INDONESIAN JOURNAL OF RESEARCH IN PHYSICAL EDUCATION, SPORT, AND HEALTH
e-ISSN: 2986-8831
Vol. 2 No 1, April 2024
Research Article

Development of video-based learning of basic Boxing techniques for amateur athletes

Ariyana[1]*, Ari Wibowo Kurniawan[2], Mohad Anizu Bin Mohd Nor [3]
[1,2] State University of Malang, Jl. Semarang No. 5, Malang City, East Java Province, 65145, Indonesia
[3] Universiti Teknologi Mara, Jl. Ilmu 1/1, 40450 Shah Alam, Selangor, Malaysia
*Corresponding author, email: ariyana.2006116@students.um.ac.id

ABSTRACT
Background: Learning basic boxing techniques at Sasana Lion Boxing Academy requires correct techniques because observation results show that 87% of amateur athletes at Sasana Lion Boxing Academy Malang City still have not mastered basic boxing techniques. Based on the questionnaire results for amateur athletes at Sasana Lion Boxing Academy, many still have not mastered basic boxing techniques, such as stance, straight jab, hook, uppercut, and defense. Objective: The aim is to develop the learning of correct basic boxing techniques for amateur athletes at Sasana Lion Boxing Academy, Malang City. Method: This research uses the Research and Development (R&D) method using the Lee & Owens development model. The subjects tested were 15 athletes. Result: Based on the data obtained based on the results of expert data analysis, namely, media experts obtained 80% results, learning experts obtained 89% results, media experts obtained 80% results, and field testing results obtained 82%. The expert data analysis and field trials obtained "very valid" results. Data collection techniques were carried out through questionnaires and interviews. Conclusion: This learning development product can help amateur athletes at the Lion Boxing Academy Gym, Malang City.

ARTICLE HISTORY
Received March 11, 2024
Accepted April 28, 2024
Published April 30, 2024
KEYWORDS
Learning; basic boxing techniques; amateur athletes.

Introduction

Boxing is a sport that involves various offensive, defensive, and counter-attack skills performed in an unpredictable environment (Ashker, 2012). Martial arts boxing, mainly amateur boxing, must master basic boxing techniques such as straight jabs, hooks, and uppercuts. Athletes must play with a fast rhythm and high-hitting speed while defending. In amateur boxing, matches are conducted in three rounds during each round of 3 minutes. To win a boxing match, you must collect as many points as possible to defeat the opponent (Dougherty, 2013). In theory, according to Komalasari (2017), Learning is the process of planning, implementing, and evaluating Learning to realize goals efficiently and systematically. However, in real conditions on the field, athletes learning basic boxing techniques takes more than one month, whereas learning basic boxing techniques only takes 2 to 3 weeks as long as they are consistent in training. After conducting a survey, we found several issues that affect the learning achievements of athletes, one of which is the learning method used by the Lion Boxing Academy Gym.

Then researchers gave a questionnaire of questions related to basic boxing techniques to 15 athletes at the Lion Boxing Gym in Malang City obtained the following results: (1) as many as 20% of athletes have not mastered the technique of foot easel and 80% of athletes have mastered, (2) as many as 7% of athletes say they have not mastered the straight jab technique while 93% of athletes have mastered the straight jab technique, (3) as many as 60% of athletes said they have not mastered the hook technique while 40% of athletes have mastered the hook technique, (4) as many as 87% of athletes say they have not mastered the uppurcut technique while 13% of athletes have mastered the uppurcut technique, (5) as many as 93% of athletes have mastered the defense technique while 7% of athletes have mastered the defense technique, (6) as many as 93% of athletes said they had not mastered the

combination of straight jab, hook, uppurcut and defense techniques while 7% of athletes had mastered the combination of techniques sometimes did not master while 13.33% of athletes had mastered, (7) as many as 87% of athletes said they had never used learning media in the form of videos while 13% of athletes said they had used learning media, (8) as many as 93% said they needed learning media in the form of videos while 7% of athletes did not need learning media.

