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STRUCTURAL-AGENTIC PERSPECTIVES ON SPORT SCIENCES CURRICULA IN HIGHER EDUCATION: A CONCEPTUAL FRAMEWORK

SECONDARY PERSPECTIVAS ESTRUTURAL-AGENCIAIS DOS CURRICULOS DE CIENCIAS DO ESPORTE NO ENSINO SUPERIOR: UM QUADRO CONCEITUAL

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Abstract
Sport sciences curricula in higher education constitute complex and dynamic systems, in which structural constraints and human agency interact continuously, shaping purposes, content, and learning processes. This article presents a conceptual framework for analyzing these curricula through a structural–agentic perspective, drawing on a critical synthesis of scholarship in curriculum studies, higher education, and sport pedagogy. Grounded in the morphogenetic theory of Margaret Archer, the framework conceptualizes educators, students, and institutional stakeholders as active agents who influence curriculum aims, content, pedagogy, and assessment. At the same time, it recognizes that governance arrangements, quality assurance mechanisms, digital infrastructures, and disciplinary boundaries mediate, rather than determine, curricular processes. Agency is theorized as a mechanism enabling reflexivity, professional judgment, and adaptive innovation, supporting the development of cognitive, motor, and attitudinal competencies. By integrating structural and cultural dimensions, the framework highlights both constraints and enabling conditions that shape curricular innovation and reform. It provides analytically grounded insights for institutional governance, curriculum planning, and sustainable reform initiatives. Overall, this critical and integrative review emphasizes aligning disciplinary epistemologies, institutional structures, and stakeholder agency to achieve curriculum coherence, relevance, and educational quality in sport sciences higher education contexts.

Keywords: Sport Sciences Curricula. Structural-Agentic Framework. Higher Education. Curriculum Theory. Academic Agency.

Resumo
Os currículos de ciências do esporte no ensino superior constituem sistemas complexos e dinâmicos, nos quais restrições estruturais e agência humana interagem continuamente na configuração de finalidades, conteúdos e processos de aprendizagem. Este artigo propõe um quadro conceitual para analisá-los a partir de uma perspectiva estrutural-agencial, com base em uma síntese crítica da literatura em estudos curriculares, ensino superior e pedagogia do esporte. Fundamentado na teoria morfogenética de Margaret Archer, o quadro conceitual compreende docentes, estudantes e atores institucionais como agentes ativos que influenciam objetivos, conteúdos, pedagogias e avaliação curricular. Simultaneamente, reconhece que governança, mecanismos de garantia da qualidade, infraestruturas digitais e fronteiras disciplinares mediam — sem determinar — os processos curriculares. A agência é concebida como um mecanismo de reflexividade, julgamento profissional e inovação adaptativa, sustentando o desenvolvimento de competências cognitivas, motoras e atitudinais. Ao integrar dimensões estruturais e culturais, o quadro evidencia condições e constrangimentos da inovação e da reforma curricular, oferecendo subsídios para a governança, o planejamento e a reforma sustentável. Em síntese, esta revisão integrativa destaca o alinhamento entre epistemologias disciplinares, estruturas institucionais e agência dos atores como condição para a coerência, relevância e qualidade no ensino superior em ciências do esporte.

Palavras-chave: *Currículos de Ciências do Esporte. Quadro Estrutural-Agencial. Ensino Superior. Teoria Curricular. Agência Acadêmica.*

1 INTRODUCTION

Higher education in sport sciences continually adapts to societal change, serving as both a mirror and a driver of knowledge, learning, and professional development. Across global contexts, universities are increasingly compelled to rethink curriculum design, pedagogical practices, and knowledge production in response to accelerating pressures associated with globalization, digitalization, and shifting societal expectations (Tight, 2024; Barnett, 2009). Within this landscape, policy discourses have strongly promoted competency-based, flexible, and interdisciplinary curricula, positioning them as essential instruments for preparing graduates capable of navigating uncertainty, complexity, and professional mobility (Mulder, 2017).

Despite their widespread adoption, higher education curriculum reforms are often shaped by technocratic and managerial logics that frame change as instrumental, measurable, and linear. Such approaches obscure the epistemic and pedagogical complexity of academic work, particularly in practice-oriented fields such as sport sciences and physical education, where curriculum integrates embodied practice, professional judgment, and context-sensitive learning. As a result, translating policy-driven reforms into meaningful pedagogical practice remains challenging within discipline-bound university structures characterized by autonomy and entrenched academic traditions.

Curriculum change is therefore best understood as a dynamic interplay between structural conditions and academic agency. Research shows that academics actively interpret and recontextualize reform agendas within their disciplinary and institutional contexts (Annala *et al*., 2023; Biesta *et al*., 2015). However, scholarship remains theoretically fragmented, often privileging either agency or structure, with limited attention to how curriculum is enacted through everyday pedagogical work.

These tensions are intensified by digitalization and data-driven accountability regimes. Digital technologies are reshaping academic practice (Selwyn *et al*., 2020; Henderson *et al*., 2017), while performance metrics and quality assurance systems increasingly define educational value through proxy indicators that inadequately capture the embodied and relational dimensions of learning in practice-based fields (Hazelkorn, 2018; Filippakou, 2011). Together, these developments highlight the need for a more

nuanced, context-sensitive, and theoretically grounded understanding of curriculum as both policy and pedagogical practice.

