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Development of Android-Based Interactive Media Using iSpring Suite 11 with the ADDIE Model for Economics Learning

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ABSTRACT

Objective: *This research focuses on developing Android-based interactive instructional media using iSpring Suite 11 to enhance the quality of economics learning. The study was motivated by low student engagement and suboptimal learning outcomes in Class XI-4 at SMAN Rambipuji, where a significant proportion of students did not achieve the minimum passing criteria despite the use of conventional PowerPoint media.* ***Method***: *The study adopted a modified ADDIE framework, concentrating on the analysis, design, and development stages. The product was evaluated through expert appraisal to examine content and design quality, along with student-based assessments to capture perceived attractiveness.* ***Results***: *The evaluation results indicate that the media achieved a content feasibility score of 97.1% and a design feasibility score of 94.2%, both categorized as highly feasible. Furthermore, the student attractiveness test yielded a score of 92.2%, indicating a very high level of attractiveness. These findings suggest that the developed media have strong potential to facilitate more engaging, interactive, and student-centered learning processes.* ***Novelty***: *The novelty of this study lies in the integration of iSpring Suite 11 into Android-based interactive instructional media that are pedagogically structured and empirically validated. This study highlights the strategic role of digital instructional media as a sustainable innovation for enhancing the quality of economics education in the digital era.*

INTRODUCTION

Learning is an essential element for students in developing themselves. Suardi and Syofrianisda (2017) state that learning is a process of helping students learn effectively. Learning also has important components, namely instructional media, learning models, and learning materials. Sayed Munna and Kalam (2021) explain that learning is considered successful when students achieve good results, influenced by factors such as motivation, the learning model used, the media or methods employed, and the availability of facilities and an active environment.

Instructional media are important in the learning process. They can broaden perspectives, understanding, insight, and problem-solving while fostering student motivation. Mayer (2020) explains that students understand material more easily through images and sentences than by reading plain text in books. Because instructional media incorporate both images and text, they are relevant to Mayer's statement.

The phenomenon observed in Class XI-4 at SMAN Rambipuji was that the teacher had already used Power Point-based instructional media. However, the students remained inactive during learning. This does not align with Al-Sabbagh (2022), who states that the development of instructional media can increase student motivation and participation in learning. Based on the interviews with students, they reported that the

Power Point slides used highly contrasting colors and rigid images. These conditions ultimately reduced their understanding of the concepts.

This was evident in students' daily test results after learning with Power Point, where nearly half of the students in Class XI-4 scored below the minimum passing score. Therefore, the instructional media used could be considered insufficiently effective and interactive. Students' passivity during lessons was ultimately reflected in examination results below the the minimum passing score. Susak (2016) states that students who participate in learning broaden their understanding of the material and increase their self-confidence. Based on this phenomenon, there is a need to develop interactive instructional media.

In developing such media, it is necessary to consider the characteristics of students in Class XI-4. Lestari and Djuhan (2021) describe three learning styles: kinesthetic, visual, and auditory. Learners with a kinesthetic style tend to understand material through direct practice and experimentation (Hernandez et al., 2020). Visual learners more easily understand lessons through pictures, diagrams, and videos (Avni, 2023), while auditory learners are better at absorbing information through conversation, discussion, and listening to explanations (Locke et al., 2024). Based on the researcher's observations, students in Class XI-4 tend to have a visual learning style. Visual learning is a condition in which students better understand material through what they see. In addition to considering student characteristics, researchers must also consider the resource conditions available at SMAN Rambipuji. Based on observations, the school provides facilities such as whiteboards, markers, projectors, power outlets, HDMI cables, and Wi-Fi connections.

However, the projectors at SMAN Rambipuji produces a yellowish display, and the Wi-Fi connection is unstable. In addition, students in Class XI-4 already own smartphones, so learning can be supported through internet-based information searches. Based on the available data and resources, interactive instructional media were developed for Android smartphones using iSpring Suite 11. iSpring Suite 11 is a software package for developing instructional media and was used to develop Android-based interactive learning media. Munir and Putri (2024) explain that iSpring Suite can visualize instructional media more interactively and make students more enthusiastic during learning.

In developing media, it is necessary to consider the feasibility of content, the feasibility of design, attractiveness, and interactivity. Kustyarini et al. (2020) explain that interactive instructional media are media equipped with buttons or control tools that users can operate to determine the flow of their learning. Android-based instructional media can improve students' understanding, motivation, and cognition (Darwin et al., 2022; Rakhman and Kurniawan, 2025).

