# Development of Mobile Learning NARACY (Financial Literacy) as a Learning Media for Social Studies Subjects in Junior High School

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## ABSTRACT

*The industrial revolution 4.0 is characterized by technological disruption that affects the education system. One of the implementations of technology orientation in the learning process facilitated by teachers is through learning resources. Therefore, this study aims to produce a mobile learning product, NARACY, as a learning media to support financial literacy material activities for grade IX junior high school students. This research uses the Research & Development (R&D) method with the ADDIE model. This research and development showed a total percentage of material validators of 91.6% and media validators of 95%. At the same time, the trial results on grade IX students obtained an average percentage score of 93%. Based on these results, the NARACY application is very feasible to use as a medium for learning social studies in grade IX junior high school. This research and development is expected to be an innovative learning support media that can be used by teachers and students and is expected to facilitate diverse student learning styles. Suggestions for further research include testing the product's effectiveness by conducting experimental activities in the classroom and providing various themed features on the product. They can be disseminated through the Google PlayStore platform.*

### *Keywords*:

Mobile Learning NARACY; Instructional Media; Student.

## ABSTRAK

*Revolusi industri 4.0 ditandai dengan disrupsi teknologi yang mempengaruhi sistem pendidikan. Salah satu implementasi orientasi teknologi dalam proses pembelajaran yang difasilitasi oleh guru adalah melalui sumber belajar.*

*Oleh karena itu, penelitian ini bertujuan untuk menghasilkan produk mobile learning NARACY sebagai media pembelajaran penunjang kegiatan materi literasi keuangan siswa kelas IX SMP. Penelitian ini menggunakan metode Research & Development (R&D) dengan model ADDIE. Hasil penelitian dan pengembangan ini menunjukkan total persentase validator materi sebesar 91,6% dan validator media sebesar 95%. Sedangkan hasil uji coba pada siswa kelas IX diperoleh persentase skor rata-rata sebesar 93%. Berdasarkan hasil tersebut maka aplikasi NARACY sangat layak digunakan sebagai media pembelajaran IPS kelas IX SMP. Penelitian dan pengembangan ini diharapkan dapat menjadi media pendukung pembelajaran inovatif yang dapat digunakan oleh guru dan siswa serta diharapkan dapat memfasilitasi gaya belajar siswa yang beragam. Saran untuk penelitian selanjutnya antara lain menguji keefektifan produk dengan melakukan kegiatan eksperimen di dalam kelas dan menyediakan berbagai fitur bertema pada produk serta dapat disebarluaskan melalui platform Google PlayStore.*

## 1.    Introduction

The educational revolution towards Education 4.0 demands fundamental changes in the learning process. Learning is carried out as an effort to improve the quality of education through the use of technology in a system known as digital learning (Arikarani & Amirudin, 2021; Bitar & Davidovich, 2024; Chen et al., 2024; B. Kurniawan, I. Idris, A. Purnomo, A. Wiradimadja, and S. Sukamto, 2019). Digital learning directs education towards modern learning involving digital information and communication technology. This includes the digitalization of information and the massive use of artificial intelligence in various sectors of human life, including education (Simanjuntak, 2019; Adel et al., 2024). Budhayanti (2023) also stated that digital technology is currently widely used in educational institutions to support learning, both as an information tool and a learning tool (Sozio et al., 2024; Yan & Pourdavood, 2024).

Digital technology in education has an impact on improving the quality of education. The educational field uses digital technology as a medium in the learning process. Digital media are systems that can facilitate students' learning (Schultz, 2024; Shu, 2024; Weng, 2024). To provide effective student facilities, teachers are required to master technology and information (Culajara et al., 2022; Navarro et al., 2024). Teacher competency must be oriented toward developing information and communication technology within a digital society (Adrian & Agustina, 2019; Paños-Castro et al., 2024). One implementation of technology orientation in the learning process that teachers facilitate is through learning media.

Based on the results of observations and interviews by social studies teachers at Tumpang 2 State Junior High School, the learning resources used by students include textbooks, student

worksheets, material notes, and the results of students' independent browsing. It was found that most students had limited resources when studying from home. On the other hand, financial literacy materials cover a broad range of economic activities in daily life. Students have difficulty understanding economic concepts according to their needs. Many students spend money playing games, purchasing non-essential items on the marketplace, etc. Therefore, knowledge is needed so that students can determine the priority of daily needs. If students rely solely on the learning resources at Tumpang 2 State Junior High School, they will have difficulty and will not fully grasp the material's application in daily life. The material is presented using school-provided technology such as LCDs and projectors. However, these have not been utilized optimally. On the other hand, most students have smartphones and can operate them to search for material and do school assignments. Thus, using smartphone technology in the learning process is feasible.

The learning carried out by teachers at Tumpang 2 State Junior High School has not yet optimized the use of learning media, especially in social studies subjects. As a result, the learning outcomes of some students in financial literacy material are still low, and they have not reached the minimum competency criteria. This is proven by data analysis regarding daily test scores in this material; 17 out of 31 class IXA students at Tumpang 2 State Junior High School have not reached the minimum completeness criteria. Based on the results of observations, this was due to students' learning modalities not being met. These modalities include visual, auditory, and kinesthetic. Therefore, the learning process needs to be improved since the material is an important subject with predetermined minimum criteria for completeness. An alternative solution to this problem is to develop supportive learning media that adopts mobile learning products assisted by Microsoft PowerPoint based on iSpring Suite 10.