This review conceptualizes higher education curricula in sport sciences as a dynamic structural-agentic system. It synthesizes theoretical and empirical scholarship to examine how policy, pedagogy, technology, and ideology intersect, and how educators exercise agency within evolving structural and sociocultural contexts. The review also highlights the tensions, contradictions, and silences that shape contemporary curriculum debates. Accordingly, this review is guided by the following central question:

To what extent do prevailing accountability and innovation discourses reshape curriculum in higher education, with a particular focus on sport sciences programs in Tunisia, in ways that constrain or enable academic agency, pedagogical creativity and co-constructed praxis?

By critically examining this question, the review challenges the assumption that accountability and innovation are inherently aligned. It explores the conditions under which curricula in sport sciences and physical education can operate as agentic and reflexive spaces that support meaningful learning, professional formation, and sustainable innovation within contemporary universities.

2 METHODOLOGY

2.1 Scope of review

This study employs a conceptual and critical review approach, guided by established standards for theory-driven literature synthesis. Rather than exhaustive coverage, it focuses on selective engagement with seminal theoretical and empirical work in higher education curriculum, sport sciences pedagogy, and participatory learning. Archer's morphogenetic theory provides the analytical lens, framing the dynamic interplay between structural, cultural, and agentic factors in curriculum development. Key literature was identified through targeted searches in major academic databases and via citation chaining of foundational works, ensuring inclusion of the most influential contributions. Using critical synthesis and thematic integration, insights were analyzed to construct a structural-agentic framework that explicates how institutional arrangements,

disciplinary epistemologies, and stakeholder agency shape learning experiences, competencies, and participatory curriculum practices. This methodology ensures rigor, transparency, and conceptual coherence, in line with universal standards for scholarly review.

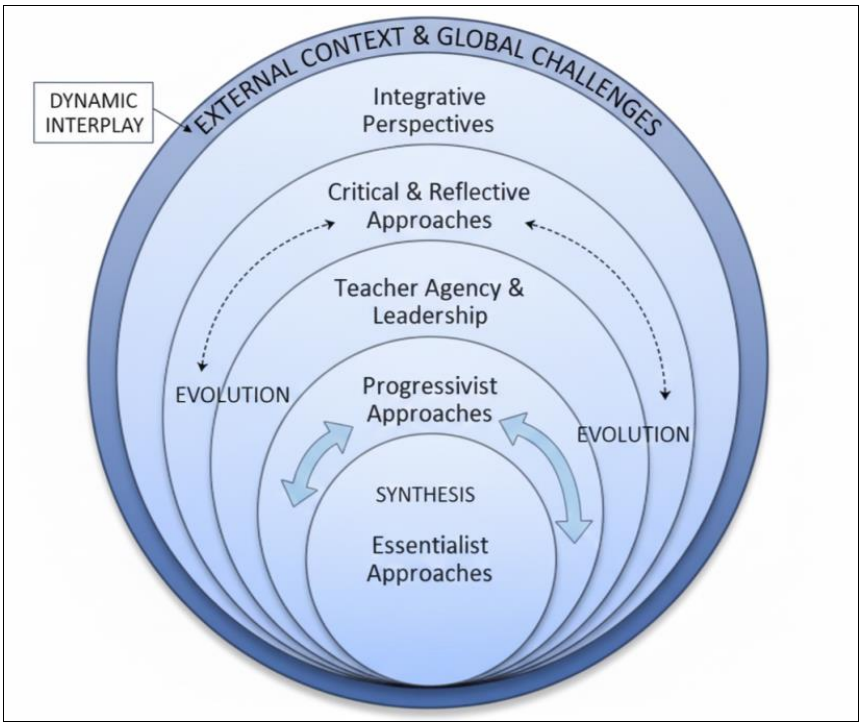
3 THEORETICAL AND CONCEPTUAL FOUNDATIONS OF CURRICULUM

Curriculum theory embodies a complex and dynamic interplay among educational philosophy, social context, and the agency of teachers and learners. At its core, curriculum reflects diverse philosophical traditions that shape the purposes, content, and methods of education, influencing not only what is taught but also how learning is organized, enacted, and evaluated (Tyler, 2013; Schiro, 2012). Within higher education, and particularly in sport sciences and physical education, these traditions intersect with disciplinary demands that require the integration of theoretical knowledge, embodied practice, and professional formation.

This layered curriculum model (Figure 1) places essentialist foundations at its core, surrounded by progressivist, agentic, and critical-reflective layers that foreground learner engagement, professional autonomy, and socially responsive praxis, emphasizing the dynamic interaction between knowledge, context, and human agency.

Figure 1

Layered framework of curriculum theory.



Note: The diagram illustrates the progression from essentialist approaches grounded in foundational knowledge, through progressivist, teacher-agency, and critical-reflective orientations, culminating in integrative perspectives that synthesize knowledge, context, and agency in curriculum design.
Source: Author's elaboration.

3.1 Essentialist approaches and core disciplinary knowledge

Essentialist approaches prioritize the structured transmission of foundational content, emphasizing mastery of core disciplines, technical skills, and standardized knowledge domains. This tradition advocates for sequenced and cumulative curricula designed to preserve and transmit enduring knowledge across generations. In higher education, essentialism has historically underpinned disciplinary coherence, academic standards, and assessment regimes, ensuring consistency and comparability of learning outcomes (Samarawickrama, 2025; Apple, 2014).

In sport sciences and physical education, essentialist orientations are reflected in curricula that emphasize biomechanics, exercise physiology, motor learning principles, and technical skill acquisition. While such frameworks contribute to disciplinary legitimacy and professional accreditation, they may constrain pedagogical flexibility and

undervalue contextualized motor learning, adaptive competence, and attitudinal development. Consequently, a persistent tension emerges between preserving disciplinary rigor and enabling creativity, critical inquiry, and learner-centered innovation, particularly in practice-based learning environments.

