KnE Social Sciences

BESS 2023
The 3rd International Conference on Business, Economics, and Sustainability Science
Volume 2024

Knowledge E
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Research Article

Increasing Learning Outcomes in Economics with "Eco Tax" Media for Digital Era Students in Malang, Indonesia

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Abstract.
This research was carried out on the basis of the use of media that was less than optimal, innovative learning media, and low student learning outcomes, especially during the Covid-19 outbreak at State Senior High School 1 Gondanglegi, Malang Regency. This study aims to develop Android-based ECO-TAX media for the 11th-grade Economics students, majoring in social science, at Gondanglegi 1 Public Senior High School, Malang Regency. The study is expected to improve student learning outcomes. The method used in the study is the ADDIE model research and development (R&D), which comprises five stages, namely (1) analysis, (2) design, (3) development, (4) implementation, and (5) evaluation. Data analysis was carried out quantitatively and descriptively. The results of research and development are in the form of learning media for the Android system in Economics lessons called "ECO-TAX (Economy Tax)". This media contains materials, learning videos, and learning evaluations, which can be used offline or online by students. The results of the students' posttest scores showed that there was a striking difference between the learning outcomes of the control class and the experimental class. Android-based ECO-TAX media is effective and feasible to use as an economic learning medium that is proven to be able to improve student learning outcomes.

Keywords: learning media, Android, learning outcomes, economics, taxation

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Published 31 July 2024

Publishing services provided by Knowledge E

Selection and Peer-review under the responsibility of the BESS 2023 Conference Committee.

1. Introduction

The impact of globalization in the 21st century is felt to be increasingly widespread, one of which can be seen from the fast-moving advances in technology, information, and communication that have made many aspects of life dependent on the use of technology. One aspect that is closely related to the use of technology is the educational aspect. Education is a person's conscious effort to increase their potential by facilitating and encouraging learning activities (Hasbi et al., 2021). Learning has experienced development and change, from what was originally traditional learning, then developed into transitional learning, and finally developed into modern learning.

Learning is defined as an activity that creates conditions and situations where students can develop themselves in terms of mindset, motivation, abilities, attitudes, insights, and all aspects of personality that exist in them so that they develop in a good direction (Mulyadi et al., 2016). From this definition, modern learning requires students to be more independent and active when learning to develop their competence and potential. Educators are required to be more innovative and creative to integrate technology into learning in the 21st-century educational transformation era (Rusman, 2018). Learning activities must be designed appropriately and professionally by educators because the success achieved in learning activities is closely related to student learning outcomes.

State Senior High School 1 Gondanglegi, is one of the high schools in Malang Regency. State Senior High School 1 Gondanglegi excels in non-academic achievements starting from the regional and national levels. One of the quality of education is to produce qualified and competent graduates. Therefore, even though the majority of students at Gondanglegi 1 Public High School have more abilities in the non-academic field, it cannot be denied that Gondanglegi 1 State Senior High School students are still required to have achievements in the academic field, so they can continue to a higher level. tall. Because in schools there are facilities that support the learning process, academic achievement should also be superior to non-academic achievements. However, based on preliminary observations made by researchers through interviews with teachers of economics class 11 majoring in social sciences 1 at State Senior High School 1 Gondanglegi, in economics learning, especially material that contains calculations, students tend to have difficulty understanding lessons besides that teachers are less creative in using available learning media. Therefore, the use of appropriate and appropriate media is also very necessary to improve the understanding and learning outcomes of class 11 students majoring in social sciences in the academic field.

Learning outcomes are the knowledge and skills that students acquire after learning. Aspects of learning outcomes include psychomotor, affective, and cognitive aspects (Sudjana, 2011). The aspect in which students can understand the material provided by the teacher is an aspect of cognitive learning outcomes. The affective aspect focuses on building the character of the learning process. Psychomotor aspects are influenced by external and internal factors. Internal factors consist of psychological, spiritual, and physical. External factors include the environment around students, friends, family, and society.