This research aims to produce the development of the NARACY mobile learning product as a learning medium for financial literacy material for class IXA at Tumpang 2 State Junior High School. Mobile learning assisted by Microsoft PowerPoint based on iSpring Suite 10 is a more engaging and interactive learning media innovation. The material is presented via an application installed on an Android smartphone. The material presented includes text, along with audio displays, animations, images, videos, news articles, the Padlet platform as an interesting discussion space, financial practices using the Moni application, and quizzes as evaluation material. With mobile learning based on iSpring Suite 10, learning can be done in an interactive manner and is not limited by time or place.

Research on mobile learning assisted by Microsoft PowerPoint based on iSpring Suite 10 in the last five years has shown significant developments. Pratama et al. (2023) developed learning media based on iSpring Suite 10 for material on ASEAN countries at SMP Negeri 6 Banjarmasin (Nimy & Mosia, 2024). This development was intended to support the learning of social studies subjects because the material was predominantly presented descriptively through books, making it difficult for students to understand—especially the material on ASEAN countries. This development indicated that mobile learning only expanded through additional materials, learning videos, and quizzes, but did not fully cater to students' different learning styles. On the other hand, Anggestia (2022) also developed a mobile learning product based on iSpring Suite 10 as a learning medium for economics

subjects at Madrasah Aliyah Ma'arif 9 Gajah City. This development was motivated by a lack of creativity in traditional learning methods, such as using open books, which were not equipped with interactive multimedia, and teachers facing difficulties in conveying economic material. The resulting mobile learning product focused primarily on materials and evaluation questions. Moreover, some text was difficult to read due to color choices. Research and development of mobile learning have also been carried out by Nizar et al. (2023) and Daugela & Zydziunaite (2024) in Geography subjects with disaster mitigation material at MAN 2 Kediri City. This development aimed to address students' challenges in mastering disaster mitigation material, as previous learning media were insufficient. The results of the mobile learning development revealed issues with the design, such as poor background color choices that affected readability, and poorly positioned buttons.

Based on the results of previous research, it appears that the features contained in the mobile learning application assisted by Microsoft PowerPoint based on iSpring Suite 10 still have several shortcomings and do not meet the different learning styles of students. Therefore, there is still a need to develop and add various features to facilitate students' diverse learning styles. This study aims to fill the gaps in previous research, such as creating an interactive and attractive application interface, diversifying material forms (illustrated material, news articles, podcasts, and videos), providing interaction space between students integrated with the Padlet platform and supporting applications for financial practices such as Moni, ensuring a product size that is not too big, making the application user-friendly (with a zoom feature), and ensuring quick product accessibility. Thus, this research and development aim to develop a mobile learning product, NARACY, as a learning medium to support financial literacy material activities for grade IX junior high school students.

## 2. Methods

### 2.1. Development Model

This research uses a development research design or Research and Development (R&D). R&D research is a method used to produce specific products and test the effectiveness of the products being developed (Abdillah et al., 2023). The development model used in this research is the ADDIE model (Analyze, Design, Develop, Implement, and Evaluate). The ADDIE learning model consists of 5 stages: Analysis, Design, Development, Implementation, and Evaluation. Branch (2009) . The research and development stages or procedures can be seen in Figure 1.
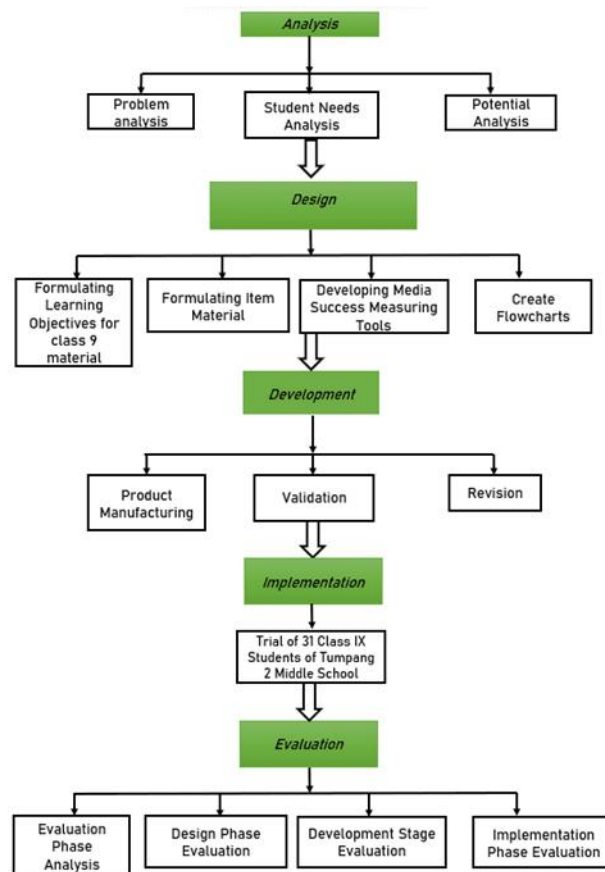
**Figure 1.** Research and Development Stage of the ADDIE Model. Source. Adaptation Branch (2009)

## 2.2 *Population and Sample*

The population in this study was all the students of Class IX at SMP Negeri 2 Tumpang. The sample consisted of students from class IXA at SMP Negeri 2 Tumpang. The basis for sample determination was purposive sampling. Class IXA was selected because it has problems related to limited learning resources for financial literacy material, and students have low learning outcomes compared to other classes.

