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The Implementation of Kids' Athletics as an Interactive Audio-Visual Learning Media

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Abstract

This study was aimed at designing, creating, and developing an interactive audio-visual learning media. This study was also aimed at examining the effectiveness of the implementation of the kids' athletics interactive audio-visual learning media on the student learning achievement. This research used a Research and Development method. The subjects of the study were 30 elementary students. The research design was the product development model. The data were analyzed by using a percentage calculation of the validation results. The validators were the expert in media and the expert in material. The result of the data analysis showed that the use of interactive audiovisual media kids' athletics had been assessed as valid by the validators. The validity score was 85,71% from the media expert and 91,67% from the material expert. Therefore, the product was categorized as very good, which means it is applicable to use. The results of teacher instruction observation on using the kids' athletics interactive audio-visual media were 94,79% for the Kanga Escape material, 88,54% for Frog Jump material, 92, 70% for Turbo Throwing material, and 91,66 for Formula 1 material.

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INTRODUCTION

The teaching and learning process is a system, which includes various integrated components to achieve learning objectives. The availability of media in the teaching and learning process is expected to help teachers improve student achievement. Therefore, teachers should employ media in every learning process to achieve learning objectives (Eslamian & Aref, 2012). Educational media function to overcome various obstacles, including communication barriers, limited classrooms, passive student attitudes, less homogeneous student observations, less specific nature of learning objects so that it is impossible to learn without media, remote learning places, and so on (Miftah, 2013). One of the most popular learning topics among 5th-grade students of SD Negeri 1 Pancor is athletics, especially athletics material for children, which is currently quite popular, namely athletics kids. Sports equipment used in kids' athletics is lightweight tools, which are intended for motion activities such as running, jumping, and throwing.

The school physical education teacher explains the techniques of hurdling, frog jumping, turbo throwing, and formula 1 (selalom) to refer to kids' athletics learning. Kids' athletics is one of the competitions in the annual National Student Sports Olympiad for elementary school level. The teacher anticipates teaching aids as learning media, especially in kids' athletics, to be used as guidelines in the delivery of material. So far, the teacher has only been guided by the technical procedures for implementing the National Student Sports Olympiad competition. Physical education teachers at the school expect learning aids in the form of learning media that are complete and interesting, especially for kids' athletics material. With engaging learning media, students will be more enthusiastic to participate in the learning process. In education, the word "media" refers to learning aids (Hafid, 2011). The tools can be in the forms of graphic, visual, electronic, and audio devices that are used to facilitate knowledge delivery to students. Learning media can also be defined as any teacher's tools in the learning process to convey messages, ideas, or thoughts in the form of learning material to students. Learning media is needed to help facilitate the delivery of learning materials.

In addition to having various functions, learning media also has multiple benefits, including clarifying the learning process, increasing student interest and interactivity, increasing efficiency in time and energy, increasing the quality of student learning outcomes, enabling the learning process to be carried out anywhere and anytime, fostering positive attitudes of students towards the learning material and process, directing the role of the teacher to be more positive and productive, concretizing abstract material, helping to overcome human sensory limitations, presenting objects or activities in the forms of rare and dangerous events into the classroom, and increasing retention power of the students towards the learning materials. Interactive multimedia includes multimedia tools equipped with a controller that can be operated by the user to choose what to do for the next process. Learning media is an example of interactive multimedia. As a part of the learning system, the selection and use of audio-visual media must consider other components such as objectives, materials, approaches, and learning evaluation. Athletics is a physical activity consisting of basic dynamic and harmonious movements, namely walking, running, jumping, and throwing. The term "Athletics" is derived from Greek, Athlon or athlum, which means "race, competition" (Rumini, 2014). Basic movements in kids' athletics such as running, endurance running, jumping, and throwing can be implemented in game-based activities. A study shows that kids' athletics can improve long jump abilities in fifth-grade elementary school students (Sobarna, 2020). Additionaly, modifying the tail ball in learning turbo throwing in kids' athletics children can improve learning outcomes in grade 5 students (Khoerudin, 2015).

Figure 1. The design of the homepage & background of the learning media
Source: Interactive Media for Kids' Athletics

The interactive media background design that has been completed is then entered into the Autoplay Media Studio software to add menu buttons,

input material and videos, input exercise questions, and add hyperlinks which characterize an interactive media.

Figure 2. Form of exercise questions & the design of the exercise page.
Source: Interactive Media for Kids' Athletics

Quizzes or exercise questions for comprehension are designed by researchers in such a way using the Wondershare Quiz Creator software, which consists of 10 multiple choice questions with four possible options.