The quality of learning affects the success and achievement of learning objectives, namely learning outcomes. The use of innovative and creative learning media can improve students' ability to understand material in the long term (Hudhana & Sulaeman, 2019). In this condition, technology can be used to design learning media that makes students understand the material presented. Most students do not like conventional learning processes because they are considered boring and difficult to understand the material (Iga & Arief, 2017).

Based on the results of initial observations, it was obtained that the learning outcomes of class 11 students majoring in social sciences 1 and 2 at State Senior High School 1 Gondanglegi Malang Regency in economics lessons were classified as low. Data from the odd semester exam results for economics lessons showed that student scores were below the average minimum learning completeness, namely 75. Out of 67 students, 14 students (21 percent) were able to obtain scores above 75. 53 students (79 percent) were unable to complete because they got a value below the average KBM.

The problems found in Gondanglegi State Senior High School 1, Malang Regency, include the lack of student learning outcomes due to the lack of innovation in the learning media, so that students are less enthusiastic about learning. Learning activities run less effectively which causes the objectives of learning not to be achieved as expected. In addition, the real conditions in the field are that teachers have not been able to fully integrate technological developments in learning and the teacher's lack of knowledge about media that is more interesting and effective. Therefore, it is necessary to develop media in an integrated and more effective teaching and learning process by utilizing technological advances (Myori et al., 2019). The media that is considered suitable for development is ECO-TAX learning media on the Android system or Android-based media.

The existence of learning media with the Android system is more effective and interesting in helping teachers and students to share ideas and ideas, as well as being an interaction agenda for teachers and students without having to meet face to face (Deviyanti et al., 2020). Learning becomes more interactive and can take place both inside and outside the classroom. Learning media plays an important role in the learning process, with the support and use of learning media the learning process will run better (Purba et al., 2020). The existence of learning media can help teachers more easily when giving a material. By using learning media, it is hoped that students will more easily understand the material taught by the teacher. The use of media in learning is a method used by teachers to improve student learning outcomes because through

interesting media it can generate excitement, ambition, and student impulses while participating in the learning process (Sapitri & Bentri, 2020).

The ECO-TAX learning media on the Android system was developed with the help of Ispring Suite 9 software. Ispring Suite 9 is an application that teachers can use in designing learning media on the Android system (Alfiyansah, 2016). Ispring Suite can convert presentation files into flash form and can be integrated into Microsoft PowerPoint. One of the leading applications in Microsoft Office is Microsoft PowerPoint (Andi, 2010). This application provides the need for making presentation slides, but besides the factor of speaking ability in delivering presentations, slide design has a big role in a presentation. Presentation quality is now moving to animation effect features, content suitability, and display design quality, and can be collaborated with various intermediaries or additional application plug-ins, namely using Ispring Suite 9 software. Ispring Suite is a tool that can convert presentation files into flash form. and can be operated on a smartphone, computer, or PC (Alfiyansah, 2016).

With these advantages, the learning process is expected to be more interesting so that students are more comfortable, interested, and enthusiastic about learning which is expected to improve learning outcomes. ECO-TAX media is appropriate and effective for use in both online and offline learning processes. The learning process by applying learning media on an Android system or Android-based with the help of Ispring Suite 9 is more flexible because students can learn anytime and anywhere. So that it helps teachers in carrying out learning activities and learning media is very suitable as an innovation in the teaching and learning process before, during, and after the Covid-19 pandemic (Chandra Asmaradhana & Churiyah, 2021; Larasati et al., 2022; Parsazadeh et al., 2018).

Based on the background of the problems that have been described, the researcher feels the need to develop a learning product in the form of effective and practical learning media in Economics lessons. The development of this media focuses on class 11 economics material in the discussion of Basic Competence 3.7 Analyzing Taxation in Economic Development. The learning media is named “ECO-TAX (Economy Tax)”, it is hoped that this media will be well received by teachers, students, and stakeholders who actively contribute to the development process. Therefore, researchers are interested in conducting research and development with the title “Development of Android-Based ECO-TAX Learning Media in Improving Student Learning Outcomes at State Senior High School 1 Gondanglegi”. The purpose of this research was to produce android-based ECO-TAX learning media in Economics lessons as one of the supporters of Economics learning in Gondanglegi 1 State Senior High School, Malang Regency. This study also

aims to improve student learning outcomes after using the Android-based ECO-TAX learning media in the economy.

