REVIEW ARTICLE

# Teaching grassroots soccer: a systematic review of literature

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**Abstract**

*Background and Study Aim*: The process of soccer training for children and young people involves systematic exercise over an extended period to build a strong foundation of motor skills. These skills are designed to be both versatile and specific to the sport. The purpose of this research is to conduct a systematic review of literature related to the process of teaching grassroots football. This review aims to contribute to a better understanding of the strategies and methods employed in the development and training of young athletes.

*Material and Methods*: To conduct this review, studies were searched in the Web of Science (WOS) and Scopus databases from 2012 to 2022. The search focused on scientific articles addressing soccer teaching for children and girls up to 14 years old, using the keywords "children AND (football OR soccer) AND teaching." The sample was limited to research in Spanish and English. The search yielded 149 articles, from which 19 studies were selected based on their titles and abstracts.

*Results*: The findings revealed two main categories: teaching methods and their impact on technical and tactical skills in grassroots football, and factors affecting technical-tactical performance in this context. The most significant findings emphasize the importance of a comprehensive approach to teaching grassroots football, which involves the coordination of knowledge, skills, strategies, decision-making, and technical abilities.

*Conclusions*: The review concludes that a variety of teaching approaches should be considered, and methodologies should be constantly evaluated to train future footballers with a deep understanding of the game.

**Keywords**: children, youth soccer, grassroots soccer, soccer teaching, soccer training, systematic review

## Introduction

Soccer is one of the most popular sports in the world, and it has followers in all towns [1]. Since its creation, the sport has continued to evolve, and currently several issues related to the selection of talents, the training of athletes and the management of football teams are under discussion, particularly the teaching processes in beginner or grassroots soccer [2, 3]. In contemporary soccer, where all players must attack and defend, it is the union of skills that will define a good player, since talent will be measured by the articulation between physical, technical, tactical and psychological aspects [4, 5, 6].

In line with the above, the concern of professionals who act in this area should be to train the athlete comprehensively, developing them in a balanced way in all aspects [7]. To achieve this, each stage of the motor development of the child and adolescent must be respected and used, so that the individual develops in the best possible way, avoiding early specialization [8]. In addition to the motor aspects, the psychological, emotional, social and cultural values of athletes must also be taken into account [9, 10]. On the other hand, coaches must be careful when applying a certain methodology, so that the athlete's development is harmonious and satisfactory, increasing the probability of successful training [5].

The numerous forms of pressure that fall prematurely on children and adolescents in the world of football reverse the logic of comprehensive protection and create the following dilemma "what will be the best way to integrate the practice of sport and its beneficial effects in training and development of the young athlete." The literature reports that for this the child should not dedicate himself to competition erected in dogma, but rather the competition must be adapted to childhood and its specific characteristics [11, 12]. Associated with this, the pressure for results and good performance in each training session and match, inherent to competitive sport, is very present in the daily reality of grassroots football, an issue that must be discussed and reflected on, in search of a comprehensive education of the child [7].

With regard specifically to this area, which is grassroots football, it is necessary to highlight that, associated with the importance of technical and physical training, the predisposition of the child and adolescent to practice is relevant, that is, knowing how to play. This is demonstrated by the research


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findings of Kopelovich [13], Machado et al. [14] and Fernández et al. [15]. The above, since in the area of grassroots football a set of skills is required in pursuit of the young formation of the footballer, such as flexibility, autonomy, ability to work in a group, proactive posture, emotional control, among others, which are not established only with technical football training, but are related to the personal and emotional development of the child and that require being addressed in the teaching-learning processes of the discipline [10, 16].

