

The Impact of Video Feedback Toward Futsal Playing Skills

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Abstract—Technological advances have led sports pedagogics and physical education teachers to review strategies to provide feedback related to motor learning by students using Video Feedback (VFB). Futsal is a new course developed in the KKNi curriculum in the Health and Recreation Physical Education Study Program (PJKR) Muhammadiyah Kuningan STKIP. The purpose of this study is to determine the use of VFB on futsal playing skills. A total of two regular classes of the PJKR Study Program were used as research samples, 23 students were given feedback with VFB and 26 students as the control group. Futsal playing skills are measured before and after the learning program is given using the Games Performance Assessment Instrument (GPAI). The results showed that there was an influence on the application of VFB on futsal playing skills. The use of VFB in the process of learning motor skills is a contemporary renewal in the field of technology that is integrated in a teaching that needs to be developed. The results of this study can be used as a reference for physical education teachers in the context of using video technology in motor skills, especially futsal learning.,

Keywords: *feedback, video technology, futsal, playing skills*

I. INTRODUCTION

Current and future pedagogical research is needed to examine ways students can use one of the video feedback (VFB) technologies for better self-regulation, with the potential to provide appropriate movement feedback, based on different levels of experience. in students [1]. Technological advances have led sports pedagogics and physical education teachers to review strategies to provide feedback related to motor learning by students using video feedback [2]. Based on relevant theory, VFB is considered as an important strategy to facilitate the acquisition of new motor skills to the adaptation of students during training [1].

Futsal is a new course developed in the KKNi curriculum in the Health and Recreation Physical Education Study Program (PJKR) Muhammadiyah Kuningan STKIP. Futsal is a team game where a player must adapt to the changing dynamic environment, a player has limited time and space to make a decision and take actions that will provide a solution for his team [3]. Based on preliminary studies, it seems that there is no research that can explain the various impacts of VFB on the acquisition of motivation and futsal playing skills. The

sophistication of technology has not been utilized optimally in the framework of the programmatic physical education learning process.

II. USE OF VIDEO TECHNOLOGY IN LEARNING MOTOR SKILLS

There is a growing interest among physical education teachers to use digital technology in their teaching [4,5]. In part, this progress is a consequence of the impact of leading-edge digital technology that is rife among children and adults.

The use of digital technology in physical education differs fundamentally from its use in other school subjects. This is because the learning process in the psychomotor domain can be observed directly and generally (for example, it can be seen by friends and teachers). Thus digital technology can be utilized to help animate the learning process for students [6].

Student learning, daily teaching practices of teachers, and pre-service preparation programs are all influenced by the increasing sophistication of technological tools. Digital technology influences how children and adolescents relate to sports, how they form their own "sports identity". [7], how they gained movement skills, and how they viewed and evaluated their movement skills on video footage [8,9].

A. Video Feedback (VFB)

Much attention has been given to the role of video as a method for recording sports performance data in an accurate and trustworthy way [10-12]. Learners understand how to respond to the return of information after they do motor learning using VFB. The old adage says 'the camera never lies' may have caused some Physical Education teachers and sports practitioners to view the video as an objective source of information. A number of studies have recently begun to explain the way Physical Education teachers and students interact in applied video practice. Examine students' perceptions about video-based performance analysis, and display the conceptual framework of motor learning that has been displayed [12]. The results of other studies have confirmed the positive impact of using VFB on motivation during Physical Education learning [1,13,14]. The information provided by VFB increases the control of the actions felt to be carried out, and positively influences intrinsic motivation, which is very important for successful learning [15].

But there are also deficiencies in the use of VFB, such as fear of making mistakes or showing weakness in the camera, which causes students to feel anxious [12,16]. Recent research has advanced our understanding of the benefits generated by the use of VFB in Physical Education programs. However, there are still a number of gaps in this literature that there are no studies that can explain the various impacts of VFB on the acquisition of futsal playing skills.

B. Futsal Playing Skills

Futsal is a team game where a player must adapt to changing dynamic conditions, have limited time and space to make a right decision during the game. Futsal requires the involvement of complex movements and intense training, with the tactical aspect (in terms of perception of decision making) very important for effectiveness in the game [3]. Sports can be categorized using several different approaches. However, in a specific understanding, it is clear that the core definition of futsal is a team sport that involves collaboration between players. The relationship between teamwork and challenges occurs simultaneously, whether the team masters the game or not, when attacking or defending in game situations.