3.2 Progressivist traditions and learner-centered curriculum design

In contrast, progressivist traditions foreground learner-centered and experiential approaches, emphasizing problem-based learning, active engagement, and situated inquiry (Tubbs, 2023; Freire, 1970). Progressivism conceptualizes curriculum as a flexible and evolving process, responsive to learners' needs, interests, and lived experiences, while promoting democratic participation and critical thinking (Pinar, 2019; Apple, 2014). Piaget's (1972) theory of cognitive development further reinforces the importance of aligning curriculum with learners' developmental trajectories, privileging meaningful construction of knowledge over rote instruction.

Within applied sport and physical education disciplines, progressivist approaches resonate strongly with pedagogies emphasizing learning through movement, experiential motor practice, and reflective performance analysis. Such approaches support the development of motor abilities, tactical understanding, and self-regulated learning, fostering not only physical competence but also cognitive engagement and social interaction. Progressivist curricula situate learning in authentic movement contexts, enabling students to construct knowledge through practice, feedback, and reflection, integrating skills, understanding and attitudes.

3.3 Teacher agency, curriculum leadership and professional praxis

Recent developments in curriculum theory increasingly foreground teacher agency and curriculum leadership, recognizing educators as central actors in shaping curriculum enactment rather than mere implementers of policy. Teacher agency, defined as the capacity to act purposefully and reflexively within structural and institutional constraints, plays a decisive role in curriculum interpretation, adaptation, and innovation (Emans *et al*., 2025; Biesta *et al*., 2015; Priestley *et al*., 2015). Structural conditions

including accreditation requirements, standardized learning outcomes, and accountability mechanisms, interact dynamically with individual and collective agency, shaping the scope for pedagogical creativity (Barnett & Jackson, 2017; Ashwin, 2009; Archer, 2003).

In higher education sport sciences, teacher agency is particularly salient due to the hybrid nature of disciplinary knowledge, which combines scientific theory with embodied practice and professional judgment. Here, curriculum leadership functions as a mediating mechanism that aligns institutional objectives with pedagogical values, enabling educators to negotiate tensions between standardization and contextual responsiveness. Through collaborative curriculum design, reflective practice, and professional learning communities, educators can co-construct curricula that support competence development, motor expertise and professional identity formation.

3.4 Critical and reflective curriculum perspectives

The relationship between structure and agency is further elaborated within critical and reflective curriculum approaches, which position curriculum as a socially embedded and politically situated practice. Drawing on Vygotsky's socio-cultural theory, learning is understood as mediated by social interaction, cultural tools, and historically constituted practices, underscoring that curriculum cannot be detached from its broader sociocultural context (Vygotsky, 1978). Freire's pedagogy of praxis and Dewey's experiential philosophy emphasize curricula that engage learners in dialogue, reflection, and transformative action, fostering critical consciousness and social responsibility.

Across practice-oriented sport and exercise sciences, critical perspectives interrogate how curricula may reproduce dominant norms related to performance, body culture, gender, and ability, often marginalizing alternative forms of movement knowledge and participation. Recent studies (Gürsoy & Atik Kara, 2023) highlight how curriculum practices can perpetuate inequality unless informed by critical reflexivity and ethical awareness. From this standpoint, curriculum fosters not only knowledge and skills but also values, attitudes, and social engagement, supporting broader emancipatory and autonomous educational aims.

3.5 Integrative and structural-agentic perspectives on curriculum praxis

Contemporary curriculum theory increasingly advances integrative perspectives that synthesize philosophical traditions with empirical insights from teaching and learning research, emphasizing curriculum as a dynamic, relational, and socially situated enterprise (Pinar, 2019; Priestley *et al*., 2015; Schiro, 2012). These perspectives conceptualize curriculum as praxis, an ongoing process of informed action shaped by the interaction of structural conditions, disciplinary knowledge, and human agency.

For sport sciences and physical education, such integrative frameworks are particularly valuable, as they accommodate the complex interplay between motor performance, competency development, and attitudinal formation. Empirical work by Mpuangnan and Ntombela (2024) demonstrates how community-based and culturally responsive curriculum approaches mediate the relationship between context, knowledge, and agency, offering pathways for more inclusive and meaningful learning. Building on these insights, the present review adopts a structural-agentic perspective to examine how curriculum praxis can be co-constructed in higher education, enabling reflexive innovation while remaining attentive to disciplinary integrity and institutional realities.