2. Method

This research and development uses the ADDIE model (Branch, 2009), which have 5 stages (Analysis, Design, Development, Implementation, and Evaluation). This research developed a product in the form of Android-based learning media that used assistance Ispring Suite 9 software.

Types of data in this research were obtained through sheet review from comments, suggestions by experts, the questionnaire by expert materials and media experts, and from the marks of students. The results of the development analysis are obtained from the following formula.

Description:

P = Percentage media eligibility

$\sum X$ = Total score of respondents

$\sum X$ = Amount score maximum

Source: (Suparti, 2016)

After being processed, the data described using reference table follows.

TABLE 1: Percentage media eligibility.

Score	Criteria
0% to 20%	Invalid
21% to 40%	Less valid
41% to 60%	Valid Enough
61% to 80%	Valid
81% to 100%	Very Valid

Source : (Arikunto, 2014)

3. Result And Discussion

The Objective study was to obtain results in the form of ECO-TAX learning media on the system android on lesson Economy class XI IPS given the name “ECO-TAX” (Economy Tax). The Development process product was held through several stages until the materialized something product in the form of the given media name ECO-TAX (Economy Tax). This research has five stages. First, the analysis stage of potential and research

problems. At this stage, interviews and observations were carried out at State Senior High School 1 Gondanglegi, Malang Regency. Based on the results of interviews and observations, obtained data on the potential of SMA Negeri 1 Gondanglegi namely, the availability of facilities and infrastructure such as LCD, projector, computer laboratory, and internet facilities. Some of the problems that occurred in schools were changes to the education curriculum which resulted in delays in the learning process, especially during the COVID-19 pandemic. So far, the delivery of teaching materials only uses the media of textbooks and e-books in the form of pdf which were distributed to students through the Google Classroom platform, which they feel is less effective. Another problem that occurred was the teacher's lack of knowledge about learning media that is more innovative and interesting in learning. As well as the absence of learning media with the android system in Basic Competency Economics lesson 3.7 Analyzing Taxation in Economic Development at State Senior High School 1 Gondanglegi Malang.

The second stage was the planning stage. At this stage, the researcher formulates or designs product designs in the form of learning media with the Android system that can be operated via smartphones laptops, or computers. Researchers designed learning media using the Canva website with a presentation of material accompanied by interesting characters and animations. In addition, there are navigation buttons, learning videos, and learning evaluations in the form of practice questions that directly show the value obtained by the user.

The third stage is the development stage. At this stage, the researcher combines and modifies text, images, tables, and subject matter using Microsoft PowerPoint with the hyperlink feature. Next, the researcher made product improvements using the Ispring Suite 9 software by adding quizzes in the learning media and then converting the files to the form of an Android application.

The developed learning media has several features, namely, 1) the Instructions for Use menu contains procedures for using ECO-TAX learning media, 2) the Competency Standards menu which includes Basic Competencies, Core Competencies, and learning indicators for Economics subjects on taxation, 3) Objectives Menu learning which contains learning objectives in studying taxation material, 4) The material menu contains KD material 3.7 Analyzing Taxation in Economic Development that students can study, 5) The Evaluation Menu is a menu in the form of practice questions and is complemented by the results of student scores that will appear after completing work and will go directly to the teacher's email, 6) The Help menu contains developer profiles from learning media and teacher contact tools in the form of WhatsApp contacts and teacher e-mails to help students if there are problems or there is something they want to

ask the teacher. ECO-TAX learning media can be operated offline to open the material in the learning media. The appearance of the resulting media can be seen in following figures.

Figure 1: Cover Page.

Figure 2: Main Menu Page.

