

Competition as an Educational Tool in Early Sport Stages: An Initial Proposal of Foundations, Principles, and Guidelines

La Competición como Medio Formativo en Etapas de Iniciación Deportiva: Propuesta Inicial de Fundamentos, Principios y Orientaciones

Enrique Ortega Toro

University of Murcia, Faculty of Sport Sciences, HUMSE Research Group (Human Movement and Sports Science), San Javier-Murcia, Spain

José María Giménez Egido

University of Murcia, Faculty of Sport Sciences, HUMSE Research Group (Human Movement and Sports Science), San Javier-Murcia, Spain

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Abstract:

Competition represents one of the most influential contexts in the teaching-learning process of sports education. However, its educational potential depends on how it is designed, regulated, and managed. This paper offers a theoretical and practical synthesis that integrates the scientific foundations, structural principles, and pedagogical guidelines necessary for competition to become a genuine educational medium beyond its performance dimension. Based on current literature, it identifies the factors that determine its educational value: adaptation to biological maturity and competence level, fairness and active participation, balance between challenge and achievement, a positive emotional climate, self-efficacy, motor variability, values education, and the avoidance of early specialization. Finally, guidelines are proposed for coaches, families, federations, and educational institutions with the aim of promoting a pedagogy of competition consistent with the principles of educational sport.

Keywords:

Formative sport, learning, adapted rules, holistic development, values, competition

Resumen:

La competición constituye uno de los contextos más influyentes en el proceso de enseñanza-aprendizaje en la formación deportiva. Sin embargo, su potencial educativo depende del modo en que se diseña, regula y gestiona. El presente trabajo desarrolla una síntesis teórica y práctica que integra los fundamentos científicos, principios estructurales y orientaciones pedagógicas necesarios para que la competición sea un verdadero medio formativo, más allá de su dimensión de rendimiento. A partir de la literatura actual, se identifican los factores que determinan su valor educativo: la adaptación a la madurez biológica y al nivel de competencia, la equidad y la participación activa, el equilibrio entre reto y logro, el clima emocional positivo, la percepción de autoeficacia, la variabilidad motriz, la educación en valores y la evitación de la especialización temprana. Finalmente, se proponen orientaciones para entrenadores/as, familias, federaciones y centros educativos, con el objetivo de promover una pedagogía de la competición coherente con los principios del deporte educativo.

Palabras claves:

Deporte formativo, aprendizaje, reglas adaptadas, desarrollo integral, valores, competición.

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Correspondence: Enrique Ortega Toro. E-mail: eortega@um.es



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Introduction

Over the last decades, sport competition in developmental ages has been the subject of intense academic debate. Far from being merely an instrument for talent selection, it is now recognized as a potentially privileged context for motor, cognitive, emotional, and social learning (Côté & Hancock, 2016; Renshaw et al., 2019). However, this formative potential is not automatic; it depends largely on how the competitive environment is structured, on the rules that govern it, and on the values that guide it (García-Angulo et al., 2024; Ortega-Toro et al., 2020).

When competition in developmental stages reproduces adult-centered models focused exclusively on winning, performance, and social comparison through models of success, it may generate frustration, anxiety, dropout, or motivational maladjustment (Knight et al., 2017). By contrast, when it is designed according to pedagogical principles adjusted to the maturational and psychosocial characteristics of children and adolescents, it becomes a highly meaningful space for the acquisition of motor, cognitive, socio-emotional, and ethical competences (Buszard et al., 2016; Ortega-Toro et al., 2018).

In this context, the purpose of this paper is to present an integrative proposal of the foundations and principles that define formative competition, supported by recent scientific evidence and with an approach applicable to coaches, educators, and sport managers.

Theoretical Foundations: Competition as a Teaching-Learning Environment

Ecological-Dynamic and Constructivist Perspective

Embodied nonlinear pedagogy within ecological-dynamic theory (Chow et al., 2016) understands competition as a complex learning environment in which behaviors emerge from the interaction among constraints related to the individual, the task, and the environment. Within this framework, elements of the rules such as space, time, equipment, norms, and roles act as pedagogical constraints that shape the action opportunities perceived by the athlete (Renshaw et al., 2019).

Formative competition does not seek results alone; rather, it uses the competitive system itself as a means of learning. Rules, playing spaces, and game duration can be adapted to promote exploration, decision making, and functional variability of movement (Correia et al., 2019). This approach grants competition a didactic value similar to that of the training session: it becomes a coherent extension of the teaching-learning process.