## 2.3 *Types of data*

The types of data collected in the research and development of NARACY learning resources are qualitative and quantitative. Qualitative data from NARACY research and development include recommendations and suggestions from material experts, media experts, and students, which are used to revise the product. The quantitative data for NARACY research and development consist of validation results presented with assessment scores. These data are used as guidelines and assessments to make revisions or improvements and to declare NARACY products as feasible.

## 2.4 *Data Collection Technique*

The data collection techniques used in researching and developing NARACY learning resources include a validation questionnaire given to material and media experts. NARACY was validated by material experts with a minimum educational background of a Bachelor's degree (S1) and media experts with a minimum educational background of a Master's degree (S2), who are experts in their fields and have worked in this field for approximately five years. Material and media validation produced quantitative and qualitative data. Quantitative data were generated from the material and media experts' product development validation results in recapitulation. Qualitative data were obtained from the material and media experts' suggestions. In addition, the questionnaire was also given to the subject of the product readability test, namely the students of class IXA at SMP Negeri 2 Tumpang. The questionnaire given to the respondents was used to assess the feasibility of using NARACY products as revision or improvement material if there were recommendations or suggestions.

## 2.5 Data Collection Instruments

The data collection instruments used in the research and development of NARACY included open and closed questions. These instruments aim to obtain feasibility assessment data from material experts, media experts, and student responses regarding the use of NARACY in learning activities. This research instrument was adopted from Ayu, Dwi Putri (2023), whose instrument had passed the validity and reliability tests. The assessment in the instrument uses a Likert scale of 1-4, which is described as follows: Strongly Agree (SS) with a value = 4, Agree (S) with a value = 3, Disagree (TS) with a value = 2, Strongly Disagree (STS) with a value = 1.

## 2.6 Data Analysis

The data obtained is processed quantitatively using the formula shown in Picture 2.

$$P = \frac{\Sigma x}{\Sigma xi} \times 100$$

Information :

| | |
|---|---|
| P | = Validity Percentage |
| X | = Assessment score in one item |
| Xi | = Ideal assessment score in one item |
| 100% | = Constant |

**Figure 2.** The formula for processing quantitative data.

Description:

P = Validity Percentage

X = Assessment score in one item

Xi = Ideal assessment score in one item

100% = Constant

If the percentage is obtained, it is then analyzed using the feasibility criteria for product development results according to Arikunto (2018), namely: 1) very feasible (81-100%) with the no revision category, 2) feasible (61-80%) with the partial revision category, 3) quite feasible (41-60%) with the category of partial revision and re-readability test, 4) not feasible (21-40%) with the category of total revision and re-readability test, and 5) very inappropriate (0-20%) with the category may not be used.

## 3.    Results and Discussion

NARACY mobile learning research and development uses five research stages that adopt the ADDIE model. The research and development stages that have been carried out consist of 5 stages, namely Analysis, Design, Development, Implementation, and Evaluation.

### 3.1    Stage 1. Analysis

The first stage is the analysis stage. The analysis stage is divided into three sub-stages: problem analysis, student needs analysis and potential analysis.

The problem analysis stage was carried out by examining various problems in the learning environment through observations and interviews at the research location, namely Tumpang 2 State Junior High School. The implementation of social studies learning at Tumpang 2 State Junior High School only uses learning resources from textbooks that tend to be general and abstract. Moreover, financial literacy material is only presented briefly, and no concrete illustrations exist. Apart from that, using textbooks has weaknesses, including not being able to visualize phenomena/events dynamically, not being interactive, and not supporting multi-source learning (Mulyono & Elly, 2023; Singh-Pillay, 2024). Because the textbook used only includes material exposure and is equipped with pictures, it does not facilitate students' learning styles. This is also supported by the results of interviews with social studies teachers at Tumpang 2 State Junior High School that using social studies textbooks did not facilitate students' diverse learning modalities. This condition causes students to have difficulty understanding learning material. According to students, social studies subjects are considered subjects with a high difficulty level and boring. After all, many theories and content in social studies material are abstract and complex (Wahyuningtyas et al., 2019; Wicker, 2024). On the other hand, the social studies learning process by teachers is one of the reasons why students tend to feel bored, making it difficult for them to understand the learning material (Ningrum et al., 202; Shalev & Gidalevich, 2024). This is evidenced by several students yawning during class; many were allowed to go to the toilet, looked sleepy, and so on. On the other hand, the impact of these curriculum changes can also be seen in social studies learning with financial literacy material. Based on the questionnaire results from 31 class IXA students at State Junior High School, 15 stated they could not understand the material, and 11 stated they could. Five students stated they could understand the material on Activities to Meet Needs presented by the teacher. Due to this situation, most students still cannot fully understand the material.
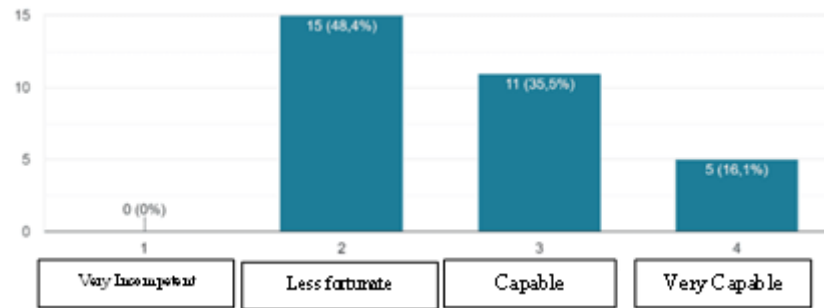
**Figure 3.** Students' understanding of activity material in meeting needs