Based on the results of interviews with coaches at Sasana Lion Boxing Academy, Malang City said that coaches trained at this Gym for two years; the learning system at this Gym is carried out on Monday – Saturday from 16.00 – 21.00. The Gym has 30 amateur and professional athletes. In the process of learning basic boxing techniques, trainers use media courses. However, according to the coach, this media is very ineffective because it is a module containing only pictures and writing, so amateur athletes do not understand basic boxing techniques. In explaining the material according to the trainers using the media to learn basic boxing techniques, only a few understand the explanation of the material. The coach also said there is a need to develop basic boxing techniques in this Gym, especially for amateur athletes. Coaches need learning media to be an alternative to the learning process at Sasana Lion Boxing Academy.

Learning media must be used to facilitate Learning in the learning stage. According to Netriwati (2019), learning media is a means of communication between educators and students, conveying educational content to encourage student involvement and interest. According to Sanjaya (2016), the role of learning media is to support teachers in material delivery. It was concluded that the function of learning media is to assist teachers in delivering material that aims to clarify the information they teach to students.

According to Sanjaya (2016), the function of learning media is to support teachers related to material delivery. According to Levie & Lentz (1982), learning media has four functions, which include attentional, emotional, cognitive, and compensatory. Learning media is very useful for teachers in providing material through images, audio, and video. According to Prasetio, Kurniawan, & Yudasmara (2021), video media is the right tool to convey skills because elements such as sound, images, lines, symbols, and movements appear in the video. According to Nurrita (2018), learning media captures particular objects or events, manipulates certain situations or objects, and motivates students to learn.

At this time, technology development is increasingly rapid, and this is also true of learning media. The continuous use of learning media is essential to ensure the learning stage continues. Using educational materials is very important in ensuring the continuity of the learning stage. Learning media is divided into two types, namely traditional learning methods and innovative learning methods. An example of innovative learning media is YouTube, an example of internet-based Learning. Many people love YouTube because it is a video-sharing site that shares videos online. *YouTube* is a high-speed medium to communicate information to the broader community. Information obtained through YouTube is available to people everywhere using Internet data networks provided by providers that support their smartphones and laptops (Casas, Schatz, & Hoßfeld, 2013). According to Wardani (2019), using YouTube as a learning platform can attract extensive views towards developing effective teaching methods. A positive impact of YouTube's existence is the ability to search for learning media through videos.

YouTube is the most visited online video-sharing site and the most popular site globally. Today, YouTube is a widely accessible platform that has gained worldwide popularity. YouTube learning videos can be used as interactive tools in the classroom. Educational content on YouTube can be used for interactive learning materials in the classroom and provides students with online and offline learning opportunities (Suwarto, Muzaki, & Muhtarom, 2021).

Method

Research Design

The initial data of this study was obtained through a needs analysis conducted on athletes. Research and development carried out refers to several stages that Lee & Owens (2004) develop, including: (1) needs analysis, (2) making product designs, (3) product development, (4) implementation or implementation, and (5) product evaluation or evaluation (Figure 1).

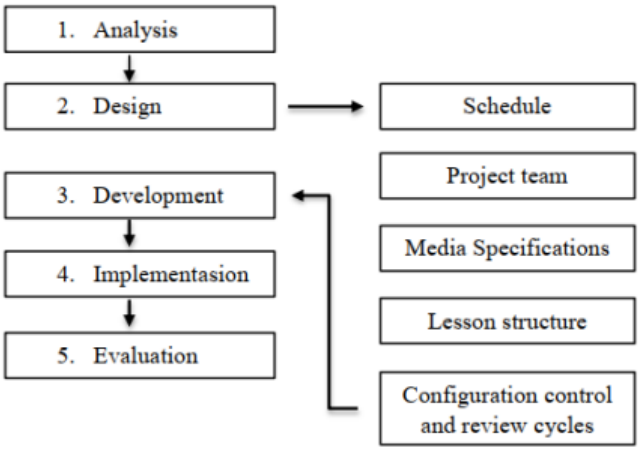

Figure 1. Research Flowchart

Participants

The subjects of this research and development are 1) Expert evaluation, one media expert, one learning expert, one boxing expert, and 2) field trial subjects with 15 amateur boxing athletes. The instrument used in this study was a questionnaire researchers distributed directly to 15 athletes at the Lion Boxing Academy Gym in Malang City.