Regarding motor development, it is known that in childhood children begin to develop a set of skills, called fundamental motor skills, which are composed of object control skills and locomotor skills [17, 18]. In general, it is around 6 to 8 years that most children have the potential to perform in most fundamental motor skills and begin the transition to the phase of development of specialized motor skills. According to the author, specialized motor skills correspond to mature exercises of fundamental movement, adapted to the specific needs to develop daily, recreational or sports activities [18]. The literature reports that sports activities that require different coordination abilities, such as soccer, are of great importance for the development and increase of a child's motor repertoire [8, 19, 20]. In this line, the acquisition of multiple skills generates the development of a high level of coordination, which will positively influence learning and the improvement of the coordinative abilities that are the basis of good sensorimotor coordination. The higher the level, the faster and more safely the child will be able to learn complex soccer movements [21, 22].

The development of the various stages of grassroots football includes technical, tactical, physical and psychological aspects. At this age, children have greater control over themselves, which makes this period more favorable for exploring coordination abilities, such as balance, rhythm, reaction speed or orientation in space [13, 23]. In this sense, it is at this stage when athletes begin to be taught the basic technical and tactical elements of the respective modality, such as dribbling, feints, interception and protection of the ball. Therefore, it is in this final period of basic training when the adaptation of athletes to more specific positions begins and more value is given to the tactical and strategic component, such as the principles of organization and the culture of the game [24, 25]. In this context, the objective of the present systematic review is to analyze the teaching process of grassroots football, to contribute to an understanding of the strategies and methods that allow the development and sports training of children and young people.

## Materials and Methods

*Search strategy*

The study followed the PRISMA guidelines for systematic reviews [26], which includes a 27-part verification process, and a four-phase flow chart [27]. Specifically, for this systematic review, studies were searched in the Web of Science (WoS) and Scopus databases, covering the years 2012 to 2022. The search focused on scientific articles, that addressing the topic of teaching soccer, to boys and girls up to 14 years old. The search therms used were children AND (football OR soccer) AND teaching. Additionally, research in both Spanish and English was used to delimit the sample.

*Inclusion criteria*

The inclusion criteria were publications between 2012 and 2022, focused on boys and girls up to 12 years old, and empirical studies on soccer teaching (Table 1).

*Data extraction*

Out of the total documents found (N=149), 19 articles were identified as meeting the established inclusion criteria. Duplicate articles (n=19) were eliminated by applying the corresponding exclusion criteria (Figure 1), and a study selection process was developed based on the title, abstract, and on the complete reading of the text. As a result, 130 documents were excluded, and 19 articles specifically focused on teaching soccer to boys and girls under 14 years of age and met the inclusion criteria established in the review.

To establish the categories or themes of analysis of the descriptive data, the guidelines proposed by Guest et al. [28] were applied. Through a

**Table 1.** Elements of the search strategy and selection process

| Filters | | Criteria | |
|---|---|---|---|
| **Scopus** | **WoS** | **Inclusion** | **Exclusion** |
| Text content: TITLE-ABS-KEY<br>Subject Area: soccer teaching<br>Document type: article | Field Labels: TS<br>Citation Indexes: SSCI<br>Document type: article | Field names, abstract<br>Articles: qualitative, quantitative and mixed approaches<br>Reports of the last 10 years 2012-2022<br>Published in English, Spanish and Portuguese<br>RS and EI concepts in the title or abstract<br>Research that contributes to the theoretical body of soccer teaching | Duplicate studies<br>Gray literature, such as dissertations, presentations or proceedings<br>Items targeting children over 14 years old |

process of thematic analysis, initial codes were generated based on the explicit semantic content of the studies, which were subsequently grouped into two categories. To ensure the validity of the process, coding was carried out simultaneously and independently by two researchers from the group, strengthening the reliability and validity of the search.

## Results

Using the search equation described in the previous section, 149 articles were found in the WoS and Scopus databases. To refine the selection of documents, the following inclusion criteria were considered: peer-reviewed articles, in English and Spanish and published between 2012 and 2022. Subsequently, a reading of titles and abstracts was carried out, this operation allowed 19 studies to be defined, which were read and reviewed in their entirety by the authors. Below, Table 2 presents a synthesis of the publications considered in this systematic review.