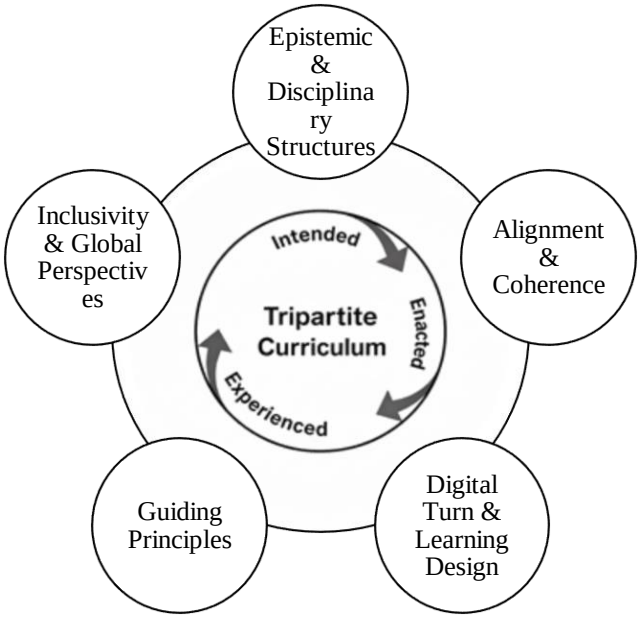
4 CONCEPTUAL DIMENSIONS AND PRINCIPLES OF CURRICULUM DESIGN

Curriculum encompasses far more than content selection or course sequencing; it represents a complex, multi-layered architecture of intentions, practices, and lived experiences that collectively shape the meaning and purpose of education. Effective curriculum design therefore requires deliberate philosophical, epistemological, and sociocultural decisions regarding which knowledge is valued, how learning is enacted, and why it matters within specific disciplinary contexts. Contemporary scholarship emphasizes that curriculum functions simultaneously as a product and a process, shaped by the dynamic interplay among disciplinary knowledge, teacher agency, and learner engagement (McComas, 2024; Pinar, 2019; Priestley *et al*., 2015). In line with these conceptual dimensions, Figure 2 presents curriculum as a multi-layered system in which tripartite dimensions, epistemic structures, constructive alignment, inclusivity, and digital

integration interact under shared design principles to generate coherent, responsive, and context-sensitive learning experiences.

Figure 2

Integrated Curriculum Framework.



Note: Curriculum is represented as a multi-layered system. The core comprises the tripartite dimensions (intended, enacted, and experienced), while the surrounding layers depict epistemic structures, alignment, inclusivity, and digital integration. Guiding principles overlay all layers, with arrows indicating dynamic interactions.
Source: Author's elaboration.

4.1 The tripartite nature of curriculum

Curriculum is frequently conceptualized as a tripartite construct, encompassing the intended, enacted, and experienced dimensions. The intended curriculum reflects formal policies, program specifications, learning outcomes, and disciplinary boundaries that serve as a normative blueprint for educational aims (Tyler, 2013; Schiro, 2012). The enacted curriculum captures educators' interpretive work as they translate formal intentions into pedagogical practice, shaped by professional judgment, contextual constraints, and the scope of individual and collective agency (Priestley *et al*., 2015; Emans *et al*., 2025). The experienced curriculum, in turn, represents learners' lived engagement with knowledge, practice, and assessment, revealing how curricular

intentions are appropriated, negotiated, and embodied in practice (McComas, 2024; Barnett & Coate, 2005).

In sport sciences and physical education, these dimensions are particularly salient, as discrepancies often emerge between prescribed learning outcomes, enacted pedagogies, and students' embodied learning experiences. Motor skill development, tactical understanding, and attitudinal formation are not merely transmitted but constructed through participation, feedback, and reflection. Designing curricula that acknowledge and align these tripartite dimensions is therefore essential for fostering meaningful learning, professional competence, and learner agency.

4.2 Disciplinary and epistemic structures

Curriculum design must also attend to its epistemic architecture, the ways knowledge is organized, legitimized, and transmitted within disciplinary traditions. Disciplines vary significantly in their modes of inquiry, forms of evidence and criteria of validity, shaping how curricula are structured and enacted (Vygotsky, 1978; Piaget, 1972). For instance, "hard-pure" disciplines tend to privilege hierarchical and cumulative knowledge, whereas applied and practice-based fields, such as sport sciences, emphasize situated, experiential, and performative knowledge (McComas, 2024).

Within sport sciences and physical education, epistemic diversity manifests in the integration of biological sciences, social sciences, pedagogy, and motor practice, requiring curriculum designs that accommodate scientific rigor and contextual adaptability. A clear understanding of these epistemic structures enables designers to align pedagogical strategies with disciplinary integrity while supporting interdisciplinary learning that addresses complex societal challenges, such as health, inclusion, and sustainability (Derbali & Shahidi, 2025; Apple, 2019; Barnett & Bengtsen, 2017). Such alignment prevents epistemic dilution while fostering conceptual coherence across curricular components.

4.3 Constructive alignment and curricular coherence

Constructive alignment plays a central role in translating curricular intentions into effective learning experiences by ensuring coherence among learning outcomes, teaching strategies, and assessment practices (McComas, 2024; Biggs & Tang, 2011). When alignment is thoughtfully enacted, learners are supported in actively constructing knowledge through practice, reflection, and iterative feedback rather than passively reproducing content.

However, in practice-based disciplines, alignment must extend beyond cognitive outcomes to encompass motor competencies, professional judgment, and ethical dispositions. Overly rigid alignment risks reducing learning to narrow performance indicators, undermining creativity, critical inquiry, and reflexive engagement (Freire, 1970, Dewey, 1938). From a structural-agentic perspective, curriculum coherence should therefore be understood not as uniform standardization but as a strategic orchestration of learning experiences that balances structure with pedagogical openness and innovation.

4.4 Inclusivity, diversity and global perspectives

Contemporary curriculum design increasingly foregrounds inclusivity, diversity, and global awareness as core educational imperatives. Inclusive curricula recognize and value multiple cultural, social, and cognitive perspectives, ensuring that learners' identities, experiences, and ways of knowing are meaningfully represented (Samarawickrama, 2025; Apple, 2019). In sport sciences and physical education, this involves challenging normative assumptions related to ability, gender, body culture, and performance, and creating learning environments that support diverse forms of participation and excellence.

Embedding global and ethical perspectives within curriculum structures enables learners to critically engage with issues such as equity, health promotion, and social responsibility, fostering intercultural competence and civic engagement (Tubbs, 2023; Pinar, 2019). From a critical standpoint, inclusivity is not an add-on but a structural principle that reshapes curriculum content, pedagogy, and assessment in ways that promote social justice and educational equity.