Data Analysis

The method for data analysis that researchers use in the development of essential boxing technique learning is a quantitative data analysis approach with data obtained from the results of questionnaire questionnaires. Data analysis was carried out using a formula from Sugiyono (2015), the Likert Scale, which measures each individual or group's opinions, attitudes, and perceptions towards social phenomena. The Likert scale has response rates ranging from very positive to very harmful, and these answers can be evaluated based on the specified points, namely one (1), two (2), three (3), and four (4) which are used for the needs of quantitative analysis. Likert scale can be observed in Table 1.

Table 1. The Likert Scale

No	Information	Category	Score
1	Totally agree	A	4
2	Agree	B	3
3	Nervous	C	2
4	Disagree	D	1

Source: (Sugiyono, 2015)

The data processing formula is in the form of quantitative descriptive analysis with percentages based on Akbar & Sriwijaya (2011).

$$V = \frac{TSEV}{S - max} \; x \; 100\%$$

Description:
V : Validity Validity
TSEV : Number of Empirical Score Validators
S-Max : Maximum Score Expectation
100% : Number Constant

In order to facilitate the process of concluding data from the results of percentage analysis, the data obtained can be classified according to the percentage. According to Akbar & Sriwijaya (2011), the percentage classification in Table 2.

Table 2. Product Quality Criteria

Number	Criterion	Information	Meaning
1	Highly Valid	75,01% - 100%	Used without revision
2	Quite valid	50,01% - 75%	Used with revisions
3	Invalid	25,01% - 50%	Cannot be used
4	Very invalid	00,00% - 25%	Prohibited from Use

Source: (Akbar & Sriwijaya, 2011)

Results and Discussion

Result

Data analysis is intended to determine the feasibility of a product developed by learning basic boxing techniques for amateur athletes at the Lion Boxing Academy Gym in Malang City through learning videos. Data analysis aims to collect information from several experts, including learning experts, media experts, boxing experts, and field trials. Figure 2 and Figure 3 show the product development of learning basic boxing techniques in the form of learning videos.

Figure 2. Video cover

Figure 3. Foot Easel Technique

This development product is in the form of a video learning basic boxing techniques. Video learning basic boxing techniques include leg stance, straight jab, hook, uppercut, and defense.

Media Expert

Analyzing media expert evaluation data from different perspectives, which include, among others, aspects of attractiveness, convenience, accuracy, clarity, suitability, and flexibility in products developed through the learning of basic boxing techniques for amateur athletes at Sasana Lion Boxing Academy Malang City.

Table 3. Media Expert Data Analysis Results

Number	Aspects	Feasibility	Category
1	Highlights	94%	Highly Valid
2	Ease	100%	Highly Valid
3	Accuracy	88%	Highly Valid
4	Clarity	100%	Quite Valid
5	Compatibility	100%	Quite Valid
6	Flexible	75%	Quite Valid
	Average	95%	Very valid