The resulting media was then validated by experts. Validation was carried out by media and material experts. Expert validation in the media field was carried out by the Lecturer in Educational Technology, Faculty of Educational Sciences, and material expert validation was carried out by the Economics Education Lecturer at the Faculty of Economics and Business, State University of Malang, and strengthening the material expert validation by the Economics subject teacher at Gondanglegi 1 State High School,

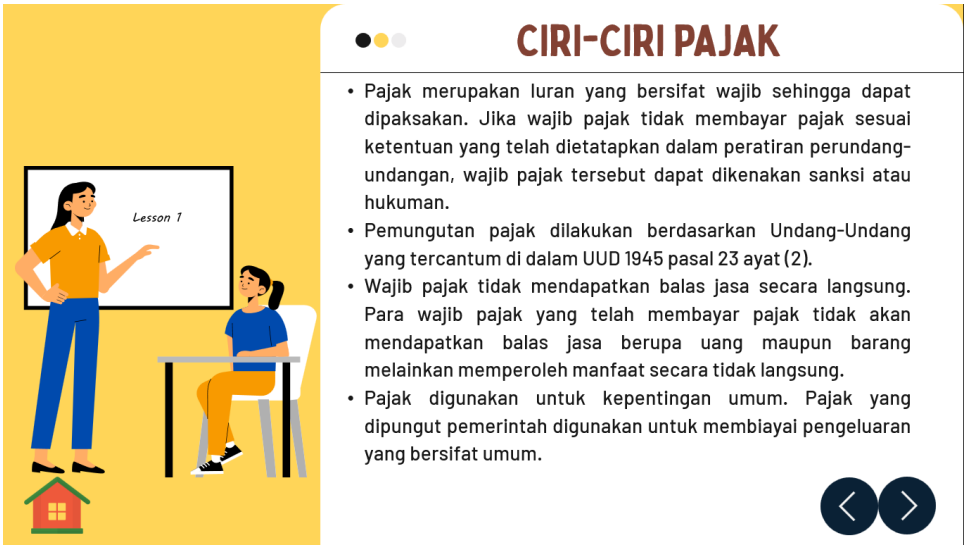

Figure 3: Material page.

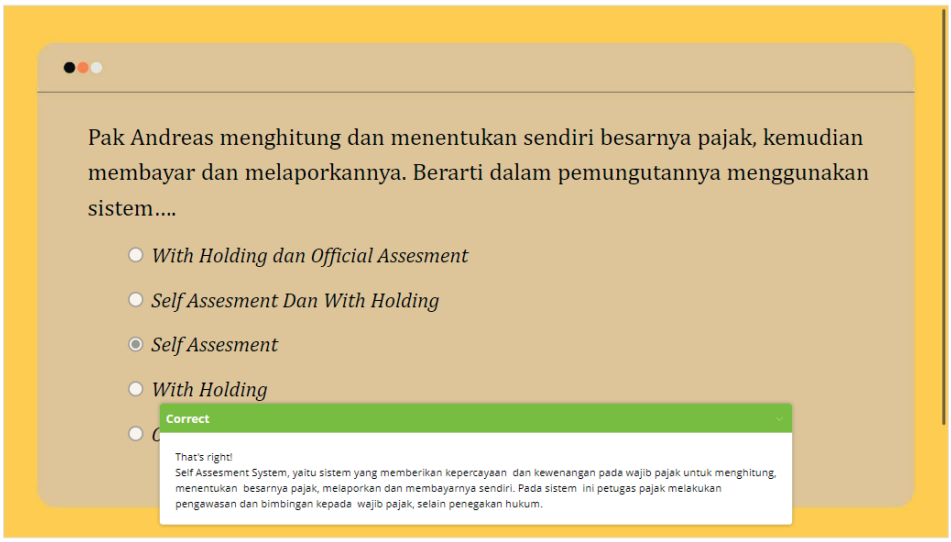

Figure 4: Question Practice Page.

Malang Regency. Tables 2 and 3 below were the results of tests by media experts and material experts.

TABLE 2: Media Expert Validation Result.