Educational and Social Dimension of Competition

Beyond performance, competition offers a setting in which values such as cooperation, empathy, resilience, and emotional self-regulation are brought into context. These experiences are

key to the moral and social development of young athletes (Hellison, 2011). When properly guided, the competitive context fosters ethical reflection on victory and defeat, the management of frustration, and a reinforced sense of belonging to the group (Harwood & Knight, 2015).

For competition to fulfill this function, the agents involved—coaches, referees, families, institutions, and others—must share a common educational vision in which success is not measured solely by the scoreboard, but by individual and collective improvement in both the sporting and personal domains. In this way, competition ceases to be an end in itself and becomes a pedagogical means in the service of holistic development.

Structural Principles of Formative Competition

Recent scientific literature allows the synthesis of a series of principles that shape a truly formative model of competition.

Adaptation to Maturation and Competence Level

The adjustment of rules and sports equipment to athletes' developmental characteristics is a basic requirement. Several studies show that lowering basket or net height, modifying field dimensions, or adjusting match duration increases participation, motor-behavioral variability, self-efficacy, and enjoyment (Buszard et al., 2016; García-Angulo et al., 2024). Consequently, these adaptations facilitate more representative and equitable learning, reducing differences derived from biological maturity (Ortega-Toro et al., 2020).

In this regard, Broadbent et al. (2021) and García-Angulo et al. (2024) have shown that modifications based on scientific criteria, rather than empirical intuition, promote positive experiences and reduce frustration. Adapted competition enhances exploration, coordination, and a sense of competence, thereby contributing to long-term sport adherence.

Balance Between Challenge and Achievement

Inspired by the theory of the zone of proximal development (Vygotsky, 1978) and flow psychology (Csikszentmihalyi, 1990), this principle indicates that task challenge should be proportional to the athlete's capabilities. Competitions that are excessively difficult generate anxiety and dropout; those that are too easy generate apathy. In essence, the task would cease to be a stimulus that optimizes individuals' learning and development.

Designing rules that balance challenge and achievement favors intrinsic motivation (Deci & Ryan, 2000) and self-regulated learning. For example, grouping categories according to biological maturity or creating flexible categories based on actual competence instead of chronological age improves perceptions of fairness and the commitment of the agents involved (Cumming et al., 2018).

Fairness and Universal Participation

The active participation of all players is a key indicator of the formative quality of competition (Fraser-Thomas & Côté, 2009). Inclusive models with mandatory rotation, balanced distribution of playing time, and mixed or multisport formats ensure that each participant experiences meaningful opportunities for involvement.

Scientific evidence shows that greater exposure to action—that is, real participation time involving motor, cognitive, and emotional engagement, ball contact, finishing actions, success, and so forth—is associated with improved psychological well-being and perceived competence (Eime et al., 2013). Therefore, competition design should ensure fairness both within teams and between teams participating in the competition.

Focus on Learning Rather Than Outcome

Formative competition focuses on the process, not on the scoreboard, since emphasis should be placed on the long-term development of the young athlete rather than on short-term goals. Task-centered feedback, post-match reflection, and constructive error management are pedagogical strategies that turn competition into a space for personal growth (Harwood & Knight, 2015). This approach reduces anxiety and fosters more autonomous motivation by directing attention toward the athlete's progressive development (Fraser-Thomas & Côté, 2009).

Positive Emotional and Social Climate

The emotional climate determines the educational value of competition, insofar as it creates an environment that supports individual and group growth, both in sporting and social terms. Recent studies highlight that athletes' perception of coach support and the quality of communication among families, referees, and players are predictors of psychological well-being and commitment (Knight et al., 2020; Holt et al., 2009). The explicit promotion of fair play, empathy, and respect toward opponents contributes to the development of socio-emotional skills transferable to other areas of life (Bailey et al., 2013).

Self-Efficacy and Perceived Competence

Perceived self-efficacy is one of the driving forces behind motivation and persistence (Bandura, 1997). When rules and materials are adjusted to the athlete's real possibilities, experiences of functional success increase, thereby reinforcing self-confidence and sport adherence (Ortega-Toro et al., 2020). Recent research (Buszard et al., 2016; Giménez-Egido et al., 2020; Giménez-Egido et al., 2023) confirms that adapting competition—for example, through lighter rackets, reduced spaces, or lower nets—improves technical execution and perceived efficacy. These experiences are decisive for consolidating intrinsic motivation and reducing premature dropout.

Variability and Motor Exploration

From the theory of "repetition without repetition" (Newell, 1986), optimal learning occurs when tasks promote functional variability. In formative competition, this means that competition

should encourage creativity and tactical exploration (Ranganathan & Newell, 2013). Modifications such as reducing the number of players, changing the scoring system, or varying roles foster adaptive processes that enhance tactical intelligence (García-Angulo et al., 2024). Variability is an indispensable condition for deep learning and transfer to diverse contexts. The competitive environment should therefore lead to changing, highly varied settings that allow exploration and the accumulation of a broad range of competitive experiences, enabling athletes to grow in later stages.