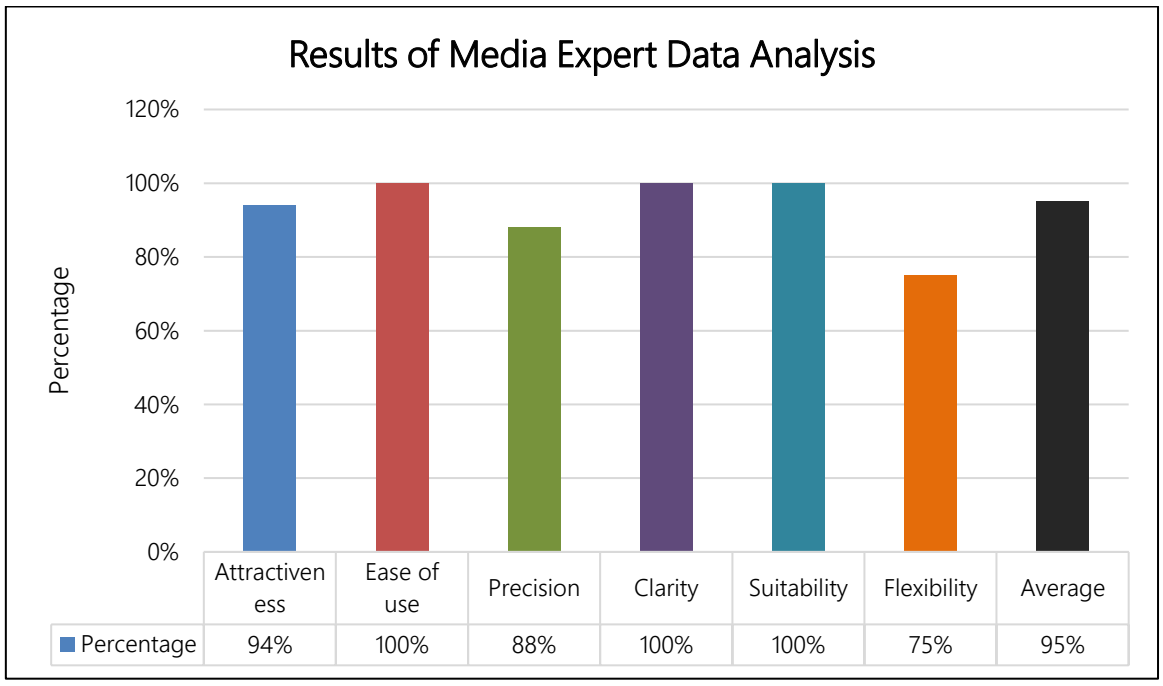

Figure 3. Diagram of Media Expert Data Analysis Results

Figure 3 shows the analysis of media expert data with 80% results; the results of these aspects were obtained until the results were adjusted according to the feasibility classification table, which shows the development products of learning basic boxing techniques for amateur athletes at the Lion Boxing Academy Gym Malang City are by the criteria, namely showing very valid results and have the feasibility to be used without revision and can also be continued to field trials.

Learning experts

Table 4 analyzes learning expert evaluation data from different perspectives, covering attractiveness, convenience, and clarity in developing essential boxing technique learning products for amateur athletes at Sasana Lion Boxing Academy Malang City.

Table 4. Learning Expert Data Analysis

Number	Aspects	Feasibility	Category
1	Highlights	100%	Highly Valid
2	Ease	92%	Highly Valid
3	Clarity	88%	Highly Valid
	Average	90%	Highly Valid