Furthermore, the feasibility of the content and design of the Android-based interactive instructional media developed with iSpring Suite 11 was assessed by distributing validation sheets to content and design validators. Arsyad (2015) states that content aspects should consider accuracy, usefulness, completeness, and appropriateness. For design aspects, Smaldino (2011) explains that two basic elements of visual design should be considered, namely visual elements such as colors and images and text elements such as fonts and layout.

Attractiveness was assessed through a small-group attractiveness test involving students from Class XI-4. This test aimed to prove that the Android-based interactive instructional media developed with iSpring Suite 11 were attractive. Nurhidayati et al. (2019) explain that attractive instructional media can serve as a stimulus for students in learning. This is in line with Keller (2010), who states that learning packaged attractively through animations, images, or other media can increase students' attention to the teacher. After passing the feasibility and attractiveness tests, the Android-based interactive instructional media developed with iSpring Suite 11 could be used in learning.

The development of the Android-based interactive instructional media using iSpring Suite 11 employed material on the benefits and impacts of economic policies. Prasetya and Surjanti (2022) state that when selecting content for instructional media, it is important to choose material that not only provides factual information but also encourages students to analyze problems and find solutions. The topic of the benefits and impacts of economic policies requires the analysis of problems. Therefore, it is important to provide interactive elements that allow students to think critically, such as case studies and simulations illustrating the effects of economic policies in real life. This not only makes the material more interesting, but also encourages students to become more engaged in thinking and to develop critical and analytical thinking skills.

The development of the Android-based interactive instructional media using iSpring Suite 11 employed the ADDIE development model: analysis, design, development, implementation, and evaluation. Aldoobie (2015) states that the ADDIE model can be applied to the development of instructional media in digital, online, and face-to-face settings. Moreover, according to Branch (2009), the ADDIE model has clear and structured steps, making it adaptable to specific instructional media development needs.

Research by Sulistyorini and Listiadi (2022), which developed and used Android-based instructional media with iSpring Suite, obtained an attractiveness score of 91%. These results were reflected in the fact that the developed instructional media were well accepted by students. Students stated that the provided features were numerous and interesting, which motivated them to learn, become active during lessons, and improve their understanding of the material. Likewise, research by Muskhir et al. (2023) at vocational high schools, which developed Android-based interactive instructional media using iSpring Suite with the 4-D model, also found the media feasible in terms of both content and design. However, both studies did not use the latest version, iSpring Suite 11. In addition, they did not integrate real classroom conditions and the characteristics or learning styles of students into the development process. Furthermore, the media validity tests in previous studies were limited to feasibility or attractiveness and had not combined content feasibility, design feasibility, and attractiveness comprehensively and directly. Therefore, this study offers novelty by developing Android-based interactive instructional media using iSpring Suite 11 that were designed and tested through validity testing, namely content validation, design validation, and attractiveness validation.

RESEARCH METHOD

Research Location and Subjects

The development research on Android-based interactive instructional media using iSpring Suite 11 was conducted in Class XI-4 at SMAN Rambipuji. Class XI-4 belongs to a different academic stream from the other Grade XI classes. It is the only Grade XI class in the applied sciences stream, unlike the other Grade XI classes, which belong to the natural sciences, social sciences, and humanities streams. Moreover, based on the mid-semester test results for the even semester of the 2023/2024 academic year, 50% of the students in Class XI-4 scored below the the minimum passing score. Therefore, the researchers selected Class XI-4 at SMAN Rambipuji as the site for developing the Android-based interactive instructional media using iSpring Suite 11.

The testing of the Android-based interactive instructional media using iSpring Suite 11 with students was conducted in a limited group consisting of 15 students. Edwards and Holland (2013) explain that a sample group may consist of six to ten people. In addition, Sadiman (2018) states that small-group trials may involve 9-20 students, so the researchers selected 15 students. These 15 students were chosen based on their mid-semester examination scores: five students with the lowest scores, five with average scores, and five with the highest scores. The selection of the Android platform as the basis for interactive media development was based on the results of the initial analysis. Observations and preliminary interviews with Class XI-4 students at SMAN Rambipuji showed that the majority of students already owned and used Android smartphones. Therefore, to ensure that the developed media would be accessible to most target users, the media were developed for the Android operating system.