Validators	Score (%)	Criteria Appropriateness
Media Expert	98.4	Very Valid

Source: Processed Data researcher (2022)

The media expert validation test score was 98.4 percent based on indicators of media display, language, media illustrations, and operation. Meanwhile, the material expert validation was based on indicators of content feasibility, presentation of material, concept clarity, and language with a score of 86.8 percent. Based on the media eligibility

Table 3: Material Expert Validation Result.

Aspect	Score (%)	Criteria Appropriateness
Material Expert (Economics Education Lecturer)	86.4	Very Valid
Material Expert (Subject Teacher economy)	87,2	Very Valid
Average	86.8	Very Valid

Source: Processed Data researcher (2022)

percentage table, it can be concluded that the ECO-TAX learning media product is stated to be very valid because it obtains a media eligibility percentage of more than equal to 81 percent. So that the field trial process can be carried out while still paying attention to existing suggestions and criticisms.

The fourth stage is the implementation stage, namely conducting trials on students in small groups of 6 students and continuing to test the effectiveness of the product on 27 students. The assessment indicators include appearance/layout, content/material aspects, readability, and learning aspects. The results of small group testing can be seen in Figure 5 as follows.

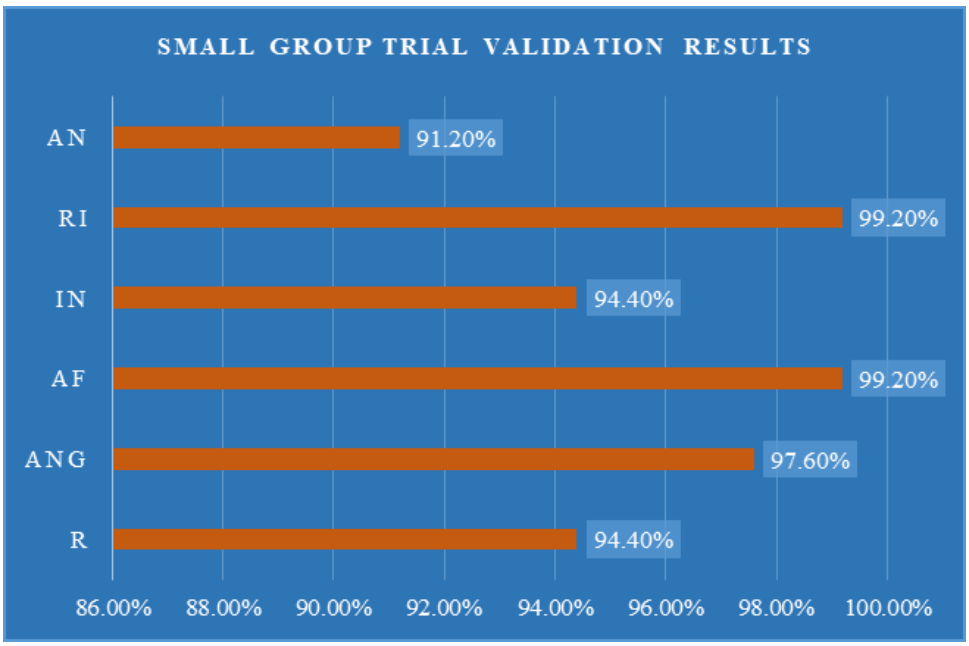

Figure 5: Test Results Diagram Small Group.

The results of student responses as users of learning media were 96 percent. Student assessment or small group trials are based on four indicators, namely display/layout indicators, content/material aspects, readability, and learning aspects. Based on the media eligibility percentage table, it can be concluded that the ECO-TAX learning media

product is stated to be very valid because it obtains a media eligibility percentage of more than equal to 81 percent. So that the field trial process can be carried out while still paying attention to existing suggestions and criticisms.