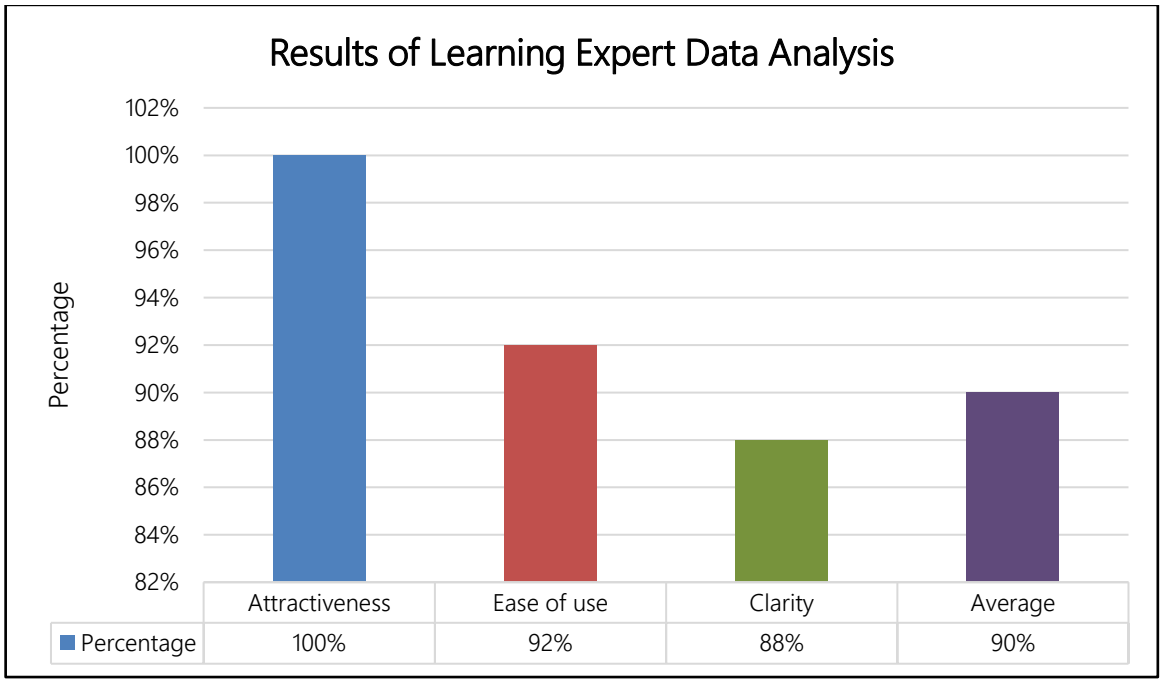

Figure 4. Learning Expert Data Analysis Results Diagram

Figure 4 is the analysis of learning expert data with 89% results; results were obtained from various aspects that had been determined, and the results obtained were adjusted according to the feasibility classification table that shows that the product of learning basic boxing techniques for amateur athletes at Sasana Lion Boxing Academy Malang City is by the criteria, namely with very valid results and already has the feasibility to be used accompanied by light revisions and can be continued to field trials.

Boxing Expert

Table 5 shows the analysis of boxing expert evaluation data from different points of view, including aspects of accuracy, convenience, and suitability, in the development of basic boxing technique learning products for amateur athletes at Sasana Lion Boxing Academy Malang City.

Table 5. Analysis of Boxing Expert Data

Number	Aspects	Feasibility	Category
1	Accuracy	95%	Highly Valid
2	Ease	75%	Quite Valid
3	Conformity	87%	Highly Valid
	Average	88,33%	Highly Valid

