Physical Education, Health and Recreation; Vol. 7, No. 2 (2023) 121-133
ISSN-E: 25489208- ISSN-P:25489194
Published by Study Program Physical Education, Health and Recreation _State University of Medan
Email: pjkr@unimed.ac.id

ISPRING APPLICATION OF THE NUMBER THING ATHLETIC MATERIALS FOR JUNIOR HIGH SCHOOL PHYSICAL EDUCATION TEACHER

[1] Khusnul Khotimah, [2*] Ari Wibowo Kurniawan

Correspondence: [2] Universitas Negeri Malang, Indonesia

Email: [2] ari.wibowo.fik@um.ac.id

ABSTRACT

Development of learning by using tools or tools that are useful for improving learning and conveying information. The purpose of this research is to develop learning based on throwing material applications for middle school PJOK teachers in Pasuruan Regency. This research and development learning method uses a research and development method by following seven steps. By using a quantitative descriptive study and using percentages, the results of the study of data from learning experts get a percentage of 88,5%, throw learning experts 87,5%, media experts 98,5%, and involving 36 middle school PJOK teachers in Pasuruan Regency. The small group trial was distributed to 11 respondents and the large group distributed to 25 respondents obtained the results of 92,25% small group and 83,5% large group. Based on these data it can be concluded that this application based learning development product for throwing materials is very valid and suitable for use by PJOK SMP teachers.

Keywords: Physical Education; Learning; Aplication; Throw

Introduction

In today's technological era, there has been significant progress followed by people who are starting to be inseparable from current technological developments, moreover, it has spread into the area of education in Indonesia. In the current pandemic situation, education is starting to take advantage of technological developments, most schools in Indonesia use electronic devices such as gadgets for asynchronous learning activities. Improving the quality of education in the learning process requires new creativity and innovation, this needs to be done so that students are not lazy during learning activities and maintain concentration on the material presented. Education is the first aspect that is very important in order to create intelligent and qualified students. Education must be carried out seriously and as well as possible. According to Sujana (2019) states that education is an effort so that students gain useful knowledge in order to become better human beings. Education also has the main aspect of creating a social environment that can benefit and develop for oneself, others and the State.

Physical Education or Physical Education is all the processes of the whole education to encourage each student equally in order to develop each individual (A. Cahyono & Mu'arifin, 2022). Physical education is not only a learning that focuses on the physical but also on physical activity, physical education has a role to shape the motor development of intelligent and quality students (Widodo, 2018). Physical education is learning with physical activities and activities so that physical fitness and motor skills from a mental and emotional perspective develop (Alif & Sudirjo, 2019). Physical education itself also aims to develop all

aspects intended for students in order to obtain physical growth, abilities, skills and intelligence during learning activities.

Learning is a business activity with someone to gain knowledge, skills and positive attitude values from various sources and information for more learning (Herlina & Suherman, 2020). In learning, it will always involve two parties related to each other, namely between teachers and students, teachers who become facilitators and students as students in the occurrence of teaching and learning activities. The learning process becomes a challenge for physical education teachers to create a fun and non-boring lesson atmosphere for students. Strategies in learning are very important in the learning process, especially in PJOK material (Taufik, 2020). The main purpose of physical education is to encourage the development of physical fitness, basic movement skills, and students' motor skills as the basics of movement in physical education. Learning is said to be ideal, namely when there is a reciprocal process between students and teachers (Mislan & Santoso, 2019). Good PJOK learning is inseparable from the teacher's role in conveying knowledge demands, the learning media used must be in accordance with the KI and KD that will be directed.

According to Anshori (2019) learning media is a learning tool that must be planned initially and the problem solved must be in accordance with the learning media used. The application is software that is ready to be used to run the program from the user. According to Novendri (2019) Understanding applications in general is a special and integrated functional tool according to its own capacity, an application is a computer device ready to be used by its users. Applications are software that does things that contain commands to execute certain types of work or tasks such as implementing, using and adding data (Qomariyah & Mistianah, 2021). In line with Kurnia (2018) iSpring is an application that helps make learning media effective and easy for students to understand. There are many applications that can be used to create this application-based learning media, for example, such as kodular, java, and other applications. However, researchers prefer to use the iSpring application because when accessing it there is no need to use the internet or it can be used offline, but the weakness of this application can reduce a lot of memory data on cellphones.