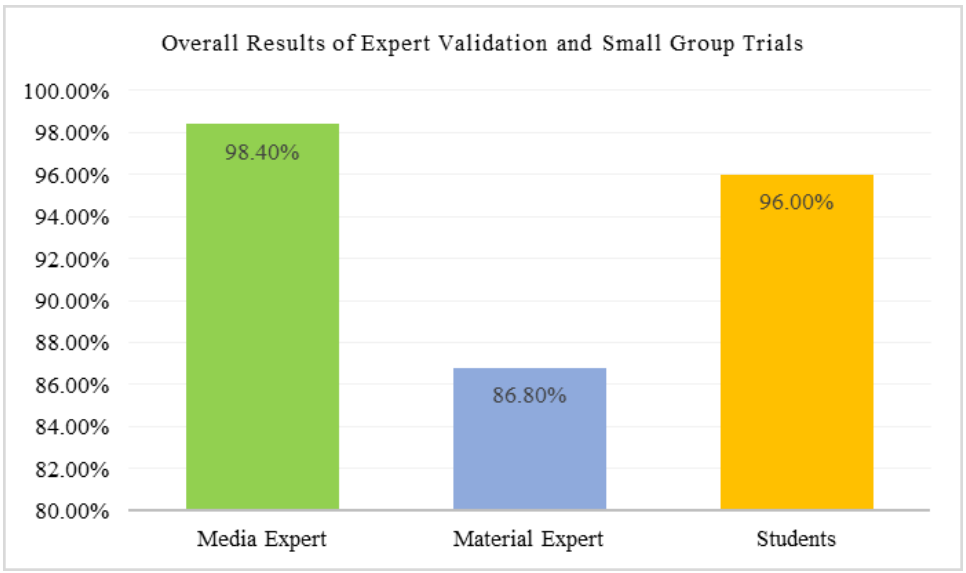

Figure 6: Diagrams Overall Results Expert Validation and Testing Small Group.

From the overall validation of experts and students as users of learning media, an average percentage of 93.73 is obtained, this shows that the ECO-TAX media that uses the Android system is considered very valid to apply. The quality of ECO-TAX media in terms of appearance, usability, and materials is considered to be able to help students carry out the learning process both inside and outside the classroom. This is in accordance with the media eligibility percentage table (Arikunto, 2014) that the media product developed is stated to be very valid because it obtains a media feasibility percentage of more than equal to 81 percent so that the product effectiveness trial process can be carried out while still paying attention to existing suggestions and criticisms.

The fifth stage is the evaluation stage. At this stage, researchers carry out product development improvements that refer to the results of assessments, suggestions, and comments obtained from validator experts. The product revision stage is carried out to improve some parts of the product that need to be revised and do not meet the criteria and further improvements need to be made so that the product can be even better. There is a product revision, namely the addition of the school logo and the correct placement of the agency logo. On the main menu display there are 6 menus namely, instructions for use, competency standards, materials, learning objectives, exercises & quizzes, the developer profile is revised in the practice & quiz section changed to evaluation and the developer profile is changed to help where in this menu there is a

developer profile, media use tutorial videos, and contact the teacher. Product revisions can be seen in Figures 5 and 6 as follows.

Figure 7: Products Before Revision.

Figure 8: Products After Revision.

Analysis of the difference test data is carried out after the prerequisite tests are carried out, namely the normality test and homogeneity test. To determine whether there is an increase in economic learning outcomes, statistical calculations are carried out using the t test.

TABLE 4: Result Of Learning Outcome Data Normality Test Student.

Tests of Normality				
	Group	**Shapiro-Wilk**		
		Statistics	**df**	**Sig.**
Learning Outcomes Student	Control Class	.969	27	.565
	Experiment Class	.963	27	.431

Based on the results of the normality test, it was found that the results of the significance were more than α = 0.05, indicating that the research data was normal and could be continued with the parametric statistical method of independent t-test.

Once it is known that the data are normally distributed, then an independent sample t-test is tested, as the results are shown in the following tables.

Based on Table 5, it can be seen that Sig. Levene's Test for Equality of Variances is 0.264 > 0.05, then H0 is accepted and Ha is rejected, meaning that the data variance

Table 5: Independent Sample T-Test Results.

Independent Samples Test										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F		Sig.	t	df	Sig. (2-tailed)	Mean Differences	std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Learning Outcomes Student	Equal variances assumed	1,276	.264	-9,467	52	.000	-23,333	2,465	-28,279	-18,387
	Equal variances not assumed			-9,467	50,572	.000	-23,333	2,465	-28,283	-18,384

between the control class and the experimental class is the same or homogeneous. So that the interpretation of the table is Equal variances assumed.