Several factors result in students being unable to understand the activity material to meet their needs well. These factors include the existence of learning resources that are still presented in general terms and the absence of a concrete description of correct consumption activities. As a result, students only understand the text at a basic level, and the existing learning resources do not meet the different learning styles of students. This is explained by the questionnaire results, which stated that nine students did not meet their learning needs, 20 students did, and two students had learning styles that matched the learning resources used by the teacher in financial literacy material. This description indicates that the learning styles of Class IXA students at Tumpang 2 State Junior High School are diverse but have not been met by the learning resources provided by the teacher.
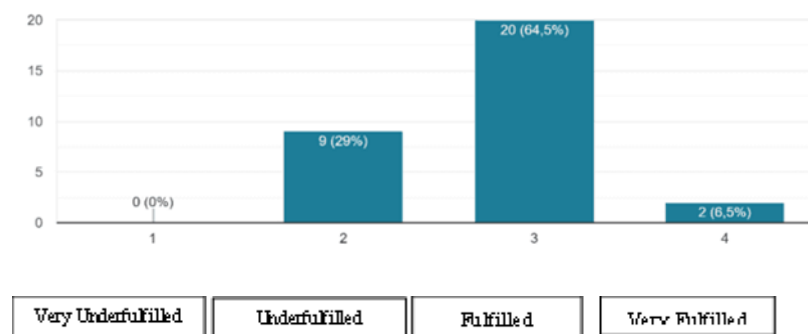


**Figure 4.** Level of students' understanding of learning resources

The student needs analysis stage was completed after knowing the problems in class IXA of Tumpang 2 State Junior High School in social studies learning. At this stage of analyzing student needs, alternative solutions to existing problems are analyzed to fulfill student needs. The existing solutions relate to learning resources in activity materials to meet needs. Based on a questionnaire filled out by 31 class IXA students at Tumpang 2 State Junior High School, 98.8% of students stated that there was a great need for novelty in learning resources in the material Activities to Meet Needs.
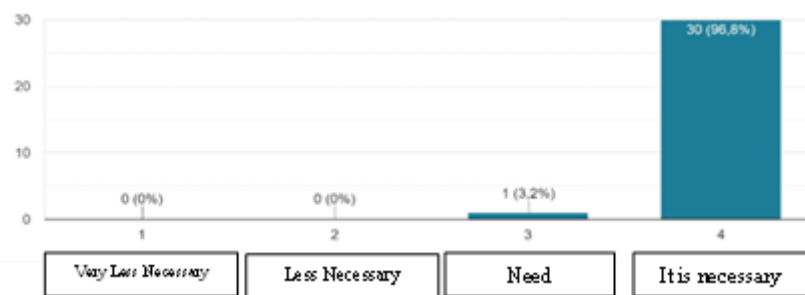
**Figure 5.** Urgency of updating learning resources

Learning media updates are, of course, adjusted to several related aspects so that they can have a significant impact on improving student learning outcomes. These aspects include student learning styles, easy student access, and adaptation to current learning. Today's learning is certainly inseparable from the influence of technology. Technological developments in the 21st-century era are very rapid; learning at the educational unit level is expected to use technology so that students are not technologically illiterate and can adjust to the use of technology. Students are expected to be able to master 21st-century skills, which focus on the ability to think creatively (creativity), think critically (critical thought), communicate (communication), and collaborate (collaboration). The use of technology in learning aims to enable students to access learning material with a more attractive and interactive display. Based on this, the results of a questionnaire from 31 class IXA students at Tumpang 2 State Junior High School stated that new learning media needed to involve technology.
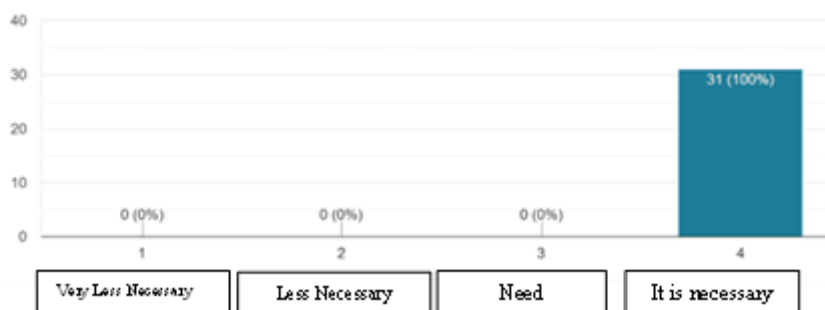


**Figure 6.** The urgency of technology involvement in learning

The potential analysis stage was a follow-up to updating learning media to overcome existing problems in social studies learning in class IXA of Tumpang 2 State Junior High School. This stage is related to analyzing students' potential for updating learning media that involves technology. The analysis was carried out to determine whether it could be achieved if learning media updates involved technology, both in terms of tools and the abilities of students and teachers. On the other hand, the availability of facilities and infrastructure, such as smartphones connected to the Internet, must also be prepared. In response to this, filling out the questionnaire showed that 28 students were very capable, two were capable, and one was less able to use smartphone applications. From this picture, the majority of students have the potential to be able to learn by involving technology.
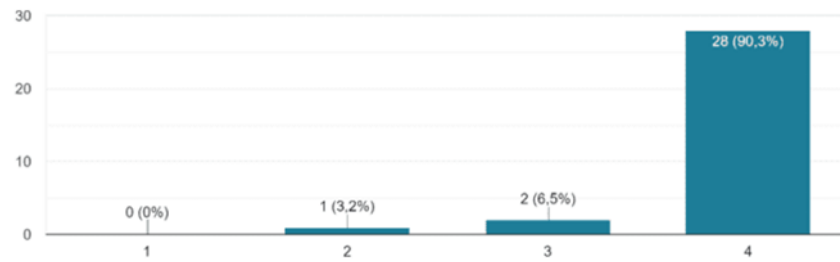
**Figure 7.** Students' ability to use the application