4.5 The digital turn and learning design

The digital turn has transformed curriculum from a static blueprint into a dynamic, networked, and adaptive system (McComas, 2024). Digital technologies enable personalized learning pathways, collaborative knowledge construction, and authentic assessment practices while simultaneously introducing challenges related to equity, surveillance, and data ethics (Fernández-Sánchez *et al*., 2022). In sport sciences and physical education, digital tools intersect with performance analysis, movement visualization, and blended learning, reshaping how motor skills and competencies are taught and assessed.

Effective digital curriculum design requires intentional pedagogical mediation, ensuring that technology amplifies rather than constrains human agency. Online and hybrid learning frameworks emphasize the integration of cognitive, social, and teaching presence, reinforcing the relational and embodied dimensions of learning even within technologically mediated environments (Emans *et al*., 2025; Priestley *et al*., 2015).

4.6 Guiding principles for curriculum design

Building on these conceptual dimensions, contemporary scholarship identifies interrelated principles underpinning effective higher education curriculum design:

- *Coherence and Flexibility:* Balancing structured learning pathways with opportunities for adaptation, choice, and contextual responsiveness (Tyler, 2013; Schiro, 2012).
- *Epistemic Integrity:* Aligning pedagogy with disciplinary knowledge structures while enabling interdisciplinary inquiry and applied learning (Pinar, 2019; Piaget, 1972).
- *Inclusivity and Social Justice:* Valuing diverse knowledge traditions and ensuring equitable access and participation for all learners (Samarawickrama, 2025; Apple, 2019).
- *Authentic and Practice-Based Learning:* Connecting curriculum to real-world contexts, embodied practice, and ethical reflection (Freire, 1970; Dewey, 1938).

- *Digital and Ecological Literacy:* Integrating technological competence and sustainability as essential capacities for contemporary professional practice (McComas, 2024; Fernández-Sánchez *et al*., 2022).

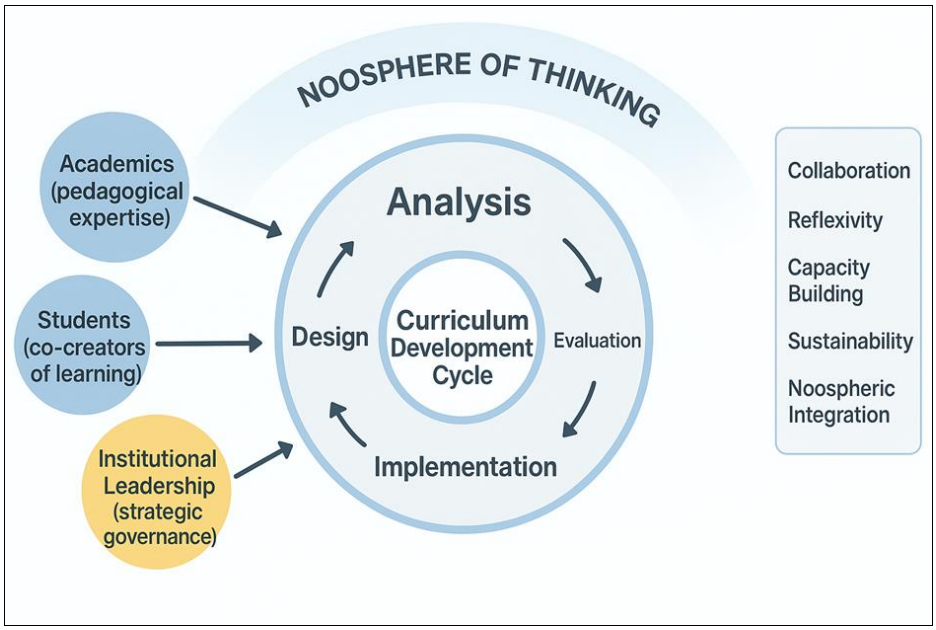
Collectively, these principles conceptualize curriculum as a living and evolving design, responsive to changes in knowledge, society, and learner diversity while maintaining coherence, relevance, and ethical purpose. By integrating epistemic rigor, learner agency, inclusive design, and technological innovation, curriculum can function both as a roadmap for professional competence and as a catalyst for transformative, reflexive learning in sport sciences and higher education more broadly.

5 PLANNING, DEVELOPMENT AND ENGAGEMENT

Curriculum planning and development represent the operational translation of educational philosophy into pedagogical action, where institutional missions, disciplinary traditions, and societal expectations converge. Drawing on Tyler's foundational model, curriculum design involves four interrelated stages: defining educational objectives, selecting learning experiences, organizing these experiences, and evaluating outcomes (Tyler, 1949). In contemporary higher education, however, curriculum planning extends well beyond technical rationality to encompass complex social, political, and cultural negotiations, reflecting the dynamic interplay between institutional strategy, disciplinary expertise, and stakeholder engagement (Laivuori *et al*., 2025; Machado & Davim, 2023). Recognizing these dimensions is essential to ensure that curriculum innovation remains academically rigorous, socially responsive, and institutionally sustainable.

Figure 3

Noospheric Curriculum Dynamics.