Figure 3. The cover design of the interactive media guidebook.
Source: Interactive Media for Kids' Athletics

The compilation of instructional media with a manual for operating learning media and the explanation of material, especially about kids' athletics, is also included. The guidebook cover was designed with the Adobe Photoshop CS5 application by customizing the interactive audio-visual media homepage.

METHOD

The development of the kids' athletics learning media was carried out in several stages as presented in figure 4. The steps taken by the researcher were as follows: 1. Conducting preliminary research and collecting initial information through literature review, observation, and the preparation of the initial report. The researcher conducted preliminary research and information collection, including field observation and literature reviews. 2. Planning, which includes formulating capabilities, formulating specific objectives to determine the order of materials, and small-scale trials. 3. Developing the initial product format, which consists of the preparation of learning materials and evaluation tools. Based on the need analysis, the next step was to establish kids' athletics learning media products. 4. Trial of the initial product that was later evaluated by physical education experts (lecturers who taught relevant subject understudy) and learning experts (teachers who had sufficient teaching experience). 5. Revision of the initial product from the results of experts' evaluations and small-scale trials conducted previously. 6. Field trial of the revised product from the previous step, and then to test again on larger units or subjects. 7. Revision of the final product based on evaluation and field trial analysis (through observations and required research instruments). 8. The final version of kids' athletics learning media were produced through revisions after field trials. According to Brog and Gall in Asmara (2015: 160), development research is a process that is widely used in the education and teaching field, which basically consist of two main objectives, namely 1) developing products and 2) measuring the effectiveness of the products to achieve goals.

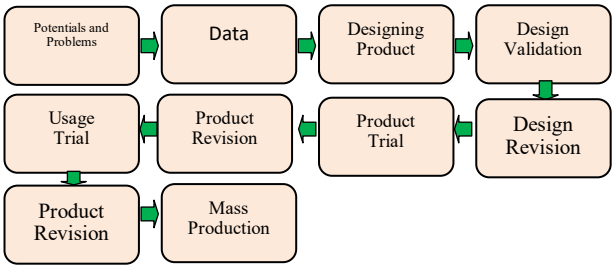

Figure 4. Kids' Athletics Media Development Procedure. Source: Sugiyono (2015)

A total of 55 students of SDN 1 Pancor was taken as the research subjects. The data collected was both quantitative and qualitative. The quantitative data were gathered from the observations on the students carrying out the kids' athletics activities. As for qualitative data, it was obtained from the ques-

tionnaire results review by physical education and learning experts in verbal and written forms containing the critics and suggestions to the product revision on trials. The research instruments used to collect the data were evaluation sheets, questionnaire sheets, interview sheets, and observation sheets. The data analysis technique administered in this development research was descriptive analysis in the form of a percentage. The data in the form of suggestions and reasons for choosing specific answers were analyzed using qualitative analysis techniques.

RESULTS AND DISCUSSION

The score of the validation test by media experts was 72, the data was processed using the percentage technique. The score of 85.71% was further classified into the "very good" category with the meaning of "used" in terms of appearance and form of learning media. The score of the validation by material experts was 77. The score of 91.67% was then classified into the "very good" category with the meaning of "used" in terms of learning materials. The results of observations on subject teachers related to interactive audio-visual kids' athletics learning media can be seen in table 1.

Table 1. Results of subject teacher observation

Aspects	Score			Total	Max Score
	Cognitive	Affective	Psychomotor		
Goal Sprint	34	27	30	91	96
Frog Jumping	22	27	36	85	96
Turbo Throwing	37	27	25	89	96
Formula 1	29	27	32	88	96

Based on table 1, the observation results of the goal sprint material were 94.79%, frog jumping of 88.54%, turbo throwing material of 92.70%, and the results of observations on Formula 1 material were 91.66%.

The researcher completed the series of research steps according to the research and media development stages adopted from the 2015 Sugiyono research and development model. The study results were presented by following the ten steps of the development model that were carried out during the research process. The preliminary study was conducted at SDN 1 Pancor, Selong District, to analyze and look for potential problems that would probably arise during the learning process.

The researcher conducted the observation on teaching and learning conduct at SD Negeri 1 Pancor, especially in terms of students' interest and enthusiasm when participating in the learning activities. Data collection was carried out by the researcher through interviews with one of the physical education teachers who has served for ten years at SD Negeri 1 Pancor. The interview was focused on the teacher's experiences in delivering subject matter without using learning tools or media in their classrooms.

