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Effect of Digital Feedback on the Psychological Profile and Performance of Selected Amateur Soccer Players in Ibadan, Oyo State

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Abstract
The study investigated the impact of digital feedback on the psychological profile and performance of selected amateur soccer players in Ibadan, Oyo State. Related studies and variable-relevant theories were spirally reviewed. Two hypotheses were tested. The two-group pre-test and post-test research design was used for the study. Twenty-two (22) amateur soccer players were selected from two amateur soccer clubs in Ibadan using the purposive sampling technique. A standardized 20-item version of SPQ-Factor 20 questionnaire was used for data collection. t-test statistical tool was used to test the hypotheses at 0.05 significant level. The variables of video-visualization had significant effect on the psychological profile and performance of the selected amateur soccer players ($t = 3.39$; $P < 0.05$). *It was concluded that video-visualization is important in the preparation of soccer players for matches and it was recommended that digital feedback should form an integral part of soccer players' preparation for matches.*

Keywords: digital feedback, psychological profile, video-visualization, amateur soccer players

Introduction

Soccer has become so highly competitive and revolutionised that performance enhancement programmes are being consistently studied through the application of science and research for the improvement of performance, achievement of excellence and enhancement of expected performance related outcomes. Soccer has metamorphosed from the level of enjoyment, recreation and entertainment to an instrument of international diplomacy (Ogunleye, 2003).

Ajayi (2000) has observed that peak performance in an interdependent game like soccer can only be achieved through adequate preparation. Part of that preparation is through the application of digital sports psychology principles such as video-visualization or digital feedback in training. Sports psychology has been defined by LeUnes and Nation, (2002) as the application of Psychology's principles to improve sports performance and enjoy sports participation. It is also a branch of psychology that offers practitioners techniques of turning stress energy into better sports performance (Nixon and Jewett, 1980).

Sports psychology has gone digital. Straub (2008) posited that modern sports psychologists now use digital cameras, computers and other devices to help coaches prepare their athletes for competitive edge. He further stated that because experienced coaches know that "a good picture is worth a thousand words" and that "show and tell" is always better than "showing" or "telling", coaches now make digital feedback an integral part of their preparatory tools for games and competitions.

This, unfortunately, has not been the case in Nigeria where the mediocre and sometimes dismal performance of Nigeria soccer players in major games have often been attributed in part, to inadequate preparations due to non-utilization of modern training methods and techniques (Oranugo, 2003) and significant under-utilization of sport psychology services (Igbanugo, 2003; Ferraro and Rush, 2000) including digital sports psychology.

Scholars such as Igbanugo (2003) have argued that research is required to discover new and better methods of preparing athletes for games so that improvements and excellence can be attained and

maintained in sports. One of the areas that require more study especially in the Nigerian context is the area of utilization of digital feedback or video-visualization in sports performance. Video visualization is a computation process that extracts meaningful information from original video data sets and conveys the extracted information to users in appropriate visual representations for the purpose of motivation, improvement/enhancement of performance and correction of observed performance errors.

Videos and other digital gadgets have been used successfully in psychosocial interventions to help train communication skills, document behaviours, and as a feedback tool for behaviour modification strategies among coaches and athletes. Psychologists have demonstrated experiential observations on how digital feedback, through video-visualization, has been used to improve player, coach, and team performance.

After actual performances soccer players, through digital feedback, are shown what they did well, what they did not do well, and what they need to do to get better. Game tapes are edited and selected clips are shown to players either during half-time or the day after their performance with the sole aim of analysis and improvement. When athletes perform well, video clips of their performances are dubbed into visualization tapes and the feedback is used to motivate them, correct observed performance errors, and/or re-strategize for the next game.

Helping the soccer players sharpen their skills through video-visualization or digital feedback is likely to increase their motivation to increase performance as well as enhance expected performance-related outcomes. This study is therefore a response to that challenge.

Research Hypotheses

The following hypotheses were tested in the study:

1. There will be no significant difference between the pre-test and post-test performance scores of amateur soccer players on the effect of digital feedback (video-visualisation) as a digital sports psychology tool.

2. There will be no significant difference between the pre-test and post-test self-efficacy scores of amateur soccer players on the effect of digital feedback (video-visualisation) as a digital sports psychology tool.

Methodology

The two-group Pre-test and Post-test research design was used in this study. Population for the study consisted of all amateur soccer players in Ibadan and the sample consisted of twenty-two (22) amateur soccer players purposively sampled from two (2) amateur soccer clubs (Nwosu United F.C. and Salvation Army F.C.) in Ibadan, taking part in the 2016 Igbo Union Football Association, IUFA, Unity Cup Competition. Psychological profile and performance were assessed using the standardized or tropicalized version of Psychological Assessment and Testing Questionnaire (SPQ-Factor 20) which is a close-ended 20 - item questionnaire rated on a 5-point Likert-scale anchored at the extremes by "Always" (5) and "Never" (1). Summated points aggregate for pre-test and post-test provided the data. High scores indicated higher psychological profile and performance. The instrument was validated and found to be reliable. Cronbach alpha coefficient was used to determine the internal consistency of the instrument at .83

Video clips of star performances were dubbed into visualization tapes. Each clip was dubbed three times with a transition placed between clips. For example, "a great diagonal pass or dribble." The middle clip was always in slow motion to allow the players view the intricate components of the skill exhibited.