The next step is to do the Independent Sample T-test on the Equal variances assumed table data showing the value of Sig. (2-tailed) of 0.000 <0.05. Based on these results it can be concluded that the basis for making decisions in the Independent Sample T-test is that H0 is rejected and Ha is accepted. Thus, based on these results it can be concluded that there is a significant difference between the average student learning outcomes from the results of the posttest scores in the control class and the experimental class. This shows that using the ECO-TAX learning media in Economics lessons is effectively used to improve the learning outcomes of 11th grade students majoring in social science at State Senior High School 1 Gondanglegi, Malang Regency.

This research and development obtained results in the form of ECO-TAX media on the android system which was able to improve student learning outcomes. ECO-TAX media is produced with the help of Ispring Suite 9 applications or software. Ispring Suite 9 can be easily integrated with Microsoft PowerPoint so that it does not require special skills to use. Ispring Suite 9 can synchronize and record presenter videos, add learning videos, record or import audio, add unique designs and create navigation. The results of this study are in line with the research and development conducted by (Dasmo et al., 2020), namely the development of interactive learning media based on Ispring Suite 9 at SMA Negeri 1 Babakan Madang Bogor can be used by students independently at home and anywhere.

Android-based ECO-TAX learning media is specifically designed so that it is able to meet students' needs to support the teaching and learning process both offline and online learning and is very helpful in understanding material, especially taxation material in economic development. Interesting animation and learning displays, learning evaluation features, learning videos and evaluation results reports on ECO-TAX learning media are added values that can increase students' interest in learning so that they can be used in an effort to improve learning outcomes. The material on taxation in economic development contained in the ECO-TAX learning media is equipped with a summary of the material and examples of questions that make it easier for students to learn. The evaluation contained in the ECO-TAX media is able to improve students' abilities in aspects of knowledge they have, and teachers can evaluate the level of student achievement in the material that has been taught with the results in the form of scores that can be seen at the end of the evaluation (Anita & Siti, 2020).

Based on the results of expert validation and student responses, ECO-TAX media on the android system for taxation material in economic development is very suitable to support the learning process. The feasibility of media products produced in research and development is determined by expert validators (Sapitri & Bentri, 2020). The feasibility of ECO-TAX media obtained validation results from media experts, material experts and student responses which were analyzed using calculations on a Likert scale. The complete material presented on ECO-TAX media with the android system has fulfilled the syllabus and can guide students in achieving learning goals (Sulistyorini & Listiadi, 2022). The summary of the material in the ECO-TAX learning media makes it easier for students to understand the material that has been taught. There are learning videos in the form of animations and learning evaluations that can encourage and facilitate students when learning. In accordance with the opinion (Djamas et al., 2018) without tools or media to understand student material it tends to be difficult to understand the material being taught.

The results of this study reinforce previous research that learning media developed with Ispring Suite software are able to support teaching and learning processes efficiently and effectively and are able to make it easier for students to understand material and complete learning objectives in a relatively short time (Kusuma et al., 2019; Sittichailapa et al. , 2015). Learning media developed with Ispring Suite software can increase student enthusiasm in learning, can make it easier for students to study independently according to their abilities, and students can study anytime and anywhere (Sulistyorini & Listiadi, 2022).

4. Conclusions

The results of this research and development are in the form of learning media products on the Android system that can be operated via smartphones, computers and laptops. These results were developed as an alternative economic learning media at Gondanglegi 1 State Senior High School, Malang Regency, which was named ECO-TAX (Economy Tax) which was integrated and had never been applied before in economics learning. The validation results of the ECO-TAX learning media show very valid results. Based on this research, it was concluded that the ECO-TAX learning media is feasible or can be used in learning Economics on Taxation in Economic Development. In addition, the ECO-TAX learning media has proven to be effective in improving student learning outcomes. ECO-TAX learning media can be operated independently offline or online so that it can support the learning process both in online learning and offline learning.

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