The fifth-grade SDN 1 Pancor consisted of 14 male and 16 female students, so the total was 30 students. Before designing the product, the researcher took a video image of the stages of the kids' athletics movement at GOR Lalu Muslihin Selong, which would later be presented in the learning media. The researcher was assisted by several people, including four students as the models and two colleagues, helping prepare the shooting equipment. The video images were taken using a Sony HXR MC2500 camera with Full HD 1080p resolution, which were later converted to 720p with AVI format. The background display on the kids' athletics audio-visual interactive media was designed using the Adobe Photoshop CS5 application with a predominance of green following the characteristics of the Hamzanwadi University logo.

The guidebook consisted of 4 parts, namely the introduction, a manual to using media, an in-depth material of kids' athletics, and exercise questions and the discussion. The manual section contained how to operate the kids' athletics interactive media, from the basic guide to insert a DVD until the media was ready to use. This section also explained the components of the application. Before being used in the learning conduct, educational aids should have a "valid" status. In this study, validation was carried out for one month by the validators who were competent and understood about learning media development, especially in information technology-based media. One of the validators was the expert lecturer in media at the Faculty of Engineering, Hamzanwadi University. In general, the overall design in the kids' athletics interactive audio-visual media has been

well designed in terms of appearance, video quality, logo placement, navigation buttons, and the selection of colors and font types. This was strengthened by the validation instrument results of 85.71%, which was then classified into "very good" category with the meaning of "used" in terms of appearance and form of learning media. The other validator was the material expert who was the lecturer at the Faculty of Education, Hamzanwadi. The material expert validator stated that, in general, the materials featured in the kids' athletics audio-visual interactive media were quite comprehensive and in accordance with the core and basic competencies in physical education for grade V primary school level. It was also supported by the validation instrument results, which showed a score of 91.67%, and was categorized as "very good" with the meaning of "used" in terms of learning materials.

During the learning process, the students' enthusiasm in following and listening to all teacher explanations related to kids' athletics material was visible. In the third week, the students carried out field practice regarding the material that had been explained previously in the classroom according to the stages of movements presented in the learning media. The trial results showed that the audio-visual media of kids' athletics proved effective in increasing student interest and motivation. Thus, no final revision was made either in the interactive audio-visual media application of kids' athletics or the user manual. After the trial to the fifth-grade students of SDN 1 Pancor, the interactive audio-visual learning media of kids athletics were transferred into DVD form, and the user manual was printed into a book form with the size of 21 x 14.5 cm.

Learning media can help teachers in improving student learning achievement. One of the research results shows that educational learning media has a significant influence on the basic motor skills of elementary school students (Kharisman, 2018). Another research notes that some modified javelin games can improve the necessary motion of javelin throwing in grade five students (Wijayanti, D., & Suntoda, A, 2017). Further, there are differences in basic shooting motion skills in soccer learning through an animation-based jigsaw model of learning (Juditya, 2018). Therefore, teachers should employ interactive media in every learning process to achieve learning objectives. Educational media serves to overcome various obstacles in the learning conduct, including communication barriers, limited space, passive student attitudes, less homogenous student observations, less specific nature of learning objects that make it impossible to learn without media, remote learning places, and so on. Related to previous research, this study emphasized the development model of interactive learning media based on audio-visual. The media composed have been designed in such a way as to increase student interest in learning so that learning objectives can be maximally achieved. In the research conducted by Gigis Griya Utami, the Kids Athletics model with games was developed. Meanwhile, the research conducted by Cahyati (2014) also developed computer-based learning media but in other subjects. However, in physical education, it was scarce to find interactive learning media based on audio-visual, so this was an advantage of this study.

CONCLUSION

Based on the results of research on developing kids' athletics interactive audio-visual learning media, the following conclusions can be drawn:

A kids' athletics interactive audio-visual learning media has been established. The learning media development process refers to Sugiyono's development model. The use of kids' athletics interactive audio-visual learning media is considered valid by the validators with a validity value of 85.71% from media experts and 91.67% from material experts, so it is categorized as "very good" with the term "used". Teacher observation on learning activities using kids' athletics interactive audio-visual learning media show a percentage of 94.79% for goal sprint material, 88.54% for frog jumping material, 92, 70% for turbo throwing material, and 91.66 for formula 1 material. The development of kids' athletics interactive audio-visual learning media can increase student interest and motivation to learn.

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