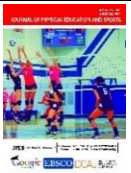
Journal of Physical Education and Sports

11 (3) (2022) : 373-379

https://journal.unnes.ac.id/sju/index.php/jpes



Development of Android-Based *Go Swim Education* Learning Media on Material Basic Swimming Techniques for Junior High School Students

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Article Info

History Articles
Received:
17 June 2022
Accepted:
18 July 2022
Published:
30 September 2022

Keywords:
Application system, learning media, swimming

Abstract

This study aims to examine and analyze the learning of media models and the development of the Android-based Go Swim Education application on Material Basic Swimming Techniques for Junior High School Students. The research method used was the research and development of Sugiyono's research steps which are adapted into 10 steps. The results showed that development of the Android-Based Go Swim Education application was good and practicable to be a learning media of junior high school students who are made it easier for teachers and students to achieve goals of basic swimming technique material as learning object. Good and practicable results were obtained from the validation results of learning media experts of 93.75% which means very practicable, and the validation of physical education experts which shows an assessment result of 87% which means very good. After being trial by learning media experts and physical education experts, it was then trialed with physical education SMP teachers. The first physical education teacher trial getting scored 93% in the very good category, then the second teacher trialed getting scored 90% in the very good category. Trial on this application was carried out in two stages, was small-group and large-group trials. In a small group trial, this application received an assessment result of 91.25% which in the very decent category. In the large group trial, this application received an assessment result of 88.66% which was in the very decent category. Therefore, it can be concluded that the Go Swim Education application was one of developments of the technology-based physical education learning media to make it easier for teachers and students to achieve learning goals, than the menu in the Go Swim Education application has benefits both practically and theoretically to help sports and health physical education teachers utilize materials with basic swimming techniques in junior high schools.

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p-ISSN 2252-648X
e-ISSN 2502-4477

INTRODUCTION

Education was a systematic of educational activity to build into several components, such as educators, students, educational goals, educational tools, and educational environment. All components that build the education system has interconnected, interdependent, and mutually determine by each other. Each component has its function to achieve educational goals (Saat, 2015). To achieve educational goals, important material was needed to achieve effective and efficient learning. The teachers has been choose the right methods, models and learning materials with more interesting and the material that can be provided to students was not only a collection of concepts. (Vikagustanti et al., 2014). The development of Science and Technology (IPTEK) has so fast growing and give affected almost all scientific fields, one example of which was the world of education. The 21st century, as it was today, can be marked by the rapid development of information technology and the development of automation, where many routine and repetitive jobs are replaced by machines, like production machines, and computers (Etwastika Yuni Wijaya et al., 2016) .

Go Swim Education Application can be the best solution at this time to be use as a learning medium combined with technological knowledge about basic swimming techniques in junior high school student. The development Android-based application can be use as a suitable medium for learning that focuses on cognitive aspects. Learning media was an intermediary between teachers and students in learning that can create connections, giving information, and sharing messages to create an effective and efficient learning process. (Balandin et al., 2010).

The consept of media using *smartphone* has impacts and benefits for teachers and students. One of the positive impacts of using *a smartphone* was to support academic aspects, for example, children can browse using that device, so these children can easily find information about what they have learned at school. Therefore, the child doesn't to bother looking for a list of books in the library to find information related to science (Sobry, 2017).

The purpose of developing the *Go Swim Education* Application was to make it easier for teachers and students to learn basic swimming techniques for junior high school students. In the *Go Swim Education* application there are 3 material, 1) Swimming material, 2) Swimming videos, and 3) Swimming exercises for Junior High School. Furthermore, there are other menus including 1) Application instructions, and 2) Information.

Researcher hopefull that the *Go Swim Education* Application can make it easier for teachers and junior high school students to achieve learning goals through the applicable curriculum.