Values Education and Ethical Climate

Sport does not automatically transmit values; it requires intentional programming (Serrano-Durá et al., 2021). The incorporation of values education programs into competition, such as the **Sport Education Model** (Siedentop, 1994) or community-based initiatives (Ortega et al., 2019), promotes prosocial behavior, respect, and cooperation. Studies by Madrid-Pedreño et al. (2025) and Ortega et al. (2019), for example, show that the implementation of specific values education programs through sport in competitive settings produces significant improvements in prosocial behavior, fair play, and cooperation among young participants. Athletes who compete under this model not only show greater respect toward teammates, opponents, and referees, but also better emotional management in both victory and defeat. Thus, when competition is pedagogically structured and accompanied by explicit work on values education, it becomes a setting for moral learning and socio-emotional development consistent with the principles of educational sport (Madrid-Pedreño et al., 2025).

Avoiding Early Specialization and Promoting Multisport Participation

Scientific evidence is unanimous in pointing out the risks of early specialization: higher injury incidence, psychological burnout, and dropout (Bergeron et al., 2015; Myer et al., 2016). By contrast, multisport and varied practice at early ages promotes richer motor development and greater physical and emotional resilience (Myer et al., 2016). Competition should therefore allow role rotation and participation across different modalities, promoting a broad motor repertoire and avoiding premature pressure toward performance.

Evaluating Formative Impact

Evaluating the “formativeness” of competition requires indicators beyond the scoreboard: enjoyment, participation, self-efficacy, perceived fairness, and emotional climate (Madrid-Pedreño et al., 2025). Enjoyment is a key predictor of adherence and learning in formative ages; self-efficacy is associated with greater commitment and persistence; an autonomy-supportive motivational climate predicts well-being and improves psychosocial behaviors; and the perceived fairness of coach behavior can be measured and is related to the quality of the competitive experience. Integrating these metrics together with the satisfaction of basic psychological needs (autonomy, competence, and relatedness) (Deci & Ryan, 2000) makes it possible to assess the pedagogical quality of the competitive environment and to continuously refine its design. In this way, a scaffolding process is built that optimizes athletes’ development in competition.

Pedagogical Dimension: The Role of the Coach and the Organization

The coach is the central mediator of the educational value of competition. Their role goes beyond tactics: they must teach athletes how to compete meaningfully by promoting autonomy, reflection, and responsibility (Amorose & Anderson-Butcher, 2007). A coach with a pedagogical orientation uses competition as a situated learning space in which errors are interpreted as opportunities for improvement.

The motivational climate generated by the coach depends on their communicative style and their ability to provide constructive feedback (Duda & Appleton, 2016). Coaches who adopt an autonomy-supportive approach generate greater commitment, enjoyment, and sport adherence.

Sport federations and educational institutions must also assume an active role in this transformation. Their responsibility includes designing balanced calendars, creating categories adjusted to biological age, and establishing rules that reward participation, fairness, and fair play (Balyi et al., 2021). Only from a systemic perspective is it possible to consolidate a truly educational competitive culture.

Practical Implications

- Rethink competitive design from an educational logic, with adaptable rules and regulations and explicit formative objectives.
- Train coaches and referees in the pedagogy of competition and emotional communication.
- Involve families by helping them understand competition as a process of growth rather than comparison.
- Periodically assess the effects of rule modifications through indicators of enjoyment, participation, and learning.
- Promote multisport participation and role rotation in early stages.
- Create safe motivational environments in which diversity, cooperation, and respect are criteria for success.

Conclusions

Competition is not intrinsically formative or non-formative; its value depends on how it is conceived and managed. When it is designed according to pedagogical principles and adapted to the characteristics of the athlete, it becomes a holistic learning environment.

Formative competition is that which promotes the participant's technical, tactical, emotional, cognitive, physical, moral, and social development while guaranteeing fairness, participation, and learning. It entails a pedagogy of play based on autonomy, cooperation, and appropriately adjusted challenge, where success is measured through personal improvement rather than by the scoreboard.

The challenge for sport and educational institutions is to move toward models of competition consistent with the aims of educational sport, in which rules, organization, and evaluation respond to a common purpose: to educate competent, healthy, and ethically responsible individuals through play.

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Conflict of Interest

The authors declare that they have no conflict of interest related to the preparation and publication of this paper.

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