

Improving Soccer Coaching: Considerations of Individual Learning Styles, Intelligence Levels, and Motivation

Mejorar el entrenamiento de fútbol: Consideraciones sobre los estilos individuales de aprendizaje, los niveles de inteligencia y la motivación

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Abstract. Problem statement. In the increasingly complex and competitive world of soccer, training approaches that do not consider differences in individual learning styles, intelligence levels, and player motivation can be a serious obstacle in producing quality players. The lack of a holistic coaching approach based on differences in learning styles, intelligence levels, and motivation in training soccer players, which has the potential to hinder the development of optimal soccer playing skills among students, is a specific problem in this study. Purpose. The purpose of this study is to develop a holistic and innovative soccer coaching approach, which not only takes into account differences in individual learning styles and intelligence levels, but also increases player motivation. Thus, it is expected to be able to produce high-quality soccer players and improve the mastery of big ball games in physical education in schools. Methods. This type of research is a Quasy experiment with a study population of 140 men, the sample amounted to 44 male students. The instruments used were soccer playing skills test and general intelligence test. The data were analyzed using two-way analysis of variance with the help of Statistical Package for the Social Sciens 23. Results. The results of the study are as follows: (1) in general, the soccer playing skills of students who learn to use the global method are better than the elementary method; (2) there is an interaction between training methods and intelligence levels on the ability to play soccer; (3) at high intelligence levels, the global method is better than training using elementary learning methods to improve students' soccer playing skills; (4) at low intelligence levels, the elementary method is better than training using the global method in improving students' soccer playing skills. Conclusions. It can thus be concluded that improving soccer training cannot be underestimated without seriously considering individual learning styles, intelligence levels, and player motivation. Based on the findings, a holistic approach that integrates learning style preferences, designs training strategies that match intelligence levels, and understands motivational factors, opens the door to more adaptive and successful soccer learning.

Keywords: Methods, Learning, Intelligence, Play, Soccer.

Resumen. Planteamiento del problema. En el mundo cada vez más complejo y competitivo del fútbol, los enfoques de entrenamiento que no tienen en cuenta las diferencias en los estilos de aprendizaje individuales, los niveles de inteligencia y la motivación de los jugadores pueden ser un serio obstáculo para producir jugadores de calidad. La falta de un enfoque de entrenamiento holístico basado en las diferencias en los estilos de aprendizaje, los niveles de inteligencia y la motivación en la formación de jugadores de fútbol, que tiene el potencial de obstaculizar el desarrollo de habilidades óptimas de juego de fútbol entre los estudiantes, es un problema específico de este estudio. Objetivo. El propósito de este estudio es desarrollar un enfoque de entrenamiento de fútbol holístico e innovador, que no sólo tenga en cuenta las diferencias en los estilos de aprendizaje individuales y los niveles de inteligencia, sino que también aumente la motivación de los jugadores. Así, se espera poder producir jugadores de fútbol de alta calidad y mejorar el dominio de los grandes juegos con balón en la educación física escolar. Métodos. Este tipo de investigación es el experimento Quasy con una población de investigación de 140, la muestra ascendió a 44 estudiantes. Los instrumentos utilizados fueron el test de habilidades para jugar al fútbol y el test de inteligencia general. Los datos se analizaron mediante análisis de varianza de dos vías con la ayuda de Statistical Package for the Social Sciens 23. Resultados. Los resultados del estudio son los siguientes (1) en general, las habilidades de juego de fútbol de los alumnos que aprenden a utilizar el método global son mejores que las del método elemental; (2) existe una interacción entre los métodos de entrenamiento y la Intel.

Palabras clave: Métodos, Aprendizaje, Inteligencia, Jugar, Fútbol

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Introduction

In the glare of majestic stadiums and cheering fans, soccer is no longer just a physical game, but an arena that tests every player's skill, strategy, and intelligence (Bergmann et al., 2021; Williams & Hodges, 2005; Caliskan & Baydar, 2016; Rein & Memmert, 2016; Slimani et al., 2016). As we enter an era where the map of soccer is expanding, improving training is not just about providing players with sound technical skills, but also considering essential factors such as individual learning styles, intelligence levels, and motivation (Williams & Hodges, 2005; Bergmann et al., 2021;

Petiot et al., 2021; Fuelscher et al., 2012). In the battle for excellence on the gridiron, a deep understanding of each player as an individual is key in carving out unforgettable achievements. In this phase, training models need to be varied to increase passion for playing soccer (Yudanto et al., 2022). By recognizing and catering to different learning styles, intelligence levels, and motivation levels, coaches can create a training environment that maximizes each player's potential (Komaini et al., 2024; Romero-Moraleda et al., 2021).