Type of Research

Development of this study was Research and Development (R&D) aimed at developing Android-based interactive instructional media using iSpring Suite 11 for the subtopic of the benefits and impacts of economic policies. The purpose of developing this Android-based interactive instructional media using iSpring Suite 11 was to increase students' learning motivation. The ADDIE model was used because: 1) The ADDIE model is suitable for developing technology-based instructional media (Pribadi, 2014); 2) The ADDIE model evaluates every stage (Branch, 2009), which contributes to the production of feasible and attractive instructional media; 3) The ADDIE model is flexible and can be applied to various forms of instructional media, helping developers design relevant and engaging materials (Allen, 2017); 4) Dick et al. (2009) explain that every stage in the ADDIE model contains an evaluation session, helping developers improve and produce better, more efficient, and more attractive products.

Development Procedure

The research procedure used in this research and development study referred to the ADDIE model, which consists of five phases: analysis, design, development, implementation, and evaluation. However, the phases used in this development study consisted only of three phases: analysis, design, and development.

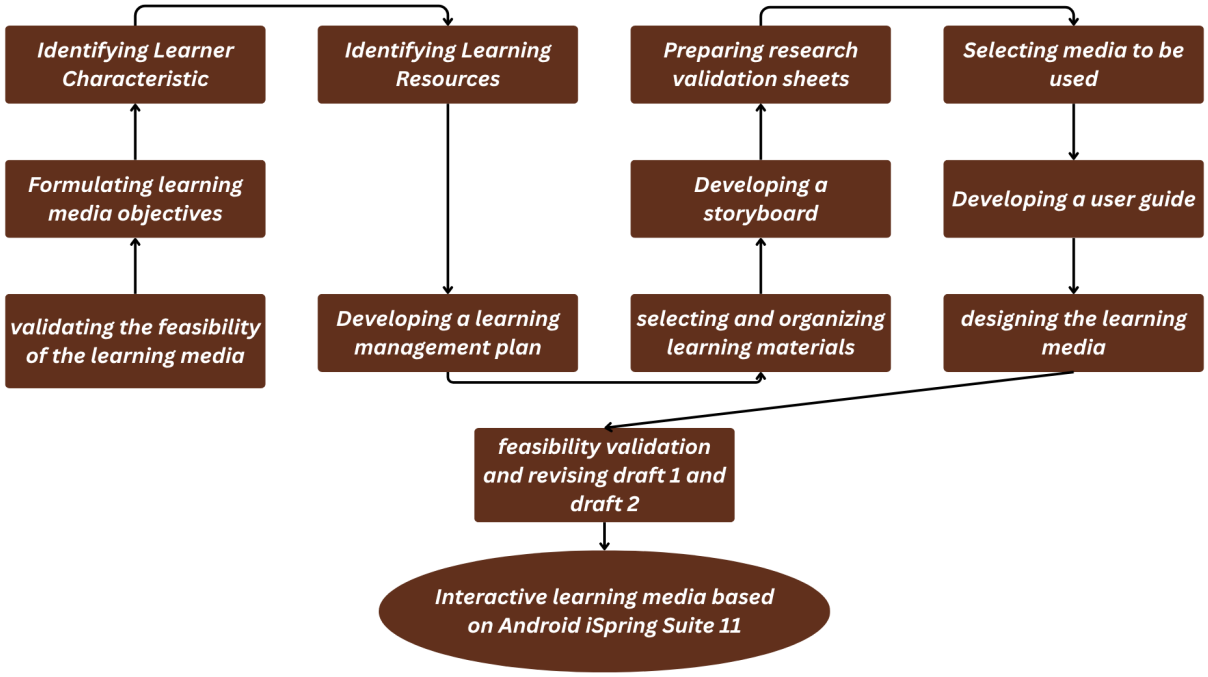

Figure 1. Learning Media Development Procedure

Broadly speaking, the three modified phases shown in Figure 1 can be described as follows (Branch, 2009):

Analysis Phase

In the analysis phase, the goal was to identify the causes of the problems that occurred. By understanding the causes of these problems, researchers could propose and recommend strategies using instructional products. This phase included validating learning gaps, formulating the objectives of the instructional media, identifying student characteristics, identifying the resources used, and preparing a development management plan.

Design Phase

The aim of the design phase was to verify the objectives to be achieved and choose appropriate testing methods. The researchers modified the design phase into several stages: selecting and organizing the material to be used, preparing a storyboard, and preparing the research validation sheets.

Development Phase

The aim of the development phase was to develop and validate the selected instructional product. In this phase, the researchers conducted several stages, including selecting the media to be used, developing guidelines for media use, creating the instructional media, conducting media validation tests, and carrying out attractiveness tests.

Types and Sources of Research Data

In seeking research data to support the development of the Android-based interactive instructional media using iSpring Suite 11, the researchers used two types of data: primary data and secondary data.