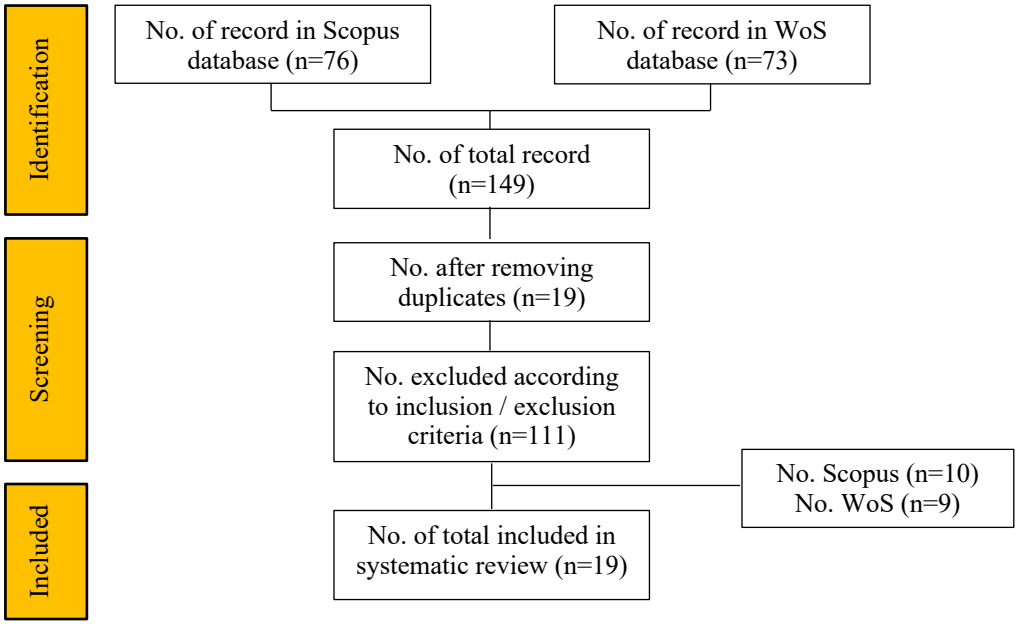


**Figure 1.** Diagram of the process of information flow through the different phases of the systematic review.

**Table 2.** Findings from the literature review

| N° | Reference | Study objective | Participants | Methodology | Main findings |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | Barquero-Ruiz et al. [29] | Compare the effect of global and analytical training-learning methodologies on fundamental technical skills in beginner football. | 88 children | Quantitative | The three tactical levels have a relationship with success in the attack and defense phase, however, the individual and team tactical level explained a higher percentage of achievement. |
| 2 | Bernal-Reyes et al. [30] | Compare the effect of global and analytical training-learning methodologies on fundamental technical skills in beginner football. | 110 children | Quantitative | There is no significant difference between both methodologies. Both are effective in improving technical skills. |
| 3 | Díaz et al. [31] | To analyze perceptions about the didactic model of game action competencies after an intervention. | 15 children | Qualitative | The participants positively value the experience based on the model, pointing out that it facilitates the learning of tactical and technical soccer skills through games. |
| 4 | Fanarioti [32] | Present the effects from a theoretical and practical point of view of the direct and indirect teaching method, to decide which is more appropriate for beginner soccer players. | 50 children | Quantitative | The direct teaching method generates better results in the development of movement skills. |