According to Rahmat & Irfandi (2019) said throwing is an athletic activity that uses physical force on objects that make the power thrown up or forward. Throwing number athletics is classified as difficult to implement, because it has complex movements (C. Cahyono et al., 2018). Throwing number athletics in learning is not easy for students to do, if students cannot master the tools it will be difficult to teach the throwing technique (Komariah, 2018). In this throwing sport is divided into three sports, namely javelin throwing, discus throwing and shot put

Based on the results of research observations in Pasuruan Regency which was carried out using analysis by distributing questionnaires via Google form to MGMP Physical Education Sports and Health (PJOK) teachers on April 8-12 2021, 46 data were obtained. With the result that 98% of teachers had given throwing learning materials in class, 68% give 2 meetings of throwing learning materials in one semester, 68% of teachers use books, lesson plans, LKS in throwing learning activities. There were 82% who had used applications for throwing learning tools, 100% used video, VCD, PPT applications in throwing learning, 94% of teachers used manual printout-based learning materials (RPP, textbooks, evaluations). 60% of teachers have developed application-based learning, 100% of teachers have cellphones or smartphones, 100% of teachers have computers or laptops, 100% of teachers can operate

Physical Education, Health and Recreation; Vol. 7, No. 2 (2023) 121-133
ISSN-E: 25489208- ISSN-P:25489194
Published by Study Program Physical Education, Health and Recreation _State University of Medan
Email: pjkr@unimed.ac.id

computers or laptops, 100% of teachers need to develop learning media throwing materials packaged in the form of effective applications and efficient for junior high schools.

In the trial this product consisted of 235 PJOK SMP teachers in Pasuruan Regency (157 from public schools and 78 from the private sector), then the sample taken in this research and development was 15% of the existing population, so the sample used in this research and development as many as 36 subjects, while the intended subjects were members of the SMP PJOK MGMP in Pasuruan Regency. The purpose of this product trial is to obtain improvement data on the learning media to be developed. In the small group trial represented by 11 SMP PJOK teachers in Pasuruan District. Meanwhile, for trials in large groups, 25 PJOK SMP teachers in Pasuruan Regency were represented. Then proceed with improving the product based on the results of the trial questionnaire, and continue with the data review stage to obtain a product feasibility percentage value, which ends with the final product stage.

Method

In this research and development method, researchers used steps by Sugiyono, this research and development was carried out by researchers with the aim of developing application-based Throwing Number Athletics teaching materials for Middle School PJOK Teachers in Pasuruan Regency. However, in this research and development, researchers used seven steps of the research model developed by Sugiyono, namely (1) Potential and problems, 2) data collection, 3) product design, 4) design validation, 5) design revision, 6) trial product, 7) final product

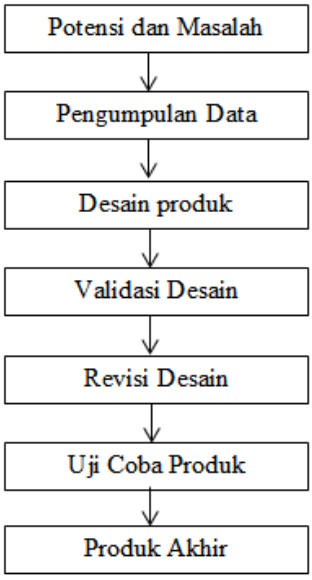

Figure 1. Chart of Research and Development Procedures

Researchers have a problem that will be raised by interviewing the head of the MGM PJOK SMP in Pasuruan Regency, the interview is conducted by asking the MGMP chairperson about throwing learning in junior high school during the lesson. After making

Physical Education, Health and Recreation; Vol. 7, No. 2 (2023) 121-133
ISSN-E: 25489208- ISSN-P:25489194
Published by Study Program Physical Education, Health and Recreation _State University of Medan
Email: pjkr@unimed.ac.id

observations, the researcher collected data using a quantitative descriptive data study method in the form of percentages used to present the data from the results of distributing analysis questionnaires (need assessment) by distributing them online via Google form to PJOK SMP teachers in Pasuruan Regency. Then collected data that had been filled in by 36 teachers from junior high school MGMP members in Pasuruan Regency, then, namely product design, researchers planned the development of application-based physical fitness material learning. The researcher made a storyboard as a stage at the beginning of making a product design. After the storyboard was created, the researcher began to make the product. The stage after the researcher makes the product is to carry out the validation step.

Research and development requires a design validation process involving 3 experts who are experienced in their fields, the experts involved are 1 Learning Expert, 1 Throwing Material Learning Expert, and 1 Media Expert. By validating experts, researchers get input and suggestions about products, so researchers can help improve products that have been developed. The next step is design revision, product improvement in accordance with what is given by experts, researchers carry out product improvements with the aim of product development suitable for use.

After revising the design, the researchers carried out a product trial involving 36 subjects, where the subjects involved were teachers who were members of the MGMP for Physical Education, Sports and Health for Middle Schools in Pasuruan Regency. The tryout was divided into 2 groups, 1 small group tryout totaling 11 teachers who were members of the MGMP PJOK SMP in Pasuruan Regency, 1 large group tryout totaling 25 teachers who were members of the MGMP PJOK SMP in Pasuruan Regency. Next, enter the data analysis stage to assess the percentage of feasibility of the product being developed.