Note: This figure illustrates the dynamic and cyclical nature of curriculum development within the noosphere of thinking. It integrates participatory actor interventions by drawing on the contributions of academics, students, and institutional leadership, into Tylerian curriculum foundations. The model highlights the interconnected stages of Design, Analysis, Implementation, and Evaluation, emphasizing how each phase informs and strengthens the next. It also underscores the importance of collaboration, reflexivity, capacity building, sustainability, and noospheric integration as guiding principles supporting continuous curriculum refinement.
Source: Author's elaboration

5.1 The curriculum development cycle

Curriculum development is an inherently iterative and reflexive cycle encompassing analysis, design, implementation, and evaluation (Stufflebeam & Zhang, 2017; Ornstein & Hunkins, 2017; Tyler, 2013; Posner, 2004). Tyler's framework underscores the centrality of clearly articulated educational objectives, which guide the selection of content, pedagogical strategies, and assessment practices. In contemporary contexts, needs analysis constitutes a critical starting point, integrating student expectations, disciplinary standards, professional competencies, employer requirements, and broader societal priorities (Hsu, 2025; Biggs & Tang, 2011).

For sport sciences curricula, objective formulation must address multidimensional learning outcomes, including theoretical understanding, motor skills, professional abilities, and ethical and reflective attitudes. The design and implementation stages then

involve aligning learning activities with these objectives and structuring curricula to ensure progressive development, horizontal coherence, and vertical integration across courses and programs (Merino *et al*., 2025). Evaluation, as the culminating stage, extends beyond summative assessment to include formative feedback, program-level review, and evidence-informed reflection on pedagogical effectiveness and institutional alignment (De Villiers, 2024).

Importantly, curriculum development is not linear. Iterative feedback loops, reflective practices, and stakeholder dialogue enable curricula to adapt to emerging pedagogical insights, technological innovations, and evolving societal and professional demands (Laivuori *et al*., 2025). This cyclical understanding aligns with a structural–agentic view of curriculum, in which educators actively shape and reshape curricular trajectories within institutional frameworks.

5.2 Participatory and collaborative approaches to curriculum development

Contemporary scholarship highlights the transformative potential of participatory and co-constructed curriculum approaches, in which students, practitioners, and external stakeholders function as active partners rather than passive recipients of curricular decisions (Bovill, 2020a; Bovill *et al*., 2011). Such approaches are particularly salient in practice-based disciplines, where professional relevance and contextual authenticity are central to meaningful learning. Empirical evidence indicates that co-creation enhances student engagement, motivation, and inclusivity, while fostering curricula that are responsive to disciplinary realities and workforce expectations (Laivuori *et al*., 2025; Matthews, 2017).

Within the disciplines of sport sciences and physical education, collaborative curriculum design enables the integration of experiential learning, field-based practice, and community engagement, supporting the development of competencies aligned with real-world professional contexts. At the same time, participatory approaches reinforce academic identity and teaching culture, positioning educators as reflective practitioners and curriculum leaders (Hsu, 2025).

Nevertheless, participatory curriculum development is not without challenges. Power asymmetries, resource constraints, and symbolic or tokenistic participation can

undermine co-creation efforts if not carefully managed (Merino *et al*., 2025; Bovill, 2020b). Effective participatory design therefore requires intentional facilitation, transparent decision-making, and a shared commitment to pedagogical innovation, underscoring the inherently relational and ethical dimensions of curriculum work.

5.3 Academic leadership and governance in curriculum planning

Academic leadership and governance structures play a pivotal role in shaping curriculum planning and development. Models of distributed leadership, which emphasize shared purpose, collaborative decision-making, and communities of practice, enable institutions to balance strategic priorities with disciplinary autonomy and pedagogical creativity (Bolden *et al*., 2009; Kezar & Eckel, 2002). Effective leadership mediates between top-down policy imperatives and bottom-up innovation, ensuring alignment with institutional missions while preserving space for experimentation and contextual adaptation (De Villiers, 2024).

Governance mechanisms such as program review, accreditation processes, and quality assurance systems, provide accountability and support evidence-informed curriculum improvement (Harvey & Williams, 2010). However, when governance becomes overly bureaucratic, it risks constraining academic agency and limiting responsiveness to emerging educational needs. This tension is particularly evident in sport sciences, where rigid compliance frameworks may conflict with the dynamic and contextual nature of motor learning and professional practice. Consequently, governance systems must balance oversight with flexibility, fostering conditions that support innovation, reflexivity, and sustained engagement (Trowler, 2019).

5.4 Professional development and capacity building

Curriculum innovation depends not only on conceptual clarity but also on institutional and human capacity. While academics typically possess deep disciplinary expertise, they may lack formal preparation in curriculum design, assessment literacy, and pedagogical theory (Fanghanel, 2012). Structured professional development initiatives including workshops, peer mentoring, and engagement in the scholarship of

teaching and learning, enhance faculty capacity to design, implement, and evaluate curricula aligned with contemporary pedagogical and societal demands (Merino *et al*., 2025; Clegg, 2009).

In sport sciences and physical education, professional development must address the integration of scientific evidence, pedagogical innovation, and embodied practice, supporting educators in designing learning environments that foster competence, reflection, and ethical awareness. Professional learning communities play a critical role in cultivating collective capacity, enabling shared reflection and sustained curriculum improvement (Knight, 2001). To be effective, professional development must be continuous, contextually embedded, and aligned with institutional goals rather than episodic or compliance-driven.

5.5 External drivers and the policy context

Curriculum planning unfolds within a complex constellation of policy, economic, and societal drivers. Globalization, digital transformation, labor market volatility, and sustainability imperatives increasingly shape institutional priorities and curriculum design (Machado & Davim, 2023; Altbach *et al*., 2010). National qualification frameworks, accreditation standards, and competency-based policies further influence curriculum objectives, aligning educational outcomes with employability, civic engagement, and professional standards (Barnett, 2018; Barrie, 2004).