### 3.2 Stage 2. Design

The second stage is design. The product design is designed according to user needs and considers ease of operation. Based on the results of stage 1, students need learning media that can facilitate their learning style and involve technology. The material was developed as pictorial material, podcasts, videos, discussion space via the Padlet platform, and moni applications for financial practices. The material presented was developed to concretize students' understanding according to their learning styles. The material contained in NARACY can be accessed on one platform, which makes it easier for students to learn. The cover of the material contained in NARACY can be seen in Figure 8.



**Figure 8.** Coverage of Material in The NARACY Application

The product is designed and equipped with menus, features and buttons that make it easier for students to operate. The product being developed is mobile learning, which is packaged in the form of a file with the Android Package Fit (APK) extension. The product design stage also prepares a storyboard adjusted to the development support capacity, as seen in Figure 9.
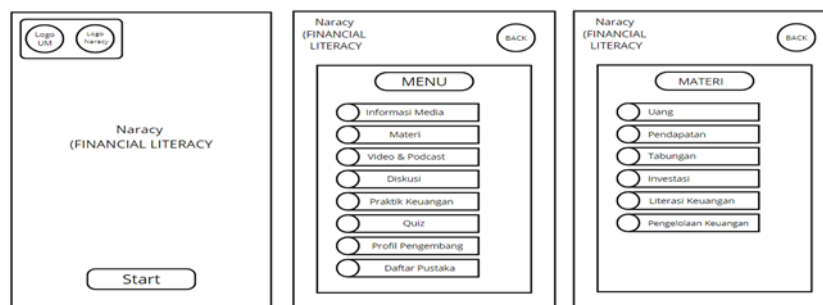
**Figure 9.** Storyboard

### *3.3 Stage 3. Development*

The third stage is development. At this stage, product development is carried out by the plans made. The product design is used as a reference in creating the design. The product design was created in Microsoft PowerPoint and Ispring Suite 10 software. All visual aspects, including mockups and illustrated modules in mobile learning, were designed using Microsoft PowerPoint, which can be seen in Figure 10.
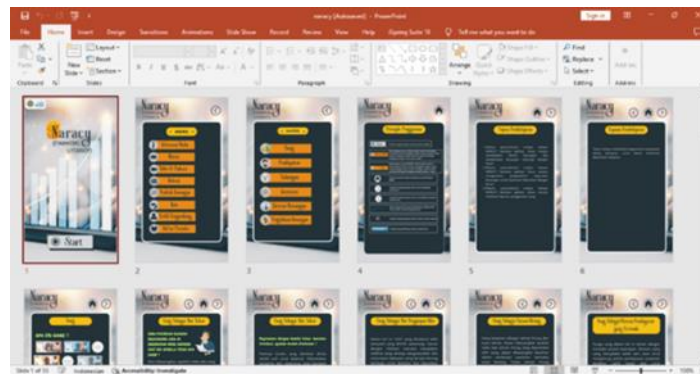


**Figure 10.** Product Design

After all the visual aspects have been created, the next step is to develop mobile learning using the Ispring Suite 10 software. All application design mockups and materials in the form of pictorial modules, podcasts (audio), videos, websites, and moni applications for financial practices are included in the Ispring Suite 10 software. Integrated with Microsoft PowerPoint. The development of mobile learning in the Ispring Suite 10 software can be seen in Figure 11.
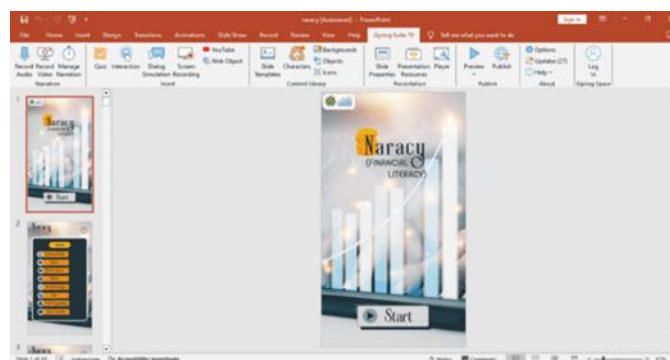


**Figure 11.** Connecting design with Ispring Suite 10 software

Before accessing NARACY, users touch the start button first. After that, the user enters the main page and can access the available menus, namely (1) Information media, (2) material, (3) videos and podcasts, (4. Discussion; (5) financial practices; (6) quiz; (7) developer profile; and (8) bibliography. Apart from that, there is also a zoom-in/zoom-out feature to adjust the text's readability

level. After the product is developed, mobile learning can be operated on an Android smartphone with a minimum version of 5.0 (lollipop) and a minimum storage capacity of 50 MB. The NARACY display can be seen in Figure 12.



**Figure 12.** NARACY display

The next stage after finalizing the NARACY mobile learning product is product development validation. Validation is carried out by material and media experts who aim to determine the level of suitability of the product rationally before carrying out a readability test on students. The first stage is material validation, to assess the material's suitability based on aspects adapted to the concept, learning objectives and learning outcomes. The material validation results are listed in Figure 13.