The primary data were obtained from three sources: observation, questionnaires, and interviews. Observations were conducted in Class XI-4 at SMAN Rambipuji to determine how students responded during learning, what learning resources were used, and the level of student understanding.

Questionnaires were used to obtain data related to the attractiveness of the instructional media. The questionnaires were administered in the form of survey sheets to students in Class XI-4 at SMAN Rambipuji through a small-group trial to assess the attractiveness of the instructional media. The small-group trial involved 15 students in Class XI-4 who met the criteria described earlier.

The next data collection technique was interviews. Interviews were conducted with students in Class XI-4 at SMAN Rambipuji and with the supervising economics teacher of Class XI-4. The interviews were carried out to collect supporting data both before and after the study.

Data Analysis

The feasibility test of the Android-based interactive instructional media using iSpring Suite 11 was conducted on two aspects, with two validators for each aspect. The validation scoring criteria were as follows:

Table 1. Validation Scoring Guidelines

Rating Description	Score
Not Feasible	1
Less Feasible	2
Fairly Feasible	3
Feasible	4
Very Feasible	5

Source: Akbar (2017)

After the content and design validators assessed the Android-based interactive instructional media using iSpring Suite 11, the scores were averaged and converted into percentages so that the percentages could be classified according to the following table.

Table 2. Validation Score Criteria

Achievement Level	Qualification	Description
81% - 100%	Very Feasible	No revision needed because the media are feasible
61% - 80%	Feasible	No revision needed because the media are feasible
41% - 60%	Fairly Feasible	Revised because the media are not yet feasible
21% - 40%	Less Feasible	Revised because the media are not yet feasible
< 21%	Very Infeasible	Revised because the media are not yet feasible

Source: Akbar (2017)

After conducting the content and design feasibility tests, the Android-based interactive instructional media using iSpring Suite 11 were then tested on students in Class XI-4 to assess their attractiveness. The following are the attractiveness test scoring criteria.

Table 3. Attractiveness Scoring Guidelines

Rating Description	Score
Not Attractive	1
Less Attractive	2
Fairly Attractive	3
Attractive	4
Very Attractive	5

Source: Akbar (2017)

After the attractiveness test was conducted to measure the level of attractiveness of the Android-based interactive instructional media using iSpring Suite 11, the scores were averaged and converted into percentages so that the final results of the Android-based interactive instructional media using iSpring Suite 11 could be determined.

Table 4. Attractiveness Score Criteria

Achievement Level	Qualification	Description
81% - 100%	Very Attractive	No revision needed because the media are feasible
61% - 80%	Attractive	No revision needed because the media are feasible
41% - 60%	Fairly Attractive	Revised because the media are not yet feasible
21% - 40%	Less Attractive	Revised because the media are not yet feasible
< 21%	Very Unattractive	Revised because the media are not yet feasible

Source: Akbar (2017)

RESULTS AND DISCUSSION

Results

Media Validation Results

The Android-based interactive instructional media using iSpring Suite 11, which had been designed using the ADDIE model, were then subjected to content feasibility, design feasibility, and attractiveness tests. The content feasibility test was conducted by Mr. Mat Fatekan, S.Pd., an Economics teacher at SMAN Rambipuji, as the first validator, and Ms. Lisana Oktavisanti M., S.Pd., M.Pd., a lecturer in Economics Education at the University of Jember, as the second validator. The results of the first draft content feasibility test are presented in table 5.

Table 5. Results of Content Feasibility Test - Draft 1

No	Aspect Evaluated	Validator		Average per Indicator
		First	Second	
1.	Accuracy of the material in the Android-based instructional media in relation to the basic competencies	4	3	3.5
2.	Accuracy of the answer key for the practice questions	5	5	5

No	Aspect Evaluated	Validator		Average per Indicator
		First	Second	
3.	The material provided contains concepts and definitions that are easy for students to understand	2	4	3
4.	Completeness of the material presented in the Android-based instructional media	3	4	3.5
5.	The media include introductory definitions, case studies, and practice questions	3	5	4
6.	The material presented reflects actual facts and is easy to understand	4	5	4.5
7.	Suitability of the images and videos to the material	4	5	4.5
Total Average Percentage			80%	
Category			Feasible	

Source: Primary Data (2024)

The results of the first draft content feasibility validation obtained a score of 80%, which indicates that the media were feasible. Although the Android-based interactive instructional media using iSpring Suite 11 received a feasible rating, the validators still provided several revision suggestions. These suggestions were used to improve the content aspect of the instructional media. The revision suggestions and the results of the revisions are shown in the following table 6.