Individual learning styles, both elementary and global,

are the main focus in mapping out effective training strategies. Each player has a unique way of responding, understanding and applying soccer knowledge (Bahtra et al., 2024; Bergmann et al., 2021; Petiot et al., 2021; Fuelscher et al., 2012; Mappaompo et al., 2019). Whether it is through direct visual observation or through more abstract concepts, understanding each player's learning style can open the door to a more personalized and tailored learning process (Petiot et al., 2021; Petiot et al., 2021; Williams & Hodges, 2005; Fuelscher et al., 2012). By taking into account individual learning styles, coaches can adjust their teaching methods and materials to accommodate the specific needs of each player. This can lead to enhanced learning and skill development, as players are able to better engage with the training content in a way that aligns with their natural (Bergmann et al., 2021; Petiot et al., 2021; Musculus & Lobinger, 2018; Williams & Hodges, 2005; Fuelscher et al., 2012; Kermarrec, 2015).

The level of intelligence, as a cog in the strategic mind, cannot be ignored either. Football is not just about game mechanics, but also about how players are able to read situations, make smart decisions, and adapt to the dynamics of the pitch (Yudi et al., 2024; Bergmann et al., 2021). By considering the level of intelligence, soccer training can be designed to stimulate the intellectual growth of the players, creating a team that not only excels in technical skills but also in soccer intelligence (Mills et al., 2012; Musculus & Lobinger, 2018; Ureña-Lopera et al., 2020; Nasiruddin et al., 2020; Souza et al., 2018). Motivation, the driving force behind players' dedication and commitment to training, plays a crucial role in enhancing football training (Li, 2021; Pan, 2023). Coaches must understand the motivational factors that influence each player and use them as leverage to create a positive and inspiring training environment (Sanmiguel-Rodríguez, 2020). By incorporating diverse motivational techniques, such as goal setting, positive reinforcement, and fostering a team culture that values effort and resilience, coaches can ignite the players (Ureña-Lopera et al., 2020; Souza et al., 2018).

Equally important, however, is the fire within each player called motivation (Merchan-Osorio et al., 2019; Hubball & Robertson, 2004; Mappaompo et al., 2019; Davies, 2010). Knowing what motivates each individual, whether it is personal ambition or the passion to create a legacy, can be the catalyst that carries players through tough practices and determined challenges (Todorovich, 2001; Khudoyberdiyeva, 2018; Hubball & Robertson, 2004). Motivation is a key pillar in shaping the character of soccer players, who are not only resilient on the gridiron but also in facing the long journey to success (Saputra et al., 2024; Al Ardha et al., 2024). Therefore, it is crucial for coaches to cultivate and nurture the intrinsic motivation of their players, emphasizing the significance of their individual goals and aspirations to keep them.

In the context of the accelerating globalization of football, consideration of learning styles, intelligence levels, and motivation are essential clues in shaping future players.

This article will explore each of these aspects in depth, detailing how they interrelate and lead to more adaptive and holistic training strategies, building players who are not only experts in the game, but also in understanding themselves and their teammates. When it comes to training and development, the focus should not only be on technical skills but also on the individual characteristics of each player.

Materials and Methods

In this study, the materials and methods used were designed to provide a thorough understanding of the relationship between individual learning styles, intelligence levels, and motivation towards soccer training. Here are the details:

Participants

The population in this study were male students of State Junior High School 21 Tebo Regency, Jambi Province, totaling 140 people. In this study, sample withdrawal was carried out using purposive sampling technique, which means that the sampling technique with certain considerations, namely male students who are members of extracurricular soccer activities and male students who have the ability to play soccer and are willing to participate in training, thus the total sample was 84 people.

Procedure/Test protocol/Skill test trial/Measure/Instruments

To determine the level of intelligence of a person the test used in this study is the Standard Progressive Matrices (SPM) test (Kocić et al., 2019; Dale, 1967). This SPM test is a direct researcher in collaboration with the Department of Guidance and Counseling (BK) Faculty of Education (FIP) of Padang State University (UNP). The test used to measure soccer skills is using the soccer skills test by Verducci 1980 (Ljach et al., 2012; Ali, 2011; Ward & Williams, 2003; Ilham et al., 2024). With validity: Wall Volley Accuracy test 0.75; Soccer Dribble Test 0.64; Aerial Pass for Accuracy 0.55; Ball Control Test 0.53. And the level of reliability is as follows: Wall Volley Accuracy test 0.51; Soccer Dribble Test 0.40; Aerial Pass for Accuracy 0.60; and Ball Control Test 0.50 (Oslin et al., 1998; Downs & Wood, 1996; Stroup, 1955).