**Figure 13.** Material Validation Results

The percentage of material validation results is shown in the figure, namely 91.6%. This percentage falls under the "Very Feasible" criteria for use without needing to be revised, which means the material is prepared systematically and contextually. However, material expert validators provide recommendations and suggestions to strengthen development results. Recommendations and suggestions from material expert validators are listed in Table 1.

**Table 1.** Recommendations and Improvement Suggestions from Material Expert Validators

| No | Improvement Suggestions | Follow-up |
| --- | --- | --- |

| 1 | The display of media information can be replaced with instructions for using buttons. | Add an explanation of the function of the buttons so you can operate the application. |
|---|---|---|

After validating the material, the next step is media validation, aiming to assess the media's suitability. The validation results by media experts are listed in Figure 14.
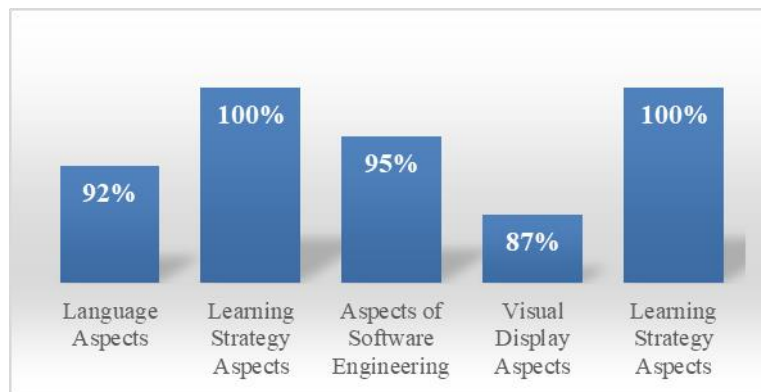


**Figure 14.** Media Validation Results

The media validation results in Figure 14 show a percentage of 95% and are classified as "Very Feasible " criteria for use without needing revision. NARACY offers material that is presented in three forms and can be accessed on one platform, namely illustrated material, podcasts, videos, discussions on websites, and financial practices so that it can facilitate students' learning styles. The variety of material shapes is an advantage NARACY highlights and differs from the products developed (Pratama et al., 2023). Pratama et al. (2023) have developed learning media based on Ispring suite ten on material about getting to know ASEAN countries at SMP Negeri 6 Banjarmasin. This development shows that mobile learning is only developed in materials, learning videos, and quizzes, so it does not fully facilitate students' learning styles. On the other hand (Anggestia, 2022), it is also developing a mobile learning product based on the Ispring suite as a learning medium for economics subjects at Madrasah Aliyah Ma'arif 9 Kotagajah. This development shows that the material was only developed through materials and evaluation questions. Apart from that, some letters look less clear on the display because they have the same color as the background. Research and development of mobile learning has also been carried out by (Nizar et al., 2023) in Geography subjects with disaster mitigation material at MAN 2 Kediri City. The results of the mobile learning development show that the design display does not pay attention to the background color composition for comfort in reading the content displayed in the application. There is writing that cannot be read clearly because the color of the letters is the same as the background. Then, the location of the buttons on the display has not been properly considered. Meanwhile, the NARACY product developed by researchers has an advantage compared to previous developments, namely that the material is taught theoretically and students can directly practice finance through the Moni application. This is important because, in everyday life, students cannot be separated from gadgets, so using this application can provide a means to practice managing finances. On the other hand, the NARACY

product also has a size that is not too large, and the loading time is not long when operating, so NARACY can be a stimulant for students to study independently and short learning for students. However, media expert validators provide recommendations and suggestions to optimize development results. Recommendations and suggestions from media expert validators are listed in Table 2.

**Table 2.** Recommendations and Suggestions for Improvement from Media Expert Validators

| No | Improvement Suggestions | Follow-up |
| --- | --- | --- |
| 1 | Absence of additional instructions after financial practice | Add instructions after the financial practice has been explained to return to the NARACY app |