The next step is to analyze the data from 3 expert validations, and test the product with a total of 36 subjects. The researcher uses a form of quantitative descriptive analysis technique in the form of a percentage using a Likert scale, which has been provided by (Sugiyono, 2015).

Table 1. Category Likert Scale

Score	Information
4	Strongly Agree
3	Agree
2	Don't Agree
1	Totally Disagree

The formula below is the formula used in processing the following validation data:

$$V = \frac{\text{Tse}}{\text{Tsh}} \times 100\%$$

Information:

V : Validity
Tse : Total empirical score
Tsh : Total expected score
100% : Constant number

Physical Education, Health and Recreation; Vol. 7, No. 2 (2023) 121-133
ISSN-E: 25489208- ISSN-P:25489194
Published by Study Program Physical Education, Health and Recreation _State University of Medan
Email: pjkr@unimed.ac.id

The results of data processing are then adjusted to the product category, it intends to make it easier to draw conclusions from the results of the percentage data study regarding the attractiveness, convenience, suitability, and usefulness of the product being developed. Following are the percentage criteria used in this research and development :

Table 2. Percentage Criteria

Percentage	Category	Description
75,01% - 100,00%	Very Valid	Used without revision
50,01% - 75,00%	Valid Enough	Worn with minor revisions
25,01% - 50,00%	Invalid	Can not be used
00,00% - 25,00%	Invalid	Forbidden to use

Discussion

The results of this study discuss product development and presentation of validation and trial data results. In this application there are various features or various menus, namely the researcher's personal data, KI and KD, core material for class VII, VIII and IX, learning videos, and quizzes as an assessment for students :

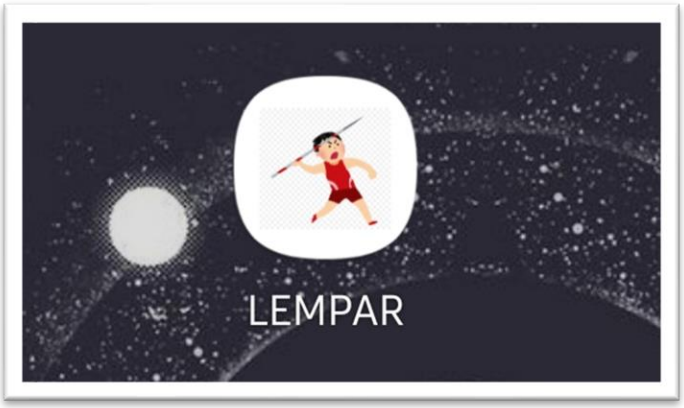

Figure 2. App Icon Display

Figure 3. Main Views of Throw Material Learning Media Development Products

Physical Education, Health and Recreation; Vol. 7, No. 2 (2023) 121-133
ISSN-E: 25489208- ISSN-P:25489194
Published by Study Program Physical Education, Health and Recreation _State University of Medan
Email: pjkr@unimed.ac.id

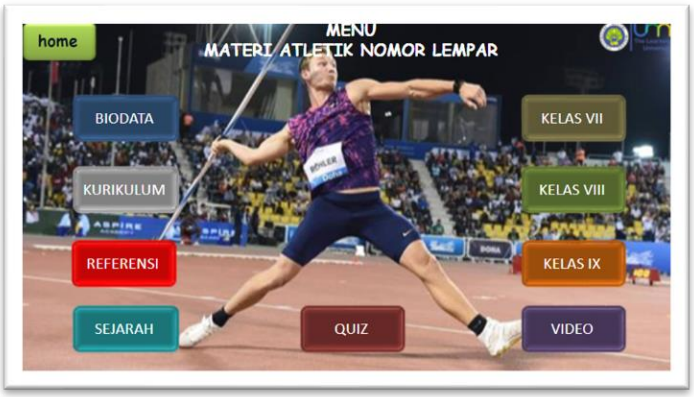

Figure 4. Menu Display On Product Development

Table 3. Results of Learning Expert Analysis Data

Aspect	Percent	Category
Convenience	90%	Very Valid
Decree	90%	Enough Valid
Suitability	85%	Very Valid
Validity	88,5%	Very Valid