Table 6. Revision Suggestions for Content Feasibility - Draft 1

No	Before Revision	After Revision
1.	There was no sub-menu discussing the general definition of the material used.	A general definition sub-menu was added to explain the material used in the media.
2.	In the sub-menus on the benefits of economic policy and the impacts of economic policy, the material was not arranged neatly and needed to be presented in bullet points so that users could use the media more easily.	Main discussion points were created in the sub-menus on the benefits of economic policy and the impacts of economic policy.
3.	There was no page containing prompting questions in the form of case studies for students.	A page containing prompting questions based on a recent case study was provided.
4.	The general information menu did not yet explain the learning objectives, so this information needed to be added.	An explanation of the learning objectives was added to the general information menu.

Source: Primary Data (2024)

The first draft content feasibility results contained four revision suggestions: adding a general definition sub-menu to the learning material menu, organizing the content of the benefits of economic policy and impacts of economic policy sub-menus, adding a page containing prompting questions, and adding an explanation of the learning objectives to the general information menu. After the media were revised according to the suggestions of the first and second validators, the second draft content feasibility test was conducted, and the results are shown below.

Table 7. Results of Content Feasibility Test - Draft 2

No	Aspect Evaluated	Validator		Average per Indicator
		First	Second	
1.	Accuracy of the material in the Android-based instructional media in relation to the basic competencies	5	5	5.0
2.	Accuracy of the answer key for the practice questions	5	5	5.0
3.	The material provided contains concepts and definitions that are easy for students to understand	5	4	4.5
4.	Completeness of the material presented in the Android-based instructional media	5	5	5.0
5.	The media include introductory definitions, case studies, and practice questions	5	5	5.0
6.	The material presented reflects actual facts and is easy to understand	4	5	4.5
7.	Suitability of the images and videos to the material	5	5	5.0
	Total Average Percentage		97.1%	
	Category		Very Feasible	

Source: Primary Data (2024)

The second draft content feasibility results showed a percentage score of 97.1%, which indicates that the media were very feasible. The score increased on indicators 1, 3, 4, 5, and 7 because the media had undergone revisions based on the suggestions provided. Based on these results, the Android-based interactive instructional media using iSpring Suite 11 were considered feasible for testing.

After the content feasibility test, the next step was the design feasibility test of the instructional media. The design feasibility test was conducted twice by two validators: Ms. Naili Firohmati Robbi, S.Pd., an Information and Communication Technology teacher at SMAN Rambipuji, and Mr. Ahmad Eko Budi Purnomo, S.Pd., also an Information and Communication Technology teacher at SMAN Rambipuji. The results of the first draft design feasibility test are presented in table 8.

Table 8. Results of Content Feasibility Test - Draft 2

No	Aspect Evaluated	Validator		Average per Indicator
		First	Second	
1.	Consistency in the placement of layout elements	4	4	4.0
2.	The media display accurately represents the material and visually conveys the type of illustration presented	5	5	5.0
3.	The background layout does not interfere with the material	5	4	4.5
4.	Not too many font combinations are used	4	4	4.0
5.	Variations in font style (bold, italic, underline) are not excessive	4	4	4.0
6.	The images used in the instructional media are appropriate and support the explanation of the material	4	4	4.0
7.	The color components used in the media are attractive	4	5	4.5

No	Aspect Evaluated	Validator		Average per Indicator
		First	Second	
	Total Average Percentage		85.7%	
	Category		Very Feasible	

Source: Primary Data (2024)

Indicators 1, 4, 5, and 6 received the lowest score in the first draft design feasibility test, namely 4, which indicates feasible. Even so, the design validators still provided revision suggestions to refine the Android-based interactive instructional media using iSpring Suite 11 from the design aspect. The revision suggestions and the results of the media revisions are shown in table 9.

Table 9. Revision Suggestions for Design Feasibility - Draft 1

No	Before Revision	After Revision
1.	The application title still used a red outline that did not match the overall color template.	The red outline on the application title was removed.
2.	The font size in the practice section was not yet proportional and consistent.	The font size in the practice section was adjusted to improve consistency and readability.
3.	The images and illustrations used in the instructional media did not yet include source citations.	Source citations were added for all images and illustrations used in the instructional media.
4.	Some photos in the material section still used similar images and were not yet aligned with each topic specifically.	Each material section now uses different photos or images that match the relevant topic.

Source: Primary Data (2024)

In the first draft design feasibility results, there were four revision suggestions: removing the red outline from the application title, adjusting the font size in the practice section, providing sources for every image and illustration used in the instructional media, and using different photographs in each material section according to the topic discussed. After the instructional media were revised according to the suggestions of the first and second validators, the second draft design feasibility test was conducted, and the results are shown in the following table.