Data collection and analysis/Statistical analysis

The research data obtained were analyzed using a Multivariate Analysis of Variance (MANOVA) technique and continued with the Tuckey Test if there was an interaction between the training method variable and the intelligence level variable (Weathington et al., 2012; Gao et al., 2018). Because this research is an experiment with a 2x2 factorial design, the data analysis uses a two-way MANOVA technique, with a confidence level of $\alpha = 0.05$. Before the data was processed using the MANOVA technique, the MANOVA requirement test was first carried out, namely

the normality test using the Liliefors test and the Variance Homogeneity test using the Bartlett test with a significant level of $\alpha = 0.05$ with the help of the Statistical Package for the Social Sciens 23 (Saleh et al., 2019).

Results

Normality test

Tests were conducted for each group of data in each cell of the research design. The results of the normality test calculation can be seen in the following table:

Table 1.
Summary of Normality Test Results for Exercise Method Data

Group	N	Lo	Lt	Conclusion
Elementary method	22	0.1254	0.173	Normal
Global method	22	0.0852	0.173	Normal
High intelligence	22	0.1151	0.173	Normal
Low intelligence	22	0.0956	0.173	Normal
Elementary method for high intelligence	11	0.1674	0.2490	Normal
Elementary method for low intelligence	11	0.1232	0.2490	Normal
Global method in high intelligence	11	0.1523	0.2490	Normal
Global method in low intelligence	11	0.1753	0.2490	Normal

Based on the table above, there is a difference in soccer playing skills between groups given the elementary method and those given the global method accepted, because the

Table 3.
Results of MANOVA Advanced Stage with Tuckey Test

Groups being compared	Df	Q2	Qt ($\alpha = 0.05$)	Description
Elementary methods and Global methods	1.19	4.26	2.95	significant
Elementary methods at high intelligence levels and Global methods at high intelligence levels	1.62	10.12	3.79	significant
Elementary methods at low intelligence levels and Global methods at low intelligence levels	1.62	3.83	3.79	significant

The mean score of training method group global method = 52.54 is higher than the mean score of training method group elementary methods = 47.46 ($Q2 = 4.26 > Qt = 2.95$). The mean training method score of the global method group sample at high intelligence level = 61.41 is significantly higher than the mean training method score of the elementary method group at low intelligence level = 45.06 ($Q2 = 10.12 > Qt = 3.79$). The mean training method score of the elementary method group sample at low intelligence level = 49.86 is higher than the mean training method score of the global method group at low intelligence level = 43.67 ($Q2 = 3.83 > Qt = 3.79$).

Discussion

The discussion around students' soccer playing skills with the global method and elementary method approaches has been an interesting highlight in the world of sports education. In many studies, the global method stands out as an approach capable of producing better soccer skill development compared to the elementary method (Huijgen et al., 2009; Williams & Hodges, 2005; Merchan-Osorio et al., 2019; Bergmann et al., 2021; Li et al., 2018). This ap-

proach places an emphasis on learning as a whole, understanding that the ability to play football is not just about technical skills, but also about tactical understanding, team coordination and intelligent decision-making on the pitch (Li et al., 2018; Bergmann et al., 2021).

Table 2.
Summary of the Results of Two-Way Analysis of Variance on Soccer Playing Skills Data

Source of Variance	JK	dk	RJK	F2	Ft ($\alpha=0,05$)
between training methods	284.15	1	284.15	9.07*	4.06
inter-intelligence	460.41	1	460.41	14.69*	4.06
interaction	1397.41	1	1397.41	44.58*	4.06
in groups	1253.78	40	31.34		
total reduced	3395.75	43			