While responsiveness to external drivers enhances curriculum relevance and legitimacy, overly prescriptive compliance can constrain intellectual exploration and pedagogical innovation. Effective curriculum planning therefore requires a delicate balance between policy alignment and the preservation of academic autonomy, critical inquiry, and creative praxis (Laivuori *et al*., 2025). Internationalization adds further complexity, demanding the integration of intercultural perspectives and global competencies that prepare graduates for transnational professional and civic participation (Leask, 2015).

5.6 Toward sustainable and collaborative curriculum planning

Sustainable curriculum planning is best understood as an ongoing, dialogical, and participatory process rather than a finite design task. While Tyler's model provides foundational structure, contemporary approaches extend its scope to encompass stakeholder engagement, ethical considerations, and societal responsiveness (Laivuori *et al*., 2025; De Villiers, 2024). From a structural-agentic perspective, sustainability emerges when institutions cultivate conditions that support collaboration, reflexivity, and capacity building over time.

Key principles underpinning sustainable curriculum planning include:

- *Collaboration:* Enabling co-construction among academics, students, and external partners to enhance relevance, authenticity, and shared ownership.
- *Reflexivity:* Embedding continuous feedback, evaluation, and reflective dialogue to ensure adaptability to pedagogical, technological and societal change.
- *Capacity Building:* Investing in faculty development and professional learning communities to sustain innovation and institutional learning.
- *Sustainability and Responsibility:* Designing curricula that address environmental, technological, and social transformations, ensuring long-term relevance and ethical grounding.

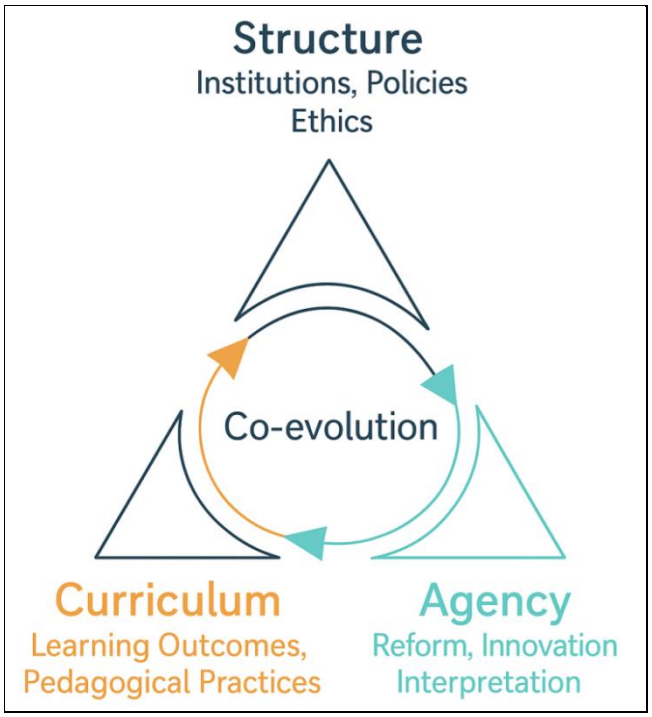
Anchored in Tylerian principles yet responsive to contemporary complexity, sustainable curriculum planning constitutes a praxis-oriented dialogue among objectives, learning experiences, and outcomes (Hsu, 2025; Machado & Davim, 2023). By foregrounding participation, inclusivity, and reflexive engagement, higher education institutions particularly within sport sciences and physical education, can develop curricula that are academically robust, professionally meaningful, ethically grounded, and globally relevant.

6 STRUCTURAL-AGENTIC DYNAMICS IN SPORT SCIENCES CURRICULA

Within sport sciences, physical education, and motricity-related fields, the structural-agentic conception of curriculum acquires particular significance due to the hybrid epistemic nature of these disciplines. Sport sciences curricula operate at the intersection of scientific rationality, embodied practice, and professional judgment, requiring constant negotiation between standardized structures (e.g., competency frameworks, accreditation standards, safety regulations) and context-sensitive pedagogical agency. This hybridity intensifies the morphogenetic dynamics described by Archer (2003), as curricular actors must continuously reconcile measurable learning outcomes with tacit, experiential, and situational knowledge inherent to motor skills and physical performance (Derbali & Shahidi, 2025).

Figure 4

Curriculum as a Structured-Agentic System.



Note: Curriculum as a Structural-Agentic System: This model illustrates the dynamic interplay among structure (institutions, policies, and ethics), agency (reform, innovation, and interpretation), and curriculum (learning outcomes and pedagogical practices). The circular interaction highlights co-evolution, emphasizing curriculum as a continuous, transformative process shaped through reciprocal influences between systemic frameworks and individual or collective actions.
Source: Author's elaboration.

Educators in these domains exercise agency not only in content selection but also in designing learning ecologies that integrate theory, practice, reflection, and ethical awareness. Curriculum enactment thus becomes a site of praxis, where pedagogical decisions are informed by disciplinary knowledge, learner diversity, and professional responsibility. Empirical studies in physical education confirm that when teachers are granted curricular discretion, they are more likely to implement innovative, learner-centered, and contextually relevant approaches that enhance motivation, competence development, and reflective capacity (Priestley *et al*., 2015).