Table 10. Results of Design Feasibility Test - Draft 2

No	Aspect Evaluated	Validator		Average per Indicator
		First	Second	
1.	Consistency in the placement of layout elements	5	4	4.5
2.	The media display accurately represents the material and visually conveys the type of illustration presented	5	5	5.0
3.	The background layout does not interfere with the material	5	5	5.0
4.	Not too many font combinations are used	4	4	4.0
5.	Variations in font style (bold, italic, underline) are not excessive	5	4	4.5

No	Aspect Evaluated	Validator		Average per Indicator
		First	Second	
6.	The images used in the instructional media are appropriate and support the explanation of the material	5	5	5.0
7.	The color components used in the media are attractive	5	5	5.0
	Total Average Percentage		94.2%	
	Category		Very Feasible	

Source: Primary Data (2024)

The second draft design feasibility results showed a percentage score of 94.2%, which indicates that the media were very feasible. The score increased on indicators 1, 5, 6, and 7 because the media had undergone improvements based on the revision suggestions provided. Based on these results, the developed instructional media were feasible for trial implementation.

Table 11. Attractiveness Test Results

No	Indicator	Score	Category
1.	The Android-based instructional media are easy to use	93.3%	Very Attractive
2.	The text and video materials can be learned independently with ease	94.6%	Very Attractive
3.	The material is well presented in the instructional media	90.6%	Very Attractive
4.	The features presented in the instructional media are attractive and up to date	92.0%	Very Attractive
5.	The display of the Android-based instructional media is attractively packaged	90.6%	Very Attractive
	Average Percentage	92.2%	Very Attractive

Source: Primary Data (2024)

The validated Android-based interactive instructional media using iSpring Suite 11 were then tested in a small group of 15 students from Class XI-4 at SMAN Rambipuji to determine the attractiveness of the instructional media. The results of the small-group attractiveness test are presented below.

The results of the small-group instructional media attractiveness test reached 92.2%, which indicates that the media were very attractive. In the revision comment boxes on the student questionnaire sheets, no revision suggestions were found. Therefore, it can be concluded that the Android-based interactive instructional media using iSpring Suite 11 fall into the very attractive category without requiring revisions.

Discussion

Cabotage (2024) developed Android-based teaching materials for Grade 10 students. In that study, the instructional media were first tested through expert validation and were proven effective, although the focus was limited to the feasibility of the media content. In contrast, the present study developed Android-based instructional media that validated not only the content feasibility, but also the design feasibility and attractiveness of the media. The researchers also used iSpring Suite 11 as the development platform, which has not yet been widely used as a basis for smartphone-based instructional media development. Thus, the novelty of this study lies in the use of a platform that has not

been widely explored, a comprehensive evaluation scope, and media validation results that overall provide a new contribution to the development of digital instructional media.

Sarjono (2017) explains that evaluating the feasibility of instructional media requires attention to both content and design aspects. Therefore, to determine the feasibility of the Android-based interactive instructional media using iSpring Suite 11, the researchers conducted two stages of feasibility testing performed by content and design validators. The feasibility results were then followed by an attractiveness test involving a small group of students from Class XI-4 at SMAN Rambipuji.

Arsyad (2015) states that evaluating the content feasibility of instructional media must consider the accuracy, usefulness, completeness, and appropriateness of the material. The results of the content feasibility test in Draft I produced an average score of 80%, while Draft II produced a score of 97.1%. According to Akbar (2017), a feasibility level of 81%-100% falls into the very feasible category.

The results of the Draft I content feasibility test had already shown that the media were feasible for use. However, in an effort to refine the developed media, the content validators suggested revisions in the form of adding a definition section, reorganizing the learning material menu, creating a page for prompting questions, and adding an explanation of the learning objectives in the general information section. After the revisions were made and the Draft II content feasibility test was conducted, the scores on several indicators in the validation sheet increased to feasible and very feasible. This increase in score was due to the revision suggestions from the content validators, each of which served its own function and benefit in improving the developed product.

The first revision suggestion for indicator 4 was to add a definition section. The material in Draft I of the instructional media did not yet provide concepts and definitions that were easy for students to understand. Providing definitions helps students understand the material being studied. Listiadi (2022) explains the importance of improving quality and efficiency in learning, as these can affect student learning outcomes. In addition, the inclusion of a definition section helps the instructional media convey information and messages clearly to students, thereby supporting improvements in both the learning process and learning outcomes (Wulandari et al., 2023). According to Kalyuga et al. (2010), general information and descriptions help learners construct schemas and develop an overview for completing subsequent tasks.