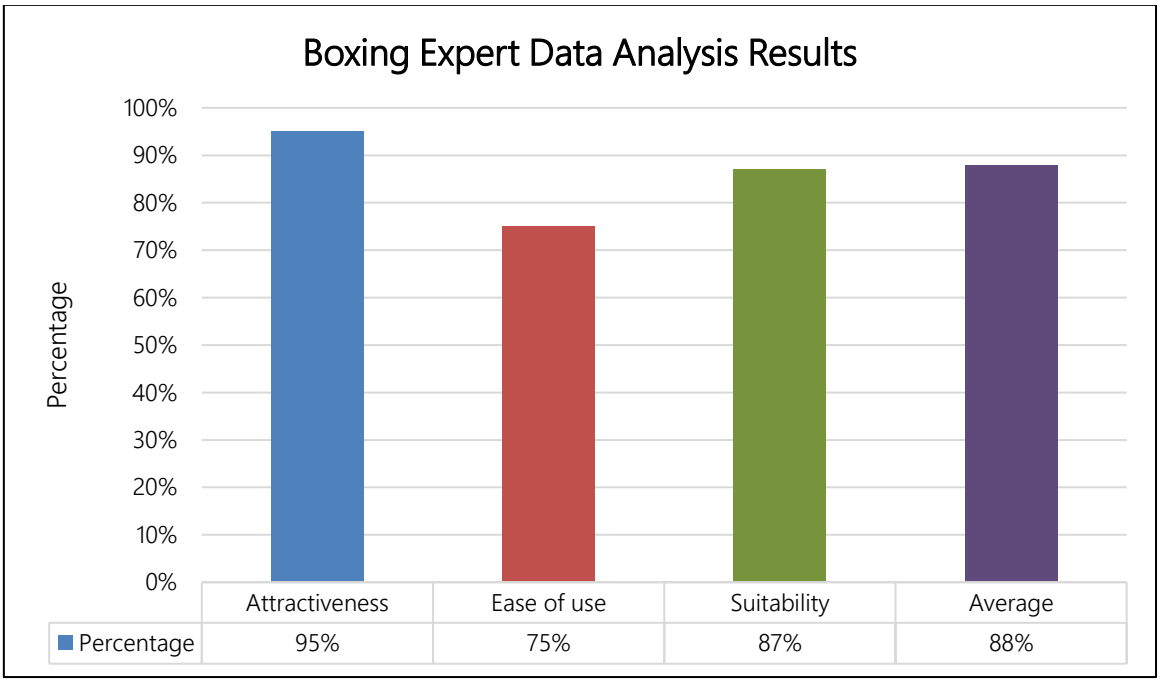

Figure 5. Chart of Boxing Expert Data Analysis Results

Figure 5 is the results of the analysis of boxing expert data with 80% results; these results are obtained from various aspects that have been determined until the results obtained are adjusted according to the feasibility classification table, which shows that the product development Learning basic boxing techniques for amateur athletes at Sasana Lion Boxing Academy Malang City is by the criteria, namely with very valid results and suitable for use without revision, and then can be continued for field trials.

Field Trials

Table 6 presents an analysis of assessment data from field trials based on various aspects, including attractiveness, convenience, clarity, suitability, and flexibility, in developing basic boxing techniques for amateur athletes at Sasana Lion Boxing Academy Malang City.

Table 6. Field Trials

Number	Aspects	Feasibility	Category
1	Highlights	86%	Highly Valid
2	Ease	84%	Highly Valid
3	Clarity	87%	Highly Valid
4	Conformity	83%	Highly Valid
5	Flexible	80%	Highly Valid
	Average	82%	Highly Valid