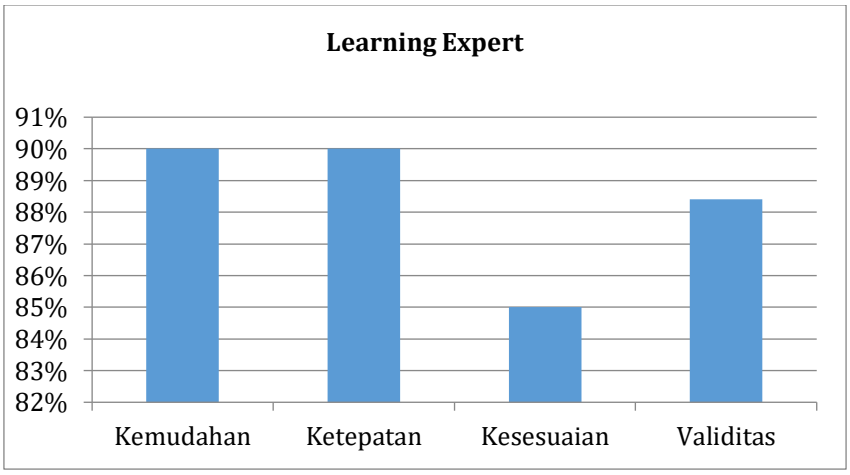

Figure 5. Learning Expert Data Diagram

The validity test by learning experts obtained a percentage of 89%. The results were obtained from 3 factors, namely the suitability factor, the convenience factor, and the certainty factor. The results were changed based on the presentation criteria table showing that the application-based throwing material learning development media had met the benchmarks of being truly valid and feasible to use then continued with group trials.

Table 4. Acquisition of Throw Learning Expert Study Data

Aspect	Percent	Category
Convenience	100%	Enough Valid
Decree	75%	Very Valid
Suitability	87.5%	Very Valid
Validity	87.5%	Very Valid

Physical Education, Health and Recreation; Vol. 7, No. 2 (2023) 121-133
ISSN-E: 25489208- ISSN-P:25489194
Published by Study Program Physical Education, Health and Recreation _State University of Medan
Email: pjkr@unimed.ac.id

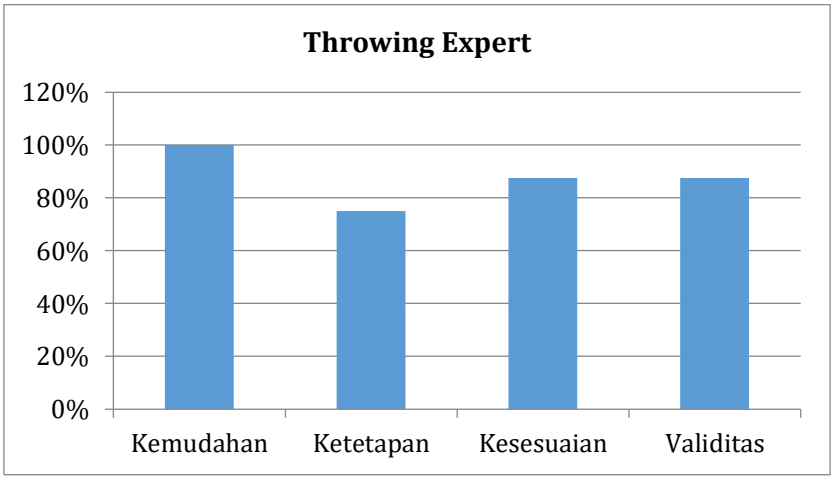

Figure 6. Throw Expert Data Chart

Validation test by running and walking experts obtained a percentage of 88%. These results were obtained from 3 factors, namely the convenience factor, the accuracy factor, and the suitability factor. The results were changed based on the presentation criteria table showing that learning media products had met the benchmarks of being valid and suitable for use, then continued with group trials.

Table 5. Media Expert Analysis Data Results

Aspect	Percent	Category
Convenience	100%	Very Valid
Attractiveness	100%	Very Valid
Suitability	100%	Very Valid
Accuracy	94%	Very Valid
Validity	98,5%	Very Valid

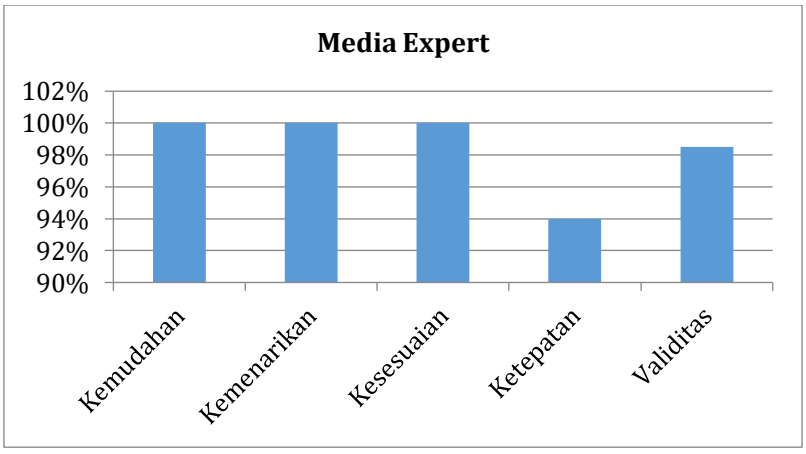

Figure 7. Media Expert Data Diagram

The validity test by media experts obtained a percentage of 99%. These results were obtained from 4 factors, namely the convenience factor, the attractiveness factor, the