**Table 2** (continued).

| N° | Reference | Study objective | Participants | Methodology | Main findings |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 5 | Folgado et al. [33] | Identify how collective tactical behavior varies with age, in different formats of small-scale soccer games. | 30 children | Quantitative | Age, length, width and distance to the center of the field affect the tactical performance of reduced play. |
| 6 | García-Angulo et al. [34] | Analyze the impact of a learning methodology based on "Non-Linear Pedagogy" on the levels of physical activity related to health in soccer players. | 32 children | Quantitative | A methodology based on "Non-Linear Pedagogy" positively impacts physical activity levels. |
| 7 | Garcia-Ceberino et al. [35] | Quantify and compare, according to the genre and teaching methodology ("Tactical Games Approach" and "Direct Instruction"), the external and internal load and the perceived effort index resulting from the application of two programs for teaching soccer. | 41 children | Quantitative | The "Tactical Games Approach" generated higher values of internal load and more time in high-intensity activities. Men recorded higher values of external and internal load and perceived effort than women. |
| 8 | Greve et al. [36] | Identify how they experience and interpret the use of digital media for teaching football using the "Teaching Games for Understanding (TGfU)" teaching approach. | 96 children | Qualitative | Participants perceive the use of digital media as an aid to learning, however, some consider it not very useful or use it to clarify controversial situations. |
| 9 | Holt et al. [37] | To measure the effects of coach intervention on performance and peer learning during technical practice in groups. | 5 children from 10 to 12 years old and 1 coach | Quantitative | The delivery of results, feedback and reinforcement improve performance, improving practice, learning and evaluation of footballers' progress. |
| 10 | Motato and Quilindo [38] | Analyze the teaching methods from the discourse and practice of the coaches of two football schools. | 9 coaches | Qualitative | Coaches use various teaching methods, however, the analytical method and traditional interaction mediated by competitive interest prevail. |
| 11 | Napolitano [39] | To verify whether a systematic "modeling" approach using video analysis and field activities generates significant changes in the learning of technical skills in child soccer players. | 20 children | Quantitative | The use of video analysis as a teaching and evaluation tool allows improving technical soccer skills. |
| 12 | Pastor-Vicedo et al. [40] | To analyze and compare the effectiveness, number and duration of decision-making units in talented soccer players. | 97 children | Quantitative | The efficiency must be greater than 80% to consider a child talented. The efficiency and speed of play increases with age. |
| 13 | Práxedes et al. [41] | Analyze the effect of a comprehensive teaching program, based on questioning decision-making and execution in football. | 18 children | Quantitative | The application of the program generated better decision making in passing and dribbling. In addition, the execution of the passing action improved. |
| 14 | Prontenko et al. [42] | Determine the connection between the psychophysical state and technical preparation in football and describe a computer program that can determine possible individual norms of the movement capabilities of football players. | 212 children | Quantitative | The implementation of the "E-journal Football" computer program improved the psycho-emotional health, motor functions and some technical skills of the children. |

**Table 2** (continued).

| N° | Reference | Study objective | Participants | Methodology | Main findings |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 15 | Quintero et al. [43] | Evaluate "Behavioral Skills Training" as a method to correctly teach heading technique in soccer. | 3 children and 1 coach | Quantitative | "Behavioral Skills Training" increased the percentage of correct passes executed with the heading technique. |
| 16 | Sánchez et al. [44] | Determine which football teaching-training model can generate greater enjoyment in the players. | 101 children | Quantitative | A training program based on tactical application games generates greater enjoyment, compared to a technical training program. |
| 17 | Sierra-Ríos et al. [45] | Compare the effects of the "Direct Instruction" and "Teaching Games for Understanding" programs on decision making, execution and physical activity levels in soccer. | 30 children | Quantitative | The games for understanding teaching program improved decision making, execution and increased levels of light physical activity. |
| 18 | Valencia and Arias [46] | Compare the learning effects of the "Game Action Competencies Didactic Model" with the "Direct Instruction Didactic Model" on tactical performance, motivation and perception of skill in soccer players. | 36 children | Quantitative | The "Game Action Competencies Didactic Model" promotes better tactical performance, greater intrinsic motivation and perception of skill. |
| 19 | Vega-Orozco et al. [47] | Determine the influence that equality versus numerical inequality has on technical aspects during a soccer training program. | 15 children | Quantitative | Training with numerical equality significantly improved driving. While numerical inequality improved driving and dribbling. |

## Discussion

The aim of this study is to analyze the teaching process of grassroots football, in order to contribute to an understanding of the strategies and methods that facillitate the development and sports training of children and young people. According to information prersemnted in Table 3, we can observe two main categories emerge: 1.- Teaching methodologies for grassroots soccer, and 2.- Strategies for technical-tactical work in grassroots soccer.