- Performance were slowed down on a frame by frame rate
- Footages were annotated with lines, circles, highlighters, text and voice
- Footages were pause to take snap shots of techniques
- Before and after footages were compared and contrasted side by side
- Footages were then analysed with the players

They were shown the tapes just before they went to bed each night. After watching each series, the players were instructed to place their VCR's on pause and visualize each play for two minutes. The players were instructed that when they visualize, they should activate all their senses. They should see themselves performing, hear the sounds, pick-up the smells, taste the salt in the sweet, and most importantly, feel it in their muscles. The 'feeling' aspect is referred to as kinesthetic imagery. After that, they were allowed to go to bed "dreaming" of it and to perform the viewed skill the following morning in a practice match.

Ho.1: There will be no significant difference between the pre-test and post-test performance scores of amateur soccer players on the effect of digital feedback (video-visualisation) as a digital sports psychology tool.

Table: 1. t-test analysis showing the difference between the pre-test and post-test performance scores of amateur soccer players on the impact of digital feedback (video-visualization) as a digital sports psychology tool.

	$\bar{X}$	N	Std.	df	Crit.t	Cal. t	P<0.05
Pre test performance	20.09	22	2.35	21			
Post test Performance	23.27	22	1.70	21	1.96	4.64	.000 Sig

The result on table 1 above indicated that the calculated t-value of 4.6 is greater than the critical t-value of 1.96. This showed that there was a significant difference between the pre-test and post-test performance scores of amateur soccer players on the impact of digital feedback (video-visualization) as a digital sports psychology tool.

The null hypothesis which stated that there will be no significant difference between the pre-test and post-test performance scores of the selected amateur soccer players on the effect of digital feedback (video-visualization) as a digital sports psychology tool is was, therefore, not accepted.

This result is in congruence with the findings of Straub (2008) who stated that video-visualization for motivation will have positive effect on

performance. It also conforms with Leunes and Nation (2003) who posited that though video-visualization is a relatively new field, it has been found to be of significant importance in enhancing athletes psychological profile and performance.

It is likely that the significant difference between the pre-test and post-test performance scores of the subjects in this study was induced by the digital sports psychology training programme. It was therefore concluded based on this finding that soccer players could benefit significantly from the application of digital feedback (video-visualization) in their training programmes.

Ho.1: There will be no significant difference between the pre-test and post-test self-efficacy scores of amateur soccer players on the effect of digital feedback (video-visualisation) as a digital sports psychology tool.

Table: 2. t-test analysis showing the difference between the pre-test and post-test self-efficacy scores of amateur soccer players on the impact of digital feedback (video-visualization) as a digital sports psychology tool.

	$\overline{X}$	N	Std.	df	Crit.t	Cal. t	P<0.05
Pre test Self-efficacy	20.73	22	3.10	21			
Post test Self-efficacy	22.95	22	2.61	21	1.96	3.49	.002

Table 2 above indicated that the calculated t-value of 3.49 is greater than the critical t-value of 1.96. This showed that there was a significant difference between the pre-test and post-test self-efficacy scores of the selected amateur soccer players on the effect of digital feedback (video-visualization) as a digital sports psychology tool.

Consequently, the null hypothesis which stated that there will be no significant difference between the pre-test and post-test self-efficacy scores of selected amateur soccer players on the impact of digital feedback (video-visualization) as a digital sports psychology tool was not accepted.

This finding was in tandem with the findings of Straub (2008) who, while propagating the importance of video-visualization as a sports psychology tool stated that it not only improved performance but also enhanced self-efficacy. It was also in concord with Moritz, Feltz, Fahbach and Mack (2000) who stated that the continual interest in the study of efficacy may be related to the positive link between levels of efficacy and performance and one of the areas through which efficacy can be improved is through the application of digital technology.

The result obtained in this study in relation to self-efficacy may be attributed to the effect of digital feedback (video-visualization). Based on this finding it was concluded that soccer players stand to benefit from the application of digital feedback (video-visualization) as a digital sports psychology tool in their training programmes.

Conclusion

Based on the findings of this study, it was concluded that digital sports psychology, that is, digital feedback through video-visualization is significantly important in the preparation of soccer players for competitive matches and should therefore be incorporated into their training programmes.

Recommendation

Based on the findings of this study, it is recommended that amateur soccer coaches should make digital feedback an integral part of the preparation of their players for games. Also, that qualified and experienced expert in video-visualization should be attached to amateur soccer teams to work with the amateur soccer players to ensure that the mental aspect of their preparation is adequately treated.

Amateur soccer players on their own should either avail themselves of modern digital sports psychology packages or have personal psychologists to help sharpen their psychological skills and by extension performance.

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