Physical Education, Health and Recreation; Vol. 7, No. 2 (2023) 121-133
ISSN-E: 25489208- ISSN-P:25489194
Published by Study Program Physical Education, Health and Recreation _State University of Medan
Email: pjkr@unimed.ac.id

suitability factor, and the accuracy factor. The results were changed based on the percentage criteria table which showed that the product of throwing learning media development was in accordance with the benchmarks, valid and feasible to use, then continued with trials.

Table 6. Results of Data Acquisition of Small Group Trial Studies

Aspect	Percent	Category
Suitability	96%	Very Valid
Convenience	98%	Very Valid
Clarity	98%	Very Valid
Accuracy	96%	Very Valid
Validity	97,%	Very Valid

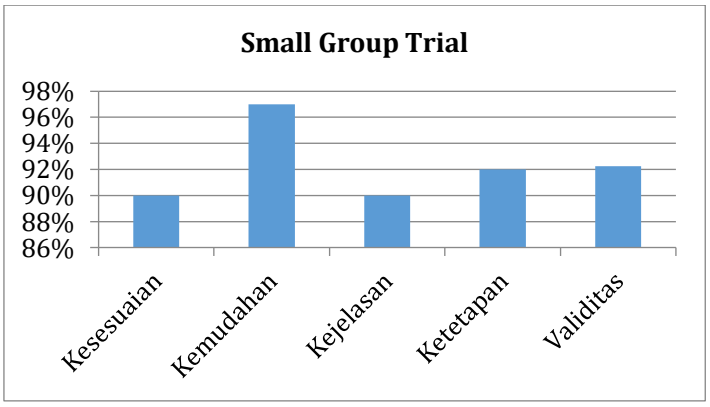

Figure 8. Small Group Experiment Data Diagram

The results of the study in a small group trial by PJOK SMP subject teachers in Pasuruan District obtained a percentage of 93%. These results were obtained from 4 factors, namely the accuracy factor, the suitability factor, the attractiveness factor, and the convenience factor. These results are changed based on the percentage criteria table which states that the development product meets the benchmarks, is valid and suitable for use.

Table 7. Results of Data Acquisition of Large Group Trial Studies

Aspect	Percent	Category
Suitability	86%	Very Valid
Convenience	81%	Very Valid
Clarity	84%	Very Valid
Decree	83%	Very Valid
Validity	83,5%	Very Valid

Physical Education, Health and Recreation; Vol. 7, No. 2 (2023) 121-133
ISSN-E: 25489208- ISSN-P:25489194
Published by Study Program Physical Education, Health and Recreation _State University of Medan
Email: pjkr@unimed.ac.id

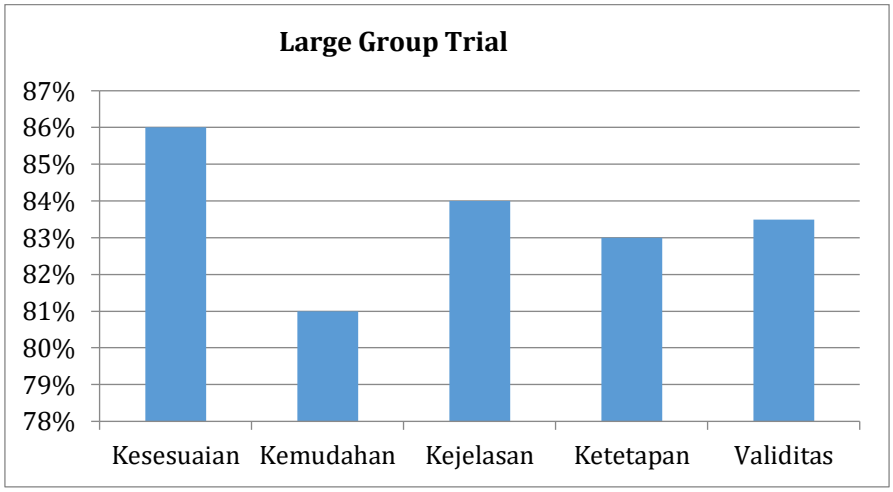

Figure 9. Larger Trial Data Diagram

The results of the pilot study of the large group of PJOK SMP subject teachers in Pasuruan Regency obtained a percentage of 84%. These results were obtained from 4 factors, namely the accuracy factor, the suitability factor, the attractiveness factor, and the convenience factor. These results are changed based on the percentage criteria table which states that the development product has met the benchmarks that are valid and suitable for use.