**Table 3.** Elements of the search strategy and selection process

| Category | Authors |
|---|---|
| Teaching methodologies for grassroots soccer | [30, 31,32, 34, 35, 37, 38, 41, 43, 44, 45, 46] |
| Factors that affect the technical-tactical performance of grassroots soccer | [29, 33, 36, 39, 40, 42, 47] |

This research provides information on teaching methods in grassroots soccer and emphasizes the need for a systematic evaluation of training methodologies, to meet the changing demands of the game and the individual needs of players. This discussion has been present in other studies, where it is observed that coaches' behaviors are often derived from sports traditions, their beliefs and previous experiences [48, 49]. Practitioners tend to follow traditional legacy methods rather than adopt new evidence-based approaches associated with athlete development [50].

*Category "Teaching methodologies for grassroots soccer".*

The training process of soccer players must be approached in the long term, considering the harmonious and comprehensive development of children's abilities. Training for children and young people is a long-term systematic exercise process, which offers multifunctional and modality-specific motor forms, to constitute a stage of development for the final objectives that are normally located in adulthood [51, 52]. Regarding teaching methods in grassroots football, the systematic review allows us to affirm that the global or analytical method can be used in teaching, both being effective for the development of technical skills [31]. However, an important group of coaches report using the analytical method and traditional teaching, with emphasis on the competitive aspects of the sport [39]. On the other hand, within the selected studies it is observed that the use of active (or alternative) methodologies improves decision-making based on the game's own foundations [32, 41, 45], which coincides with what was observed by Sánchez et al. [44] where the distance between the execution

of the fundamentals and the moment of their use (decision making) affects the final result of sports performance.

In the methodological and training field of grassroots soccer, it is necessary to evolve to promote a more dynamic and sustainable game over the years. In this sense, the respective evolution inevitably involves an improvement in the pedagogical process of teaching the technical and tactical aspects of the game, as has been demonstrated in the studies by Quintero et al. [43]; Valencia and Arias [46], studies that reinforce the idea of the player's ability to learn, understand, observe and analyze, especially tactical issues and game intelligence, which is related to cognitive abilities, such as perception, anticipation, decision making and creativity that improve through the use of games [31].

The literature reports that grassroots soccer is developed from the coordination of knowledge, skills, strategies, decision-making power, tactical and technical skills, understanding the teaching of the game in a global way [37]. In this context, the young athlete will participate in training that will provide the promotion, in a systematic and graduated manner, of better technical and tactical performances, better physical response and greater understanding and tactical and strategic understanding of the game and an increasing level of physical activity as demonstrated by the research findings of García-Angulo et al. [34] and García-Ceberino et al. [35]. The theoretical-pedagogical conception that supports the aforementioned studies is based on teaching that seeks to provoke improvements in motor, psycho-emotional, technical and tactical performance in practitioners.

Regarding the category analyzed, it can be noted that research on teaching methods and their impact on the development of technical and tactical skills in football has reported that teachers and coaches use a "traditional" approach [53, 54], assuming that technique must be mastered a priori and before the game, and can create a separation between technique and tactics. In contrast to traditional approaches, alternative approaches have gained popularity in recent years, since, in their structural characteristics, the authentic recreation of the sports context is present that increases the motor, cognitive development and emotional commitment of the students [55]. Notwithstanding the above, this review allows us to demonstrate that the diversity of approaches is complementary in the teaching of grassroots football, allowing the development of technical-tactical skills from a global and complex perspective.