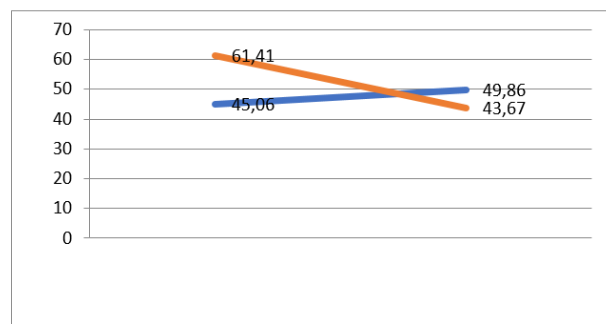


Figure 1. Interaction between Training Method and Intelligence Level

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By incorporating elements of technical and tactical skills thoroughly, the global method allows students to respond to the game more effectively. The ability to read situations, communicate with teammates, and strategize becomes more integrated into soccer learning with this approach (Duncan et al., 2022; Saniah et al., 2024). This not only improves individual skills, but also results in a more solid team that is able to adapt to the dynamics of the game. While elementary methods often focus on developing technical skills in isolation, such as passing and kicking, global methods incorporate these aspects into the context of the game (Merchan-Osorio et al., 2019; Bergmann et al., 2021; González-Espinosa et al., 2021; García-Ceberino et al., 2020; Sierra-Ríos et al., 2020). This allows students to apply their skills more contextually and experience football more realistically. This not only makes learning more engaging, but also increases students' motivation to continue developing in the sport (Merchan-Osorio et al., 2019; Bergmann et al., 2021; Bergmann et al., 2021).

In this context, research results show that students who

learn using the global method tend to show more significant improvements in their football playing skills, along with the development of their cognitive and tactical aspects (Merchan-Osorio et al., 2019; Sierra-Ríos et al., 2020; García-Ceberino et al., 2020). Therefore, an emphasis on holistic and integrated football learning can be key in producing quality and knowledgeable football players, who not only excel in technical skills, but are also able to read the game intelligently and contribute maximally in the team (Arias et al., 2017; García-Ceberino et al., 2020).

It is evident that training methods tailored to individual intelligence levels not only increase the effectiveness of technical learning, but also open the door to the development of more complex game strategies. In this essence, training is not just about physical improvement, but also becomes an arena to stimulate the mind, allowing players to understand the game more deeply and make intelligent decisions on the pitch. By designing training methods that take intelligence into consideration, we can create an empowering and supportive football learning environment, maximizing each player's potential and designing a more intelligent and adaptive football future (Akbar et al., 2024; Esposito et al., 2020; Petiot et al., 2021). Research shows that the interaction between training methods and intelligence levels not only affects the technical aspects of playing football, but also enriches players' ability to understand the dynamics of the game (Vestberg et al., 2020). Deeper tactical understanding, the ability to read the opponent's movements, and creativity in making strategic decisions can be better developed in players who receive training that matches their level of intelligence. This confirms that training is not just about improving physical skills, but also shaping intelligent and adaptive players.

Furthermore, the use of technology in training methods can enrich players' learning experience by utilizing artificial intelligence and data analysis. By involving these elements, training can become more responsive to individual needs, helping players optimize their potential according to their level of intelligence (Arias et al., 2019; Vestberg et al., 2020; Chaeroni et al., 2023). This illustrates an era where football learning is not just about physicality and technique, but also about bridging the gap between strategic understanding and field performance.

The elementary training method, which focuses more on learning technical skills in detail, can provide a deeper understanding for students with low intelligence levels. This approach provides a clear structure, allowing students to focus on the fundamental technical aspects of the game of football (Li et al., 2018; Sierra-Ríos et al., 2020). By providing more detailed instruction, students may be able to overcome cognitive barriers that may arise at low intelligence levels, thus achieving better progress in soccer skills. In addition, training with elementary methods can be adapted more easily to meet the learning needs of students with low intelligence levels. More detailed explanations and more detailed steps can help students understand and

remember information. In this case, focusing on basic aspects such as ball control, passing, and other basic techniques, can form a solid foundation for students' soccer playing ability (Li et al., 2018; Slimani et al., 2016, Sierra-Ríos et al., 2020).

Nonetheless, it is important to note that each student is a unique individual, and the most effective approach may vary. The success of elementary methods at low intelligence levels does not mean that global methods have no value, but rather underscores the need for approaches that can be tailored to students' individual characteristics (Chaeroni et al., 2024; Pesce et al., 2016; Slimani et al., 2016). By understanding the complexity of the interaction between intelligence levels and training methods, we can create a more inclusive and successful learning environment for students with varying levels of intelligence.

Conclusion

In concluding this research, it can be concluded that improving soccer training cannot be underestimated without seriously considering individual learning styles, intelligence levels, and player motivation. Based on the findings, a holistic approach that integrates learning style preferences, designs training strategies that match intelligence levels, and understands motivational factors, opens the door to more adaptive and successful soccer learning. Applying this approach not only creates technically skilled players, but also builds strong character, is intelligent in reading game situations, and has intrinsic motivation to achieve success on the gridiron. By viewing soccer players as unique individuals with their own needs and potential, soccer training can become a more meaningful and impactful experience in shaping the future of the sport.

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