METHOD

The research method used was *research and development* concerning Sugiyono's research steps which are adapting into 10 steps. The research subject *Go Swim Education* application Based on Android was junior high school students in Pamotan Dwastrict, Rembang Regency. Small group trials were conducted on 10 respondents per class of junior high school students in grades VII, VIII, and IX at SMPN 1 Pamotan, large group trials with 10 respondents per class of junior high school students in grades VII, VIII, and IX at SMPN 1 Pamotan, SMPN 2 Pamotan, SMPN 3 Pamotan. The research instrument used a questionnaire and an evaluation sheet. The results of the data obtain are descriptive qualitative and quantitative. Quantitative data was obtained from the results of the questionnaire in the form of numbers. Data collection was carried out in two stages, namely the small-scale trial stage and the large-scale trial stage. The data analysis technique resulting from the practicality assessment of the Android-based football tactics training application was carried out in the following steps as described by Sugiyono (2013: 559):

$$SKOR = \frac{Score\ Count}{Score\ criteria} \text{x}100\%$$

The results of data calculations are then made in the form of a percentage multiplied by 100%. After got the percentage with this formula, then the practicality of the *Go Swim Education* application in thwas development research was

classified into five feasibility categories using the following scale:

Table 1. Practicality Percentage Category

Score in percentage	Eligibility Category
< 21	Very Unworthy
21 - 40	Not Feasible
41 - 60	Sufficiently Feasible
61 - 80	Feasible
81-100	Very Feasible

Source: Suharsimi Arikunto (2009:35)

The Likert scale was used to measure attitudes, opinions, and perceptions of person or group about social phenomena Sugiyono (2011) (Engkus, 2019). In research, this social phenomena has been specifically determined by researchers, which are called as research variables. There are 5 answer choices for each quesstionnaire point, such as very inappropriate, not feasible, sufficiently feasible, feasible, very feasible. This category was used to test the feasibility of applications which was conducted to learning media expert and physical education expert.

A recap of scores given by teachers and students in the Android-based *Go Swim Education* Questionnaire was made with the provision in the following table:

Table 2. Go Swim Education Application Questionnaire Answers

Answer Criteria	Score	
	Positive	Negative
Strongly Agree	4	1
Agree	3	2
Dwasagree	2	3
Strongly Dwasagree	1	4

There are 4 answer choices in each questionnaire, namely Strongly Agree (SA), Agree (A), Dwasagree (D), and Strongly Dissagree (SD). Each point has an indicator that shows whether the result of the statement was positive or negative. For quantitative analys was, the answers were given a score.

RESULTS AND DISCUSSION

Research result

Description The development of the basic swimming techniques learning media application was named *Go Swim Education*. The following was a product description for the *Go Swim Education* application.

Main Menu Application has several sub-chapters, the first was Product development for the *Go Swim Education* application. On the Home menu, there are 6 material menus, such as swimming sports, various swimming styles, swimming techniques, water traps, swimming pools, and swimming benefits. If you click on dot 3 in the upper left corner, you will see *Go Swim Education* media, namely learning materials, learning videos, practice questions, instructions for use, and research information. The following was the initial appearance of the *Go Swim Education* application.

Figure 1. Initial Appearance of the Application

The following was a display of swimming material in the *Go Swim Education* application.

Figure 2. View of Swimming Material

The swimming material menu displays, the meaning of swimming, swimming styles, water traps, swimming pools, and the benefits of swimming.

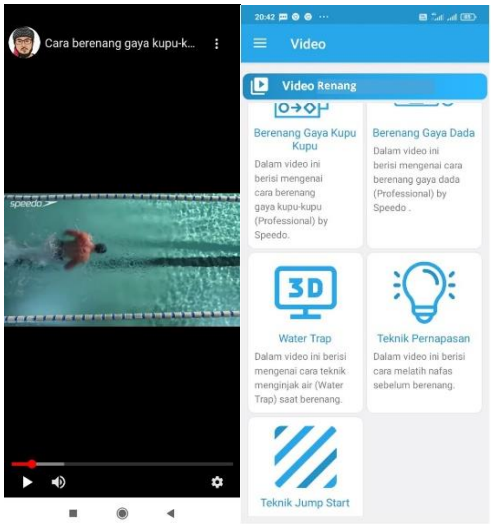

Figure 3. Display of Learning Videos

The learning video display menu, displays learning videos for backstroke, freestyle, butterfly, and breast stroke swimming lessons.

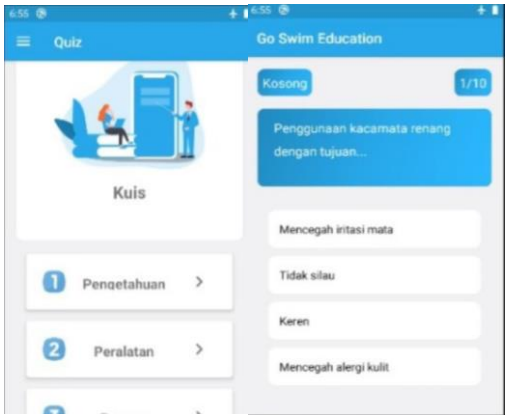

Figure 4. Display of practice questions

The practice questions menu diplays swimming questions for every style in the pool, namely the types of questions: swimming knowledge, swimming equipment, backstroke swimming, freestyle swimming, breast stroke swimming, and butterfly swimming.