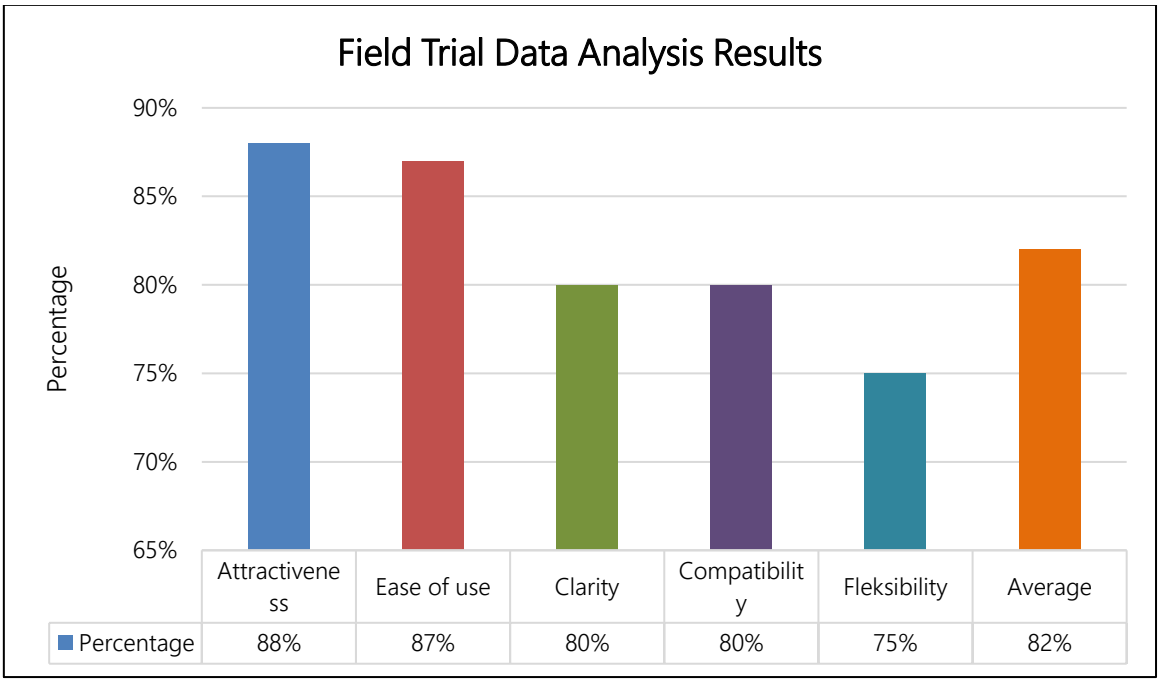

Figure 6. Analysis of Field Trial Data

Based on the Figure 6, the results of data analysis obtained from field trials on amateur athletes at Sasana Lion Boxing Academy Malang City, the average percentage result is 82%. These results were obtained from predetermined aspects until the results were adjusted based on the feasibility classification table, which showed that the product development Learning basic boxing techniques for amateur athletes at Sasana Lion Boxing Academy Malang City had met the criteria, namely with very valid results and worthy of use without revision.

Discussion

This basic boxing technique learning development product is packaged in a video through the YouTube application. The findings show that the average scores from media experts (95%), learning experts (90%), and boxing experts (88%) indicate that the product is suitable for use. Furthermore, the field trial results showed an average value of 82%, which is quite feasible.

The use of media in the learning process, according to Musfiqon (2012), can be divided into three main principles, namely: (a) The principle of effectiveness and efficiency. Effectiveness in learning is the achievement of a learning process in achieving learning objectives. Learning media that teachers use with the proper steps at the learning stage will be an instrument that supports effectiveness and efficiency in realizing learning objectives. Learning videos usually involve students in the learning stage and deliver material effectively (Pebriani, 2017). YouTube is the most used social media platform among the public. YouTube is not only about entertainment but also about learning and information. According to Rasagama (2020), learning media can increase student learning motivation, make learning more enjoyable, and reduce boredom while studying. The rise of YouTube as one of the most popular social media has become an opportunity in the world of education (Mujianto, 2019). Many tutorials and content are presented on YouTube, including education. YouTube learning videos can used as an interactive learning tool in the classroom, but YouTube can also be used as a learning medium that can be accessed anytime and anywhere (Suwarto, Muzaki, & Muhtarom, 2021).

This development product presents primary boxing technique material using text, images, audio, and video. Research and development of educational videos for learning and practice found that educational videos are one of the supporting elements for achieving learning objectives. This product is used explicitly for amateur athletes to learn basic boxing techniques at Sasana Lion Boxing Academy

Malang City. This product has basic boxing techniques and variations of exercises to justify the correct boxing technique. The content of the learning video includes learning objectives, primary boxing technique material and training variations, and evaluations in the form of practice questions.

Video has become the most essential medium in mastering motion and even maximizing achievement. One study reported that 360° VR training improved decision-making in elite boxers preparing for the 2020 Tokyo Olympics compared to VR game simulations, offering satisfying and safe individual training opportunities during the COVID-19 pandemic (Romeas et al., 2022). VCoach effectively generates personalized boxing training in virtual reality, efficiently improving participants' skills through real-time performance monitoring (Chen et al., 2022).

Conslusions

Learning products for basic boxing techniques in video-based amateur athletes can help athletes learn and practice more effectively, increase athletes' understanding of the material the coach delivers, and add to the variety of athlete boxing training and basic boxing techniques.

Authors' contributions

A is responsible for data compilation, analysis, article conception, writing, and revision. AWK and MABMN are responsible for article conceptualization and strict and critically revised manuscripts. All authors read and approved the final manuscript.

Competing interests

The authors declare no competing interests.