The stage after validation is product revision. Product revisions are based on recommendations and suggestions provided by validators to optimize NARACY product results. The recommendations and suggestions can serve as guidelines for making the product suitable before carrying out readability tests on students. The product revisions can be seen in Figure 16 and Figure 17.
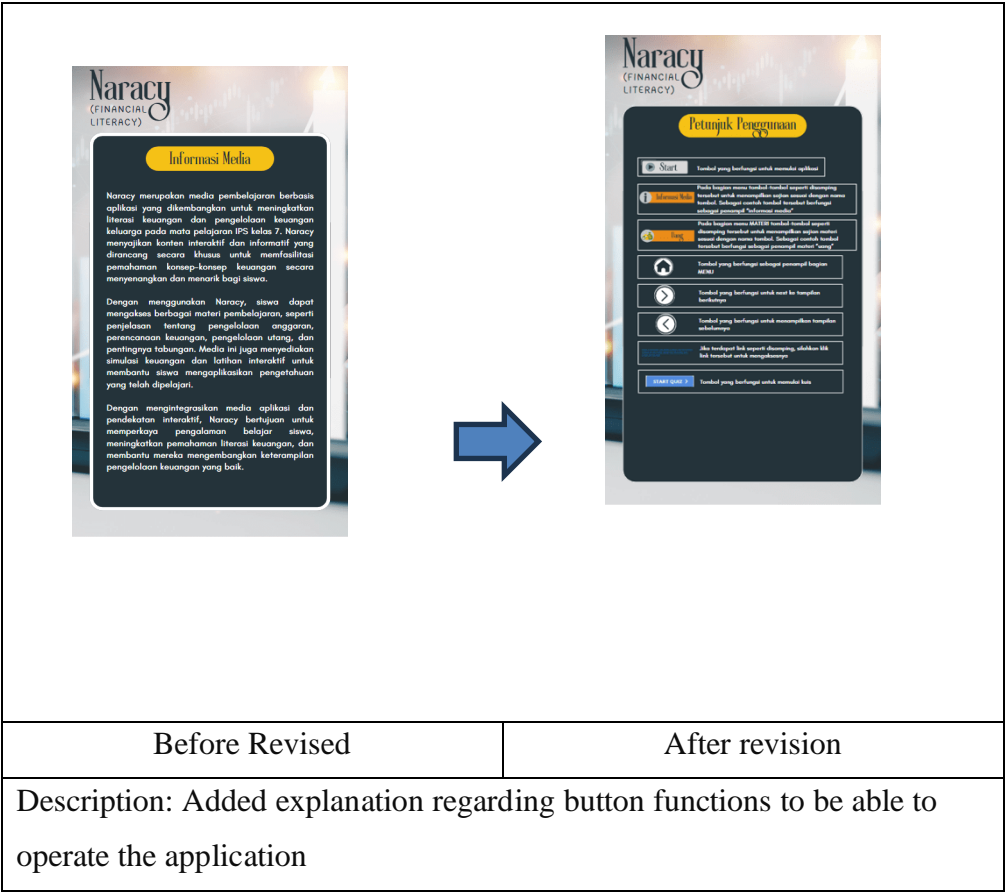


| Before Revised | After revision |
| --- | --- |

Description: Added explanation regarding button functions to be able to operate the application

**Figure 15.** Revision of NARACY Mobile Learning Products

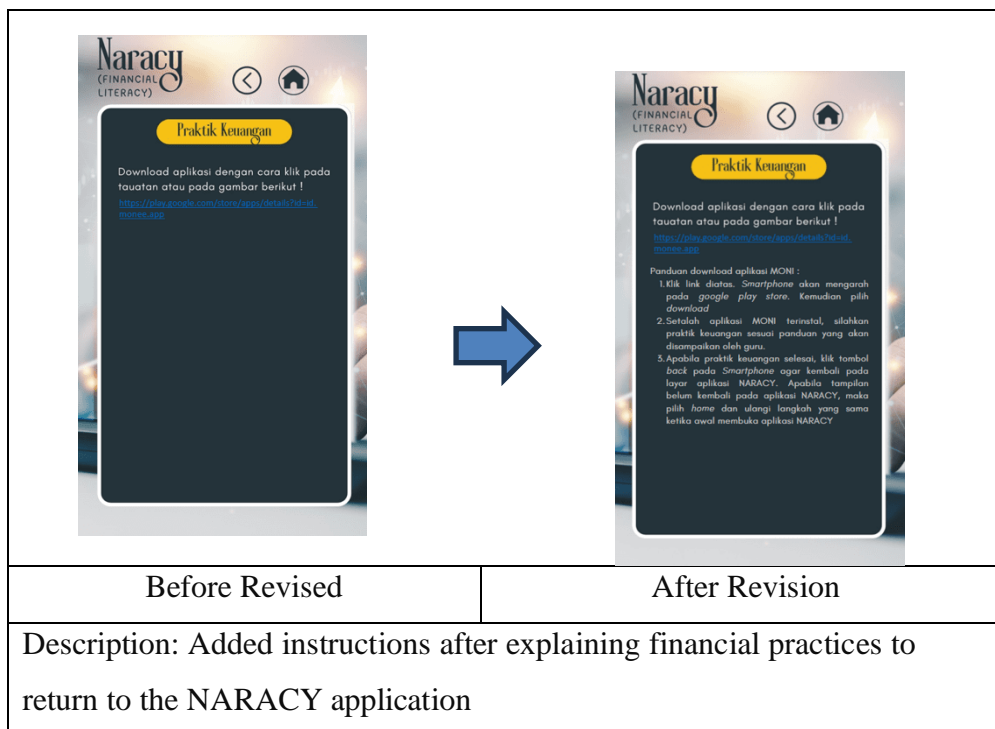| Before Revised | After Revision |
|---|---|
| Description: Added instructions after explaining financial practices to return to the NARACY application | |

**Figure 16.** Revision of NARACY Mobile Learning Products

### 3.4 Stage 4. Product Readability Test

The fourth stage is the product readability test. The readability test activity was implemented in two meetings with 31 IXA students at Tumpang 2 State Junior High School. Knowing the student's response to using NARACY, they seem very enthusiastic about learning the material. Learning activities become more fun, exciting, and active, proven by the students' responses, who appear to be very active in understanding the material and discussing using NARACY. Students are also enthusiastic about exploring the features of NARACY, such as discussion features, financial practices, and quizzes. After using NARACY, students are also able to describe financial literacy well. Thus, it can be said that the learning objectives have been achieved. The results of the recapitulation of student response data on the NARACY readability test are presented in Table 3.

**Table 3.** Recapitulation of Student Response Trial Results

| No | Aspect | Score |
|---|---|---|
| 1 | Language | 347 |
| 2 | Application Components | 356 |
| 3 | Display organization | 482 |
| 4 | Presentation of material | 650 |
| 5 | Whole | 482 |
| | Total Score | 2.317 |

| Percentage | 93% |
|---|---|
| Eligibility Criteria | Very Feasible |

The product readability test results in Table 3 show a percentage of 93% and are classified as "Very Feasible" criteria. NARACY has an attractive appearance and various features and can make it easier for students to learn. The material is presented in various forms and can facilitate students' learning styles. However, despite this, students provide recommendations and suggestions to optimize development results. The recommendations and suggestions from students are listed in Table 4.