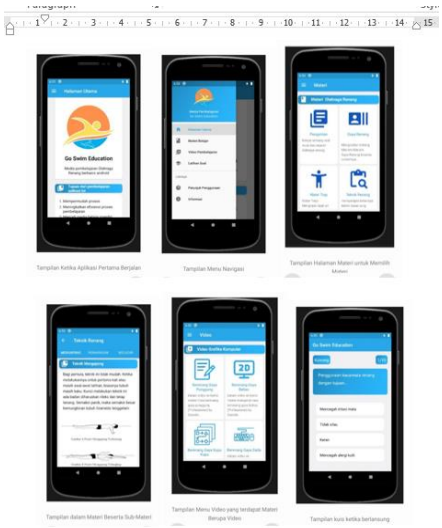

Figure 5. Appearance of Application Usage Instructions

In the display menu, the instructions for use of the application contain the instructions in the *Go Swim Education* application.

The learning Physical Education expert who became the validator in this research was Dr. Ir. Ulfah Mediaty Arief, Mt., IPM who masters android-based learning media. The calculation results obtained in the percentage of 93.75% fall into the "very good" category. Therefore from the results of completing the questionnaire by learning

media experts, it can be concluded "practicable for use/small-scale trials with revisions according to suggestions".

The Physical Education expert who became the validator in this research was Putra Budi Kurniawan, S. Pd., M. Pd. who has expertise in the field of Swimming. The calculation results obtained in the percentage of 87% fall into the "very good" category. therefore from the results of filling out the questionnaire by the physical education expert, it can be concluded "feasible for use/small-scale trials with revisions according to suggestions".

This android-based application has gone through one revision from learning media experts and physical education experts. After the revision, the *Go Swim Education* application was declared practicable and could proceed to the respondent trial stage for junior high school physical education teachers.

The physical education teacher who became the validator in thwas research was Joko Widakdo, S. Pd, as the physical education teacher at SMPN 2, Kragan Dwastrict, Rembang regency. The calculation results obtained in the percentage of 93% fall into the category of "very good". Thus from the results of filling out the questionnaire by the physical education expert, it can be concluded "practicable for use/small-scale trials with revisions according to suggestions".

The physical education teacher who became the validator in this research was Nugroho Yuniawan Teguh Widodo, S. Pd, as the physical education teacher at SMPN 1, Sedan District, Rembang Regency. Calculation results obtained in the percentage of 90% fall into the category of "very good". Thus from the results of filling out the questionnaire PE experts, it can be concluded "Easy in providing facilities and infrastructure with revisions according to suggestions".

Based on the notes from the Learning Media Expert and Physical Education Expert it was decided to provide several revisions, like as learning videos were made so that they were not connected to the internet/youtube, adapted to the swimming styles in reference books, and supplemented according to the material.

Based on general comments and suggestions by junior high school physical education teachers, "hopefull the *Go Swim Education* application can be accepted and used by teachers and junior high school students, it's good to be accepted".

After the revision, the *Go Swim Education* application was declared practicable and could proceed to the trial stage for junior high school student respondents.

The small group trial involved 10 respondents from grades VII, VIII, and IX at SMPN 1 Pamotan, a total of 30 students, which was carried out by *random sampling*. To further the course of the research, students are requested to be willing to bring a *mobile phone* through parental permission, due to input from the school principal to coordinate with parents.

After conducting small-scale research, based on data obtained from questionnaires filled out by students of class VII, VIII, and IX at SMPN 1 Pamotan, an overall average percentage of 91.25% can be obtained. So that based on predetermined criteria, the *Go Swim Education* learning media was included in the "very practicable" criteria which mean that the development of this application can be tested on the next stage, is class VII, VIII, and IX at SMPN 1 Pamotan, SMPN 2 Pamotan, and SMPN 3 Pamotan.

The large group trial involved 90 respondents including 30 students in class VII, 30 students in class VIII, and students in class IX at SMPN 1 Pamotan, SMPN 2 Pamotan, and SMPN 3 Pamotan.