Education is a very important aspect of life that must be obtained by humans. Physical Education is learning whose part is very important in all aspects of the educational process with the aim of increasing motor activity through physical activity (Taqwim, 2020). Physical Education is very important and strategic in learning in the technological era (Haris, 2018). Physical education is not only carried out at an early age, teenagers, but will continue at an advanced age (Afriana sari, Sukirno, 2020). Education will be carried out properly so it will also have a good impact on national development (Mustafa & Dwiyogo, 2020). As educators must have efforts to develop the educational process. In line with Kurniawan (2017) Physical Education is an integral part of education in schools, which has the goal of improving the ability, phychomotor, cognitive, and social.

This development is an improvement in the number throwing athletics learning material which is based on the iSpring application which contains material in the form of text, learning videos and quizzes as a measure of understanding the material. According to Menurut (Handayani & Rahayu, 2020) stated that learning media based on the iSpring android application can make learning media feasible to use. iSpring Suite 9 is software that can be used during learning activities that can be connected to a power point (Purnama Sari & Ridwan, 2020). The iSpring application is a web-based application that can make power point applications into a flash to make it more attractive. Meanwhile, according to Sastrakusumah (2018) the iSpring software makes a PPT presentation file into a flash file. Cahyanti (2019) states that previous research with the iSpring Suite application can encourage students in learning to play an active role and better understand the material and minimize boredom during the learning process.

Physical Education, Health and Recreation; Vol. 7, No. 2 (2023) 121-133
ISSN-E: 25489208- ISSN-P:25489194
Published by Study Program Physical Education, Health and Recreation _State University of Medan
Email: pjkr@unimed.ac.id

From the results of the needs analysis data (need assessment) for SMP PJOK teachers in Pasuruan Regency 100% require the development of application-based learning that is used for learning activities. With the iSpring Suite application, it is hoped that it will bring positive things to the means of delivering learning. Based on the results of the expert validation data given to the validation of learning experts and material experts, in the process of learning activities it must be oriented towards student development and the learning process must be interesting, not monotonous, fun and not make students feel bored quickly. In line with Budiman, haryanti (2021) that in order to foster student motivation it is necessary to use learning media in learning activities so that it creates a feeling of eagerness to learn in students. The learning process can achieve its goals if there is good interaction between students and teachers through learning (Swadesi & Kanca, 2018). Not only does it make the atmosphere comfortable and interesting, but educators must also understand and master the material and manage learning inside or outside the room (Saifulloh & Darwis, 2020). In connection with Ardilla (2021) namely the role of the teacher in physical education subjects has special challenges in providing the material to be provided, this is a challenge for anyone who works as a teacher

The results of data validation by media experts said that application development products are expected to provide benefits and convenience for its users. This development product should also be made as attractive as possible in order to increase students' interest in learning. As a teacher, you should also make the learning environment and atmosphere more enjoyable and can have a positive influence. With respect to Profilian, Kunara (2017) stated that it is necessary to select interactive media that are appropriate for the learning to be carried out by knowing the characteristics of the material to be provided. The material, videos and quizzes on the application in this development product have elements that contain athletic material and focus on throwing number athletics.

Athletics has a very important role, especially in everyday life (Widiyanto & Nurrochmah, 2021). Running, walking, jumping and throwing are types of sports in athletics, so it can be said that athletics is the ancestor of all kinds or types of sports (Aslam, Heynoek, & Fitriady, 2022). One of the athletic sports that is contested is throwing (Serah, 2020). In this regard, it is necessary to introduce effective movement to early childhood through the development of motion in human anatomy (Mahardhika, Betty, Jusuf, & Priyambada, 2018). The final form of this development product is packaged in an application that can be run by Android and computers. The content of the material in this product includes athletic materials for throwing numbers for grades VII, VIII and IX which include learning materials, learning videos, biodata, KI and KD, and application-based reference lists.

Based on the results of validation test data by learning experts, a percentage of 88.5% was obtained, validation by throwing experts was 87.5%, media expert validation was 98.5%, small group trials were 92.25%, and large group trials were 83.5%. This means that all validation tests by experts and product trials of the iSpring Suite products yield very valid benchmark results and are suitable for use. With the creation of modern learning development, it can advance students' interest in learning and increase knowledge for teachers in carrying out the development of learning media. This is in line with Novriliani (2021)

stating from the results of his research that an increase in android-based mobile learning media for athletics for seventh grade junior high school students can be used as a learning aid because it has been clearly proven in material factors, media factors and usability factors.