**Table 4.** Recommendations and Suggestions from Student Trials

| No | Recommendations and Suggestions |
|---|---|
| 1 | It would be more interesting if you could choose your theme or create your own |

### 3.5    Stage 5. Evaluation

The fifth stage is the evaluation of the final product. The recommendations, criticism, and suggestions have encouraged research and development of NARACY mobile learning into a more viable learning medium. The application is considered more practical because students can access various forms of material on one mobile learning platform. Through the use of NARACY, students are allowed to explore their knowledge independently and develop logical thinking abilities. Students are guided and directed to construct the knowledge they gain in financial practice activities, discussions, and quizzes.

### 3.6    Discussion

Based on the results of problem analysis, analysis of student needs, and analysis of the potential obtained, financial literacy material requires supporting learning media based on mobile learning, which is equipped with user manual features, illustrated material, podcasts, videos, discussions on the Padlet platform, and financial practices on the Moni application. Using mobile learning in learning activities is one step in responding to developments in digital technology. Mobile learning provides a new atmosphere for students in learning activities. (Wahyuningtyas, N., Ruja, I. N., Yahya, M. H., Wijaya, D. N., & Ibrahim, M. H., 2021). Students need to be more focused on textbooks and worksheets. This is by the implementation of constructivist learning theory. Constructivist learning theory frees students to learn to discover the knowledge, competencies, and technology needed to develop their ideas. actively (Fitri, 2020; Orak, Suheyla D, et al, 2021). The NARACY application has a novelty in that teachers facilitate students to further develop their abilities independently by studying the material in illustrated material, podcasts, videos, discussions on the Padlet platform, and financial practices in the moni application. The various forms of material presented in NARACY can help students understand the material activities to meet their needs. Students can observe and connect conditions with economic activities and manage finances personally.

Similar to what is explained in Edgar Dale's theory (Edgar et al., 1993) Learning outcomes can be obtained directly through experience; students can gain new experiences when learning using NARACY. Sari, (2019) Emphasized that Edgar Dale's theory of the cone of experience can be used as a theoretical foundation/basis for learning media. Edgar Dale's cone theory of experience provides an illustration that media has a role in the process of gaining learning experiences for students. Cahyaningtyas, (2020) This theory explains that the learning experience that students gain can be through what the student learns directly, from the process of observing and listening through certain learning media as well as the process of listening through language. Using NARACY in learning activities involves using students' five senses through pictorial material, podcasts, videos, discussions on the Padlet platform, and financial practices on the Moni application. Based on the theory of the cone of experience expressed by (Edgar et al., 1993), learning using NARACY learning media allows achievements of up to 90% because using NARACY as a learning medium can also provide students with experience regarding financial practices.

Edgar Dale's cone theory of experience is closely related to the development of NARACY. Concrete experience can be realized through the existence of learning media that suit students' needs (Yulifar, L., & Aman, A, (2023); A. M. Idkhan, M. M. Idris, (2021). NARACY is a learning media that supports financial literacy material for class IX SMP. NARACY can help students understand more concrete material through attractive and interactive visual displays. NARACY can provide interactive and informative content designed to facilitate understanding of financial concepts in a fun and interesting way for students, so that students can find out information about financial literacy and financial management about consumption activities in financial literacy material. The ease of accessing the features and appearance of the NARACY application can also attract students' interest in learning and encourage students to study independently. This is because using learning media can stimulate students' thinking patterns (Nistrina, 2021; Puspitarini, Y. D., & Hanif, M, 2019).

Assessments from validators and potential users state that the NARACY application as a mobile learning-based learning medium can make it easier for students to learn activities to meet their needs without space and time limitations. There are still several suggestions in the readability test and several improvements. However, the NARACY application was declared very suitable for further use in the learning process. All suggestions and recommendations from material validators, media validators, and potential users have been made into improvements. However, some suggestions have yet to be realized because they require a long time to develop. The suggestion is that the NARACY application can provide its themes according to the user's wishes. These suggestions for improvement can be used as considerations for further development research.

## 4. Conclusion

The conclusion of this research is based on the results of the analysis of problems, needs, and potential; it can be concluded that of all students in class IXA-IXG SMP Negeri 2 Tumpang, class IXA students are the class that most needs learning media that can help them understand the material more practically and completely. NARACY application has an interactive and attractive appearance, diversity in the form of material (pictorial material, news articles, podcasts, and videos), the existence

of an interaction space between students integrated with the Padlet platform and financial practicum support applications, namely Moni, product size that is not too large, user-friendly (zoom feature), and product accessibility speed. The NARACY application can facilitate these problems.

The NARACY application has undergone several stages of material validation testing, media validation testing, and limited trials, with the final assessment results meeting the very feasible criteria. In addition, improvements have also been made per the suggestions given so this application is suitable for use in the learning process. The impact of developing the NARACY application as a learning resource is that it can explore material that makes it easier for students to learn activity material to meet their needs. In addition, NARACY mobile learning is expected to facilitate the differentiation of student learning styles. Suggestions for further research are expected to measure the level of product effectiveness in large-scale trials. Further development can be done by adding various themes, and mobile learning products can be disseminated through the Google Play Store platform.

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