Results of large group trials regarding the *Go Swim Education* application. Based on the results of large-scale research conducted at SMPN 1 Pamotan, SMPN 2 Pamotan, and SMPN 3 Pamotan, the overall average percentage was 88.66%. Based on predetermined criteria, the *Go Swim Education* learning media was included in the "very feasible" criteria so that based on this large-scale research, the development of *Go Swim Education* learning media means that this application was practicable for mass production.

Based on the results of the small and large group trials, data was generated that showed good/proper trials. These results refer to scheduled assessment guidelines. The eligibility category

used in this research was divided into several parts, namely, a value of <21% was categorized as very unappropriate, 21 - 40% was categorized as not feasible, 41 - 60% was categorized as sufficiently feasible, 51 - 80% was categorized as feasible, and 81 -100% categorized as very feasible (Pramuaji, 2017).

DISCUSSION

The development of *Go Swim Education* application was the best solution today to be used as a learning medium combined with knowledge technology. Android-based application development can be used as a suitable medium for learning that focuses on cognitive aspects.

Researchers need research references to position research problems, originality, basis for preparing hypotheses, and theoretical studies put forward. Research related to exercise method programs with mixed results includes:

Lufianto, et al,(Lutfianto et al., 2021). Research title: *"Development of the Android-Based Mobile Learning Learning Media in Swimming Learning for Class X Students of SMA Negeri in Tulungagung"*. The purpose of thwas research was to develop swimming learning media products and the feasibility of Android-based swimming learning media. The results of this research indicate that (1) Android-based Mobile Learning Media Application Products with the name "Basic Swimming Techniques"; (2) Android-based swimming learning media has been tested for its validity by validating on material experts 67% in the "Very Valid" category, validating tests on media experts 77.5% in the "Very Valid" category and validating experts' validation tests 77% in the "Very Valid" category can be used without any revision.

Haking, et al,. (Haking & Soepriyanto, 2019). Research title: "Development of Swimming Learning Video Media in physical education Subjects for Grade V SD Students". The purpose of this research was to develop valid and appropriate instructional video media for use in physical education and sports health lessons. The results of this research, can be based on the results of the assessment of media experts, material experts, small group trials, and field trials, obtained information that the learning video media products developed were declared valid and practicable to be used as learning media.

The development of the *Go Swim Education* application has gone through several stages, namely Potential and Problems, Information Gathering, Product Design, Design Validation, Design Revision, Small Group Trial, Product Revision, Large Group Trial, Product Revision, and Mass Production (Puspitasari et al., 2017).

The next stage was after the product has been made, the product was validated by learning media experts and media experts. Validation from learning media experts shows an assessment result of 93.75% which means it was very feasible and gets suggestions for learning videos to be made so that they are not connected to the internet/Youtube. After validating learning media experts, thwas application underwent validation from physical education experts which showed an assessment result of 87% which means very well, and got some suggestions, namely 1) adapted to the swimming style in the reference book 2) equipped according to teaching material. After being tested by learning media experts and physical education experts, it was then tested with physical education SMP teachers. The first physical education teacher trial scored 93% in the very good category, then the second teacher trial scored 90% in the very good category. Testing on this application was carried out in two stages, namely small group trials and large group trials. In a small group trial this application received an assessment result of 91.25% which was in the very decent category. In the large group trial this application received an assessment result of 88.66% which was in the very decent category.

The *Go Swim Education* application was ready to be marketed after receiving revisions from media experts and material experts.

Research Limitations

The development of *Go Swim Education* application based on Android there are still boundaries, like as the research sample was still small region, including teachers and students in Pamotan District. The limitations of this research

have not been spread across several other schools and have not covered a wide range of respondents. For this reason, further research was needed that can cover a wider range of respondents.

CONCLUSION

This research aims to examine and analyze the model and development of Android-based *Go Swim Education Learning Media* Material Basic Swimming Techniques for Junior High School Students. The Android-based *Go Swim Education* application was created with the target of junior high school teachers also students in Pamotan District, Rembang Regency. The *Go Swim Education* application received a good response in terms of material, language and appearance, and usage. The results of the research on the development of the Android-based *Go Swim Education* application are very good and suitable for use as learning media for basic swimming techniques for junior high school students. Acceptability of the development products produced for junior high school teachers and students in Pamotan District are acceptable and can be marketed thus they can be used in all junior high schools.

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