Conclusion

Based on the conclusions from the results of research and application product development obtaining small group trial data of 92.25% and large group trials of 83.5%, stated that it can be decided that the learning media based on the application of throwing number athletic material that has been developed is appropriate to be used for PJOK SMP learning athletic number throwing material.

References

Afriana sari, Sukirno, W. (2020). *IJSSC : Indonesion Journal of Sport Science and Coaching* Pengembangan Model Pembelajaran Gerak Dasar Nomor Lompat Berbasis Permainan Tradisional di Sekolah Dasar. *02*, 106–113.

Anshori, S. (2019). Pemanfaatan Teknologi Informasi Dan Komunikasi Sebagai Media Pembelajaran. *Civic-Culture: Jurnal Ilmu Pendidikan PKn Dan Sosial Budaya*, *2*(1), 88–100.

Ardilla, M. W., Lokananta Teguh Hari, Kurniawan, A. W., & Mu'arifin, M. (2021). Pengembangan Perangkat Pembelajaran Sepakbola Berbasis Aplikasi Articulate Storyline. *Sport Science and Health*, *3*(4), 167–179. https://doi.org/10.17977/um062v3i42021p167-179

Aslam, F. S., Heynoek, F. P., & Fitriady, G. (2022). Pengembangan Permainan Modifikasi Aktivitas Lari Jarak Pendek dalam Pembelajaran Atletik di SMK Negeri 1 Batu. *Sport Science and Health*, *4*(3), 200–206. https://doi.org/10.17977/um062v4i32022p200-206

Budiman, haryanti, A. (2021). Pentingnya Media Aplikasi Android Menggunakan Ispring Suite 9 Pada Pembelajaran Daring Terhadap. 144–150.

Cahyanti, A. D., Farida, F., & Rakhmawati, R. (2019). Pengembangan Alat Evaluasi Berupa Tes Online/Offline Matematika dengan Ispring Suite 8. *Indonesian Journal of Science and Mathematics Education*, *2*(3), 363–371. https://doi.org/10.24042/ijsme.v2i3.4362

Cahyono, C., Yarmani, Y., & Arwin, A. (2018). Meningkatkan Teknik Dasar Lempar Cakram Dalam Proses Belajar Mengajardengan Menggunakan Media Modifikasi. *Kinestetik*, *2*(1), 1–10. https://doi.org/10.33369/jk.v2i1.9180

Cahyono, A., & Mu'arifin, M. (2022). Survei Persepsi Siswa Terhadap Konsep Pendidikan Jasmani SMP Kelas VIII. *Sport Science and Health*, *2*(12), 605–612. https://doi.org/10.17977/um062v2i122020p605-612

Handayani, D., & Rahayu, D. V. (2020). Pengembangan Media Pembelajaran Interaktif Berbasis Android Menggunakan Ispring Dan Apk Builder Untuk Pembelajaran

Matematika Kelas X Materi Proyeksi Vektor. *M A T H L I N E Jurnal Matematika Dan Pendidikan Matematika*, *5*(1), 12–25. https://doi.org/10.31943/mathline.v5i1.126

Haris, I. N. (2018). Model pembelajaran peer teaching dalam pembelajaran pendidikan jasmani. *Biormatika: Jurnal Ilmiah Fakultas Keguruan Dan Ilmu Pendidikan*, *4*(1), 1–8. www.ejournal.unsub.ac.id/index.php/FKIP/article/download/191/170

Herlina, H., & Suherman, M. (2020). Potensi Pembelajaran Pendidikan Jasmani Olahraga Dan Kesehatan (Pjok) Di Tengah Pandemi Corona Virus Disease (Covid)-19 Di Sekolah Dasar. *Tadulako Journal Sport Sciences And Physical Education*, *8*(1), 1–7.

Komariah, N. & A. (2018). Upaya Meningkatkan Hasil Belajar Lempar Lembing Dengan Menggunakan Modifikasi Lembing. *Stkipmutiarabanten.Ac.Id*, *6*(1), 5–16. https://stkipmutiarabanten.ac.id/wp-content/uploads/2021/04/Volume-5-Nomor-1-1-September-2019.pdf

Kurnia, N., Darmawan, D., & Maskur, M. (2018). Efektivitas Pemanfaatan Multimedia Pembelajaran Berbantuan Ispring dalam Meningkatkan Motivasi dan Hasil Belajar pada Mata Pelajaran Bahasa Arab. *Teknologi Pembelajaran*, *3*(1), 451–461. https://journal.institutpendidikan.ac.id/index.php/tekp/article/view/158

Mahardhika, N. A., Betty, J., Jusuf, K., & Priyambada, G. (2018). Dukungan Orangtua Terhadap Motivasi Berprestasi Siswa SKOI Kalimantan Timur Dalam Mengikuti Pembelajaran Pendidikan Jasmani Parental Support for the Achievement Motivation of SKOI Students in East Kalimantan in Attending Physical Education Learning. *Jurnal Pendidikan Jasmani Indonesia*, *14*(2), 62–68.