Futsal requires teamwork and high-level tactics, and involves social and motor skills. The purpose of the elements of motor ability is to achieve efficiency in the play process (ie the ability to solve problems in game situations). Playing futsal is a tactical activity. The training program must be recognized and analysed correctly, and decisions taken to overcome problems that arise during the game. Making a decision in the right situation during the game needs to be supported by a good level of motor skills in order to produce the effectiveness of efficient engineering execution [3].

Based on several theoretical explanations, it is clear that futsal playing skills are a way to increase students' awareness of the concept of play by applying or applying appropriate technical factors in accordance with the situations and conditions that arise during the game [17]. These futsal playing skills emphasize the placement of technical skills in the context of play and provide opportunities for students to practice technical skills in actual game situations. The basic technique of futsal which is used as a limitation in this research is passing (shooting) and shooting (shooting the ball into the goal) which is framed into an instrument of playing skills [18].



Fig. 1. Illustration of the implementation of futsal learning using VFB.

Based on preliminary studies conducted by [1], states that there is no research that explores the various effects of video feedback (VFB) on the acquisition of motor skills, self-assessment competencies, and motivation using quantitative data in physical education programs. On this basis, the State of the art in this study is that there is still limited quantitative research related to the impact of the use of VFB on futsal playing skills. Technological sophistication seems to have to be utilized optimally in the context of the programmatic physical education learning process.

III. RESEARCH METHODS

A. Method

The research method was an experiment using a pre-test post-test control group design [19].

B. Participants

Participants who will be the subject in this study are students of the STKIP Muhammadiyah Kuningan Physical Education and Recreation Education Study Program (PJKR) semester VI of the academic year 2019-2020. The sampling technique used was cluster random sampling, taken two classes from the whole class by randomization. The experimental class was given a video feedback (VFB) treatment of 23 students, and the control class was not given a treatment in the form of video feedback (VFB) of 26 students.

C. Assessment

The instrument used to measure futsal playing skills is the Game Performance Assessment Instrument (GPAI) [18]. There are three aspects that are the focus for assessing students' playing skills, namely decision making (right or not right), implementing skills (efficient or inefficient), and providing support (right or not right).

D. Data Analysis Techniques

Analysis of the data used for the results of the futsal playing skills test is the normality test, homogeneity test, and independent sample t test.

IV. RESULTS AND DISCUSSION

Based on the results of the analysis there are significant differences in futsal playing skills between the experimental group (using VFB) and the control group (verbal feedback). General description of research results can be seen in the following table:

TABLE I. DESCRIPTIVE STATISTICS DIFFERENCE BETWEEN EXPERIMENT CLASS AND CONTROL CLASS

	N	Min	Max	Sum	Mean	Std. Dev	Variance
Experiment	23	3,67	7,33	122,89	5,34	1,21	1,47
Control	26	3,00	6,50	118,40	4,55	0,95	,897

Based on the table. 1. It can be known the differences in futsal playing skills from the experimental and control groups. For the experimental group the following results were obtained: an average value of 5.34; a maximum value of 7.33; a minimum value of 3.67. While futsal playing skills from the control group obtained the following results: an average value of 4.55; a maximum value of 6.50; a minimum value of 3.00.

The results showed significant progress in futsal playing skills from the initial and final tests in futsal learning after being treated with the use of VFB. Students have a track record (repetition of impressions) about their appearance during the learning process of playing futsal skills. With VFB students can see first-hand about the deficiencies and mistakes of the movement in terms of decision making, execution of skills, as well as providing support, so they can improve on the next opportunity. As for the movements that are already good the students are able to maintain or be improved on the next learning opportunity.

Authentic evidence that VFB acts as additional information to drive transitions in motor learning. As for the control group, the results of futsal playing skills did not show significant changes, and these results reinforced the role of VFB in optimizing motor learning (compared to traditional use of verbal instruction only) during short periods in the program during the study [1].

The findings show that futsal learning by using VFB can help students in providing feedback on playing skills both in terms of decision making, skill execution, and when providing support. The findings of this study are consistent with research conducted by [20], which states that an analysis of the form of games that can complement and support tactical decision making is so that students can see the appearance of their own games and others in the video feedback.

V. CONCLUSION

Based on the results of the analysis and discussion related to the application of VFB in futsal learning has a significant impact on futsal playing skills, because VFB can help students see footage of their own game performances in order to provide feedback on playing skills both in terms of decision making,

skill execution, and when providing support. The results of this study can be used as a reference for physical education teachers in the context of using video technology in learning motor skills.

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