*Category "Factors that affect the technical-tactical performance in grassroots soccer".*

The results of this research show that the teaching of technique and tactics has been of significant interest to various researchers [29, 33, 39, 40, 47]. In recent years, work has been developed that provides more evidence precisely along these lines, identifying the implications of various factors that affect the development of beginner football [56, 57, 58]. Regarding the training of technical aspects, it has been confirmed that the incorporation of technology can contribute to improving the learning of some fundamentals. Specifically, Napolitano [39], it was demonstrated that video analysis has positive effects as a tool to model the execution of technical gestures, strengthening the motor skills of children between 9 and 10 years old. The use of this strategy has had similar results at different ages and also in other sports disciplines [39, 59].

Additionally, in another study developed by Vega-Orozco et al. [47] demonstrated that numerical equality or inequality in the development of some exercises can positively impact the development of some technical skills. In situations of numerical inequality, for example, improvements were detected in dribbling and driving the ball in a straight line, findings similar to those reported by Sánchez et al. [44]. Regarding the teaching of tactics, it has been discussed how the interaction between players, age and use of space represent important aspects to consider. According to Barquero-Ruiz et al. [29], actions involving the majority of the team's players, a small group or an individual play, achieve similar percentages of effectiveness in the attack phase. On the other hand, individual plays have a greater probability of success in the defensive phase. This suggests the need to address a combination of strategies that favor both individuality and collective play, as both promote a positive outcome of the plays [60, 61].

In this review, key factors that affect technical-tactical performance in grassroots football have been identified. Furthermore, the age of the players has emerged as an influential factor in the tactical disposition on the playing field, which has been corroborated by studies such as that of González-Rodenas et al. [62]. On the other hand, the study by Greve et al. [36] used a football teaching process with digital support, and the participants perceive the use of digital media as an aid to learning. Along these lines, the study by Prontenko et al. [42], demonstrated that the implementation of a computer program improved psychoemotional health, motor functions and some technical skills in young soccer players. In the study developed by Folgado et al. [33], it was observed that individual play is used more frequently on the playing field, especially in the minor categories (Sub 9). These results align with the findings of Nunes et al. [63], who identified that at early ages personal actions prevail over collective actions, a product of the dispersion and static position of the players. Age influences the tactical disposition on the playing

field, specifically, the minor categories tend to extend longitudinally on the field, advancing quickly from goal to goal [62]. At advanced ages, using the sides of the field becomes more important. Finally, it is worth mentioning that the study of decision making emerges as a relevant factor in the development of technical and tactical aspects of the players, and its influence is also modulated by the age of the footballers [40].

## Conclusions

This systematic review, analyzed the scientific evidence on the teaching of grassroots soccer, to contribute to the understanding of strategies and methods for developing and training children and young people. The research identified two categories: 1. Teaching methodologies for grassroots soccer and 2. Factors that affect the technical-tactical performance of grassroots soccer. These categories provided significant findings that expand the way technical and tactical skills are addressed and developed in grassroots soccer.

Regarding teaching methods in grassroots football, the review revealed relevant information on the effectiveness of two main approaches: the global method and the analytical method. Both methods have proven effective in developing the technical skills of young footballers. These findings highlight the need to promote continuous evaluation and evolution of training methodologies, to adapt to the changing demands of football and the individual needs of players. This also implies an emphasis on continuous training of coaches and evolving pedagogical approaches to keep up with the ever-changing demands of the game and the needs of players. In the field of grassroots football training, the importance of promoting a more dynamic and sustainable game over the years has become evident.

Finally, this literature review emphasizes the importance of considering a variety of approaches in teaching grassroots soccer to promote comprehensive development of technical and tactical skills. It also emphasizes the need for constant evaluation of methodologies and adaptation to the individual characteristics of the players, with the aim of training future footballers with high technical and tactical performance, as well as a deep understanding of the game. This knowledge contributes to the advancement and improvement of the training of young talents in soccer, effectively preparing them for the challenges they will face in their sporting development.

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