The second revision suggestion for indicator 3 was to reorganize the learning material menu. The arrangement of the material in Draft I of the Android-based interactive instructional media using iSpring Suite 11 was not orderly or systematic, which could make it difficult for students to understand the material. The developed instructional media therefore needed to be organized systematically so that the benefits and objectives of the media development could be achieved (Alti et al., 2022).

The third revision suggestion for indicator 5 was to add a prompting page. Prompting questions are a way to explore students' prior knowledge regarding the material presented. Prompting questions can foster students' interest, motivation, and engagement in learning (Shanmugavelu et al., 2020). They are also important in instructional media because they can make learning more interactive and develop students' thinking skills, confidence, and ability to express opinions (Pandu et al., 2023).

The fourth revision suggestion for indicator 1 was to add an explanation of the learning objectives. BSNP (2014) states that learning objectives are one of the supporting points in the presentation of material. Including learning objectives in the instructional

media helps teachers and students understand the goals to be achieved in learning, thereby supporting systematic, practical, effective, and accurate learning activities (Sesiorina, 2014).

Arsyad (2015) states that instructional media must contain feasible material based on several indicators, namely accuracy, usefulness, completeness, and appropriateness. These four revision suggestions from the content validators represented improvements in those aspects. The purpose of these revisions was to make the media easier for both students and teachers to use.

The design feasibility of the Android-based interactive instructional media using iSpring Suite 11 was measured using a design validation sheet. The design feasibility of instructional media needs to meet aspects related to text, images, animation, video, and audio (Silitonga et al., 2024). In line with Hakim and Handayani (2021), evaluating the design feasibility of instructional media should pay attention to color templates, images, fonts, and layout. The results of the design feasibility test in Draft I produced an average score of 85.7%, while Draft II produced a score of 94.2%. According to Akbar (2017), a feasibility level of 81%-100% falls into the very feasible category. The results of the Draft I design feasibility test showed that the Android-based interactive instructional media using iSpring Suite 11 were already feasible for use. However, in the process of refining the instructional media, the design validators suggested revisions such as removing the outline from the title, adjusting the font size in the practice section, providing sources for every image used in the instructional media, and using different photos or images in each material section.

The first revision suggestion for indicator 7 was to remove the outline from the title. In the first draft design feasibility test, the outline color in the title did not match the color template used. According to Baper et al. (2021), color is an important element because it can affect students' condition during learning. Kristanto (2016) states that in determining colors, attention must be paid to the specific color, the thickness and thinness of the color, and color intensity. Therefore, the outline color was removed because it did not align with the principles of color selection intended to motivate students in the learning process (Widarti et al., 2021).

The second revision suggestion for indicator 1 was to adjust the font size in the practice section. During the first draft design feasibility test, the font size used in the practice section was inconsistent, resulting in inconsistent layout within the media. Adjusting the font size helped make the instructional media easier for both teachers and students to read and use. According to Hakim and Hidayani (2021), using appropriate font types and typography in instructional media can improve the delivery of messages or information to students. This is in line with Lanham (2006), who states that typography is an effective way to communicate information.

The third revision suggestion for indicator 6 was to provide sources for all images and illustrations used in the learning material menu. Including sources is intended to avoid copyright infringement in the use of images. Lazarus (2024) states that the protection of intellectual property is important and is a mission shared by governments, businesses, organizations, and society to ensure that inventors and creators of intellectual property receive what they deserve. The instructional media developed in this study used Canva's pro content licenses so as to avoid plagiarism.

In evaluating the attractiveness of instructional media, Jalinus and Ambiyar (2016) state that attention should be paid to aspects such as ease of navigation and access, use

of technology, and novelty. Each attractiveness aspect has its own indicators. Based on the test results with students, each attractiveness indicator obtained an average of 92.2%, which indicates that the media were very attractive. According to Akbar (2017), a score percentage of 81%-100% falls into the very attractive category. These results show that the Android-based interactive instructional media using iSpring Suite 11 were categorized as very attractive.

When examined in more detail, the attractiveness of the Android-based interactive instructional media using iSpring Suite 11 developed in this study lies in the ease of using the media features, the ease with which students can understand the material, the novelty of the features, and the impressive visual appearance. Based on the indicator of ease of using Android-based instructional media, students gave a score of 93.3%, which indicates very attractive. The indicator that the material could be learned independently with ease received a score of 94.6%. The percentage results for these two indicators were influenced by the revision suggestions from the content and design validators. Students were helped in understanding the material by the presence of prompting questions in the developed instructional media. Prompting questions that involve analysis and evaluation can stimulate students' critical thinking (Salmon and Barrera, 2021).