Mustafa, P. S., & Dwiyogo, W. D. (2020). Kurikulum Pendidikan Jasmani, Olahraga, dan Kesehatan di Indonesia Abad 21. *JARTIKA Jurnal Riset Teknologi Dan Inovasi Pendidikan*, *3*(2), 422–438. https://doi.org/10.36765/jartika.v3i2.268

Novendri, M. S., Saputra, A., & Firman, C. E. (2019). Aplikasi Inventaris Barang Pada MTS Nurul Islam Dumai Menggunakan PHP Dan MySQL. *Lentera Dumai*, *10*(2), 46–57.

Novriliani, E. (2021). Tingkat Keterampilan Bola Basket Pada Siswa Ekstrakulikuler Bola Basket. *Jurnal Edukasimu*, *1*(3), 1–9. Retrieved from http://edukasimu.org/index.php/edukasimu/article/view/51

Profilian, Kunara, I. dkk. (2017). Pengembangan Multimedia Interaktif Materi Atletik Lempar Cakram. *E-Journal PJKR, Universitas Pendidikan Ganesha Pendidikan Jasmani, Kesehatan, Dan Rekreasi (Vol 8, No.2, Tahun 2017)*, *8*(2).

Purnama Sari, M., & Ridwan, R. (2020). Pengembangan Multimedia Interaktif Menggunakan Aplikasi Ispring Suite 9 Pada Pembelajaran IPA Kelas IX Di SMP Negeri 5 Panyabungan. *Jurnal Penelitian IPTEKS*, *5*(2), 216–223. https://doi.org/10.32528/ipteks.v5i2.3660

Qomariyah, I. N., & Mistianah. (2021). Pengembangan Meida iSpring Suite 8 Dengan Model Think Pada Mata Kuliah Genetika. *Jurnal Pendidikan Biologi*, *12*(02), 103–113.

Rahmat, Z., & Irfandi. (2019). Evaluasi, Manajemen, Binaan, dan Atletik. *6*(2), 288–302.

Saifulloh, A. M., & Darwis, M. (2020). Manajemen Pembelajaran dalam Meningkatkan Efektivitas Proses Belajar Mengajar di Masa Pandemi Covid-19. *Bidayatuna: Jurnal Pendidikan Guru Mandrasah Ibtidaiyah*, *3*(2), 285. https://doi.org/10.36835/bidayatuna.v3i2.638

Sastrakusumah, E. N. (2018). Pengaruh Media Pembelajaran Interaktif Berbantuan Aplikasi Ispring Presenter Terhadap Kemampuan. *3*.

Serah, B. (2020). Pengembangan Pembelajaran Lempar Lembing Menggunakan Media Roket. *Jurnal Tunas Pendidikan*, *3*(1), 111–121. https://doi.org/10.52060/pgsd.v3i1.400

Sujana, I. W. C. (2019). Fungsi Dan Tujuan Pendidikan Indonesia. *Adi Widya: Jurnal Pendidikan Dasar*, *4*(1), 29. https://doi.org/10.25078/aw.v4i1.927

Swadesi, I. K. I., & Kanca, I. N. (2018). Pengembangan Media Pembelajaran PJOK Berbasis ICT di SMP. *Seminar Nasional Riset Inovatif*, 274–281.

Syamsul Taufik, M. (2020). Strategi, Proses, Evaluasi, dan Model Pembelajaran. 9–12.

Taqwim, R. I., Winarno, M. E., & Roesdiyanto, R. (2020). Pelaksanaan Pembelajaran Pendidikan Jasmani, Olahraga, dan Kesehatan. *Jurnal Pendidikan: Teori, Penelitian, Dan Pengembangan*, *5*(3), 395. https://doi.org/10.17977/jptpp.v5i3.13303

Widiyanto, M. S., & Nurrochmah, S. (2021). Kemampuan Gerak Dasar Kids Atletik pada Siswa Sekolah Dasar di Kecamatan Kedungkandang Kota Malang. *Sport Science and Health*, *3*(6), 381–391. https://doi.org/10.17977/um062v3i62021p381-391

Widodo, A. (2018). Makna Dan Peran Pendidikan Jasmani Dalam Pembentukan Insan Yang Melek Jasmaniah/Ter-Literasi Jasmaniahnya. *Motion: Jurnal Riset Physical Education*, *9*(1), 53–60. https://doi.org/10.33558/motion.v9i1.1432