hujair, A: Media Pembelajaran Interaktif Inovatif. Yogyakarta: Kaukabadipantara (2013).
- [18] Rusman: Belajar Dan Pembelajaran Berbasis Komputer. Bandung: Alfabeta (2012).
- [19] Listiyani, D: Development of Learning Media through Prezi Desktop Multimedia to Increase Learning Motivation of Class VII Students in Islamic Cultural History Subjects Mtsn Punung Pacitan [Thesis]. Malang (id): Maulana Malik Ibrahim State Islamic University (2015).
- [20] Development of Prezi-based learning materials in Class III Thematic Learning of Sd Negeri 101769 Tembung [Thesis]. Medan (ID): State University of Medan (2019).