An attractive and impressive instructional media display can motivate students and increase their interest in reading the learning material (Shabiralyani et al., 2015). In addition, the use of technology applications in learning can increase students' interest and learning motivation (Charline et al., 2023). This is reflected in the score obtained in this study, namely 90.6%, which indicates that the display aspect was very attractive. With an attractive display and up-to-date features, the instructional media increasingly assist students in learning both independently and in the classroom.

Based on interviews with the economics teacher, it was found that learning implemented using Android-based instructional media could provide up-to-date features, namely prompting question pages and learning videos. Prompting question pages are useful for building communication and interaction in learning. Prompting questions can also help teachers, especially in focusing students' attention on learning (Papadopoulos et al., 2010). Likewise, interviews with students showed that they were enthusiastic about using the Android-based instructional media. The features provided by the media helped students understand the learning material more easily.

The instructional media that had been developed were proven feasible and attractive. However, in the attractiveness test of the Android-based instructional media using iSpring Suite 11, some limitations and comments from students still emerged. During the limited-group attractiveness test involving 15 students in Class XI at SMAN Rambipuji, a student with the initials VA rated all indicators with a score of 4, meaning attractive, and a student with the initials VJ rated several indicators with a score of 4, also meaning attractive.

The Android-based instructional media using iSpring Suite 11 that had been developed also had shortcomings experienced by students during the limited-group attractiveness test. These shortcomings included the fact that the instructional media could only run on Android smartphones and could not be run on iOS smartphones, which was experienced by student VA during the attractiveness test. In addition, when running the instructional media, some of the smartphones used by the students could not operate smoothly because their specifications were insufficient to support the developed media. Finally, the scope of the research was limited to the analysis, design, and

development stages. It should be noted that the main contribution of this study was the development of Android-based interactive media whose content feasibility, design feasibility, and attractiveness had been tested. However, its practical impact on classroom learning effectiveness has not yet been measured and therefore requires further testing of the developed instructional media.

Based on the feasibility and attractiveness tests that were conducted, the Android-based interactive instructional media using iSpring Suite 11 were overall declared very feasible and very attractive for use in addressing the problems observed in economics learning activities in Class XI-4 at SMAN Rambipuji.

CONCLUSION

Fundamental Finding: This study developed Android-based interactive instructional media using iSpring Suite 11 for Class XI-4 students at SMAN Rambipuji on the material of the benefits and impacts of economic policies. The developed media were designed based on students' learning needs, classroom conditions, and visual learning preferences. The validation results showed that the media achieved a content feasibility score of 97.1% and a design feasibility score of 94.2%, both categorized as very feasible. In addition, the attractiveness test involving students obtained a score of 92.2%, which was categorized as very attractive. These findings indicate that the Android-based interactive instructional media developed using iSpring Suite 11 are suitable and attractive for use in economics learning. **Implication:** The developed media provide an alternative instructional medium for economics teachers to support more interactive and engaging learning activities. The media can be used in both classroom-based and online learning because they are accessible through Android smartphones. For students, the media may help them understand the material more easily through visual displays, videos, prompting questions, and interactive features. For schools, the media can be integrated into existing digital learning platforms, such as Google Classroom, to support flexible access to learning materials. **Limitation:** This study was limited to the analysis, design, and development phases of the ADDIE model. The media were tested only in a small group consisting of 15 students from Class XI-4 at SMAN Rambipuji. In addition, the developed instructional media can only be accessed through Android smartphones and cannot yet be used on iOS devices. Some students also experienced technical limitations because certain smartphones did not fully support the media performance. Furthermore, this study only measured content feasibility, design feasibility, and attractiveness, while the effectiveness of the media in improving student engagement and learning outcomes has not yet been tested. **Future Research:** This study underscores the importance of technology integration through the development of Android-based interactive instructional media using iSpring Suite 11 as a strategic approach to improving the quality of economics learning. The developed media has been proven to be highly feasible in terms of content and design and is highly attractive to students, thereby supporting more active and student-centered learning, particularly on the topic of economic policies at SMAN Rambipuji, Jember Regency. These findings indicate that well-designed digital learning media not only facilitate the learning process but also enhance overall learning quality in the digital era. However, the study is limited to the development stage and a relatively small sample size, indicating the need for further research involving implementation and evaluation phases with broader participant

coverage. Overall, digital instructional media demonstrates strong potential as a sustainable innovation in improving the quality of economics education.

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