References

Akbar, S. & Sriwijaya, H. (2011) Pengembangan Kurikulum dan Pembelajaran Ilmu Pengetahuan Sosial (IPS). Yogyakarta: Cipta Media. [Crossref]

Ashker, S. (2012). Technical performance effectiveness subsequent to complex motor skills training in young boxers. *European Journal of Sport Science*, 12, 475-484. [Crossref]

Casas, P., Schatz, R., & Hoßfeld, T. (2013, April). Monitoring YouTube QoE: Is your mobile network delivering the right experience to your customers?. In *2013 IEEE Wireless Communications and Networking Conference (WCNC)* (pp. 1609-1614). IEEE. [Crossref]

Chen, H., Wang, Y., & Liang, W. (2022). VCoach: Enabling Personalized Boxing Training in Virtual Reality. *2022 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW)*, 546-547. [Crossref]

Dougherty, M. (2013). *Fight to Win: 20 Simple Techniques That Win Any Fight*. Tuttle Publishing. [Crossref]

Komalasari, K. (2017). *Pembelajaran Kontekstual: Konsep dan Aplikasi*. *Bandung: Refika Aditama*.

Lee, W. W., & Owens, D. L. (2004). *Multimedia-based instructional design: computer-based training, web-based training, distance broadcast training, performance-based solutions*. John Wiley & Sons.

Levie, W. H., & Lentz, R. (1982). Effects of text illustrations: A review of research. *Ectj*, *30*(4), 195-232. [Crossref]

Mujianto, H. (2019). Pemanfaatan Youtube sebagai media ajar dalam meningkatkan minat dan motivasi belajar. *Jurnal Komunikasi Universitas Garut: Hasil Pemikiran dan Penelitian*, *5*(1), 135-159. [Crossref]

Musfiqon, M. (2012). *Pengembangan Media dan Sumber Pembelajaran*. Jakarta: Prestasi Pustaka Publishers. [Crossref]

Netriwati, M. S. L., & Lena, M. S. (2017). Media pembelajaran matematika. *Bandar Lampung: Permata Net*. [Crossref]

Nurrita, T. (2018). Pengembangan media pembelajaran untuk meningkatkan hasil belajar siswa. *MISYKAT: Jurnal Ilmu-ilmu Al-Quran Hadist Syari'ah dan Tarbiyah*, *3*(1), 171-187. [Crossref]

Pebriani, C. (2017). Pengaruh penggunaan media video terhadap motivasi dan hasil belajar kognitif pembelajaran IPA kelas V. *Jurnal Prima Edukasia*, *5*(1), 11-21. [Crossref]

Prasetio, D. E., Kurniawan, A. W., & Yudasmara, D. S. (2021). Pengembangan Variasi Latihan Serangan Kumite Olahraga Karate Berbasis Media Audio-Visual. *Sport Science And Health*, *3*(7), 499-507. [Crossref]

Rasagama, I. G. (2020). Pengembangan model pembelajaran getaran berbasis video youtube untuk meningkatkan pemahaman konsep mahasiswa politeknik. *Jurnal Pendidikan Sains Universitas Muhammadiyah Semarang*, *8*(2), 91-101. [Crossref]

Romeas, T., More-Chevalier, B., Charbonneau, M., & Bieuzen, F. (2022). Virtual-Reality training of elite boxers preparing for the Tokyo 2020 Olympics during the COVID-19 pandemic: A Case Study. *Case Studies in Sport and Exercise Psychology*, *6*(1), 21-35. [Crossref]

Sanjaya, H. W. (2016). *Media komunikasi pembelajaran*. Prenada Media. [Crossref]

Sugiyono, P. (2015). *Metode penelitian kombinasi (mixed methods)*. Bandung: Alfabeta.

Suwarto, S., Muzaki, A., & Muhtarom, M. (2021). Pemanfaatan media youtube sebagai media pembelajaran pada siswa kelas XII MIPA di SMA Negeri 1 Tawangsari. *Media Penelitian Pendidikan: Jurnal Penelitian dalam Bidang Pendidikan dan Pengajaran*, *15*(1), 26-30. [Crossref]

Wardani, L. (2019). Penggunaan Media Audio Visual Untuk Meningkatkan Hasil Belajar Seni Budaya Dan Keterampilan Siswa Kelas IV Sekolah Dasar Negeri 04 Rambah Samo. *Indonesian Journal of Basic Education*, *2*(1), 1-4. [Crossref]