6.1 Competence, agency and curriculum coherence

From a structural-agentic perspective, competencies are not merely predefined outputs but emergent properties of curriculum practice. In sport sciences, competencies encompass cognitive understanding, motor abilities, interpersonal skills, and professional attitudes. Their development depends on the alignment between structural coherence and agentic enactment. Overly rigid curricula risk fragmenting learning into isolated technical components, whereas excessively open designs may lack progression and epistemic depth. Structural-agentic coherence is achieved when curricular frameworks provide clear orientation and progression while allowing educators and students to adapt learning pathways to contextual and developmental needs (Young & Muller, 2010).

Student agency plays a central role in competence formation. When learners are positioned as active participants engaging in goal setting, reflective practice, peer assessment, and curriculum dialogue, they contribute to shaping the learning trajectory itself. This co-constructed process strengthens metacognitive awareness, professional identity, and lifelong learning dispositions, which are particularly critical in dynamic fields such as sport, health, and physical activity sciences.

6.2 Reflexive innovation and curriculum sustainability

A structural-agentic curriculum system supports reflexive innovation by institutionalizing spaces for dialogue, evaluation, and redesign. Reflexivity operates at multiple levels: individual (educator and student reflection), collective (departmental and

disciplinary deliberation), and institutional (policy review and strategic alignment). In sport sciences, reflexive mechanisms such as curriculum mapping, practice-based research, and feedback from professional contexts enable continuous recalibration between academic knowledge and societal relevance.

Sustainability in curriculum innovation emerges when reflexivity is embedded structurally rather than dependent on individual goodwill. This requires governance arrangements that recognize curriculum work as scholarly and relational labor, supported by time, resources, and professional recognition. When agency is structurally enabled, curriculum reform shifts from episodic change to ongoing adaptive praxis, capable of responding to technological advances, health challenges, and evolving conceptions of physical literacy and human movement.

6.3 Curriculum as co-constructed praxis

Conceptualizing curriculum as a structural-agentic system ultimately reframes it as co-constructed praxis, a dynamic, negotiated and ethically grounded process. In higher education sport sciences, this perspective integrates institutional coherence with pedagogical creativity, disciplinary rigor with embodied learning, and accountability with professional autonomy. Curriculum becomes neither an imposed structure nor mere individual improvisation, but a relational achievement, sustained through reflexive engagement among structures, cultures, and agents.

This framework provides a structured basis for designing higher education curricula that foster competence, agency, and professional responsibility, while maintaining the universities' critical and societal roles in dynamic contexts.

7 LIMITATIONS

Additionally, while the review integrates perspectives from multiple disciplines, the specific application to sport sciences, physical education, and motricity-related curricula relies on extrapolation from general higher education literature. Empirical evidence on how motor competencies, professional skills, and learner attitudes are developed within structural-agentic curriculum frameworks remains limited. Contextual

factors such as institutional culture, faculty expertise, and resource availability may further influence the enactment of co-constructed curricula, highlighting the need for nuanced, context-sensitive investigation.

Finally, although the structural-agentic framework emphasizes the interplay of policy, pedagogy, and agency, its practical translation into curriculum planning, co-creation, and assessment practices may vary across disciplines and institutions, particularly in regions with differing governance structures or educational priorities. Future research should therefore focus on mixed-methods, cross-institutional, and longitudinal studies to empirically test and refine the framework, while exploring how participatory approaches can foster competencies, abilities, and reflective attitudes in learners. Such work would strengthen both the theoretical and practical utility of the framework, providing evidence-based guidance for sustainable and transformative curriculum innovation.

8 CONCLUSION

Extending these insights to sport sciences, physical education, and motricity-related fields, the review underscores the particular relevance of co-constructed curriculum praxis in disciplines where learning is simultaneously cognitive, embodied, and relational. In such contexts, curriculum cannot be reduced to the accumulation of disciplinary content or standardized competencies alone; rather, it must support the integrated development of motor skills, professional abilities, reflective judgment, and ethical attitudes. The structural-agentic framework advanced in this review offers a robust conceptual lens for understanding how educators and students collaboratively negotiate these dimensions within institutional and policy constraints, transforming curriculum into a site of reflexive innovation rather than mere compliance.

Importantly, the review highlights that effective curriculum development in sport sciences depends on recognizing embodied knowledge and practice-based learning as legitimate epistemic forms. This challenges dominant outcome-driven models that privilege easily measurable indicators over developmental, process-oriented learning trajectories. A structural–agentic approach enables curricula to remain coherent yet adaptive, ensuring alignment with national qualification frameworks while preserving the

pedagogical space required for experimentation, contextualization, and learner agency. In this sense, curriculum functions not only as an organizing structure but also as a professional and pedagogical resource through which academic identity, disciplinary integrity, and student engagement are cultivated.

From a policy and institutional perspective, the findings suggest that sustainable curriculum reform requires governance arrangements that enable rather than constrain agency. In the Tunisian context, this entails moving beyond compliance-oriented reforms toward participatory curriculum processes that involve academics, students, and professional stakeholders in meaningful ways. Such an approach strengthens curriculum relevance to societal and labor-market needs without undermining the critical and educational purposes of higher education. For sport sciences programs in particular, closer integration between universities, schools, clubs, and community organizations can enhance curricular authenticity while supporting ethical, inclusive, and socially responsible professional formation.

Finally, this review positions curriculum as a relational, ethical project oriented toward human development rather than narrow performance metrics. By reconceptualizing it as a structural-agentic system, it contributes to debates on how higher education can respond creatively to contemporary challenges while maintaining disciplinary rigor and public value. Future research should empirically examine co-constructed curriculum practices in sport sciences and related fields, focusing on how competencies, abilities, and attitudes are developed across diverse institutional contexts. Such work would advance curriculum theory and inform the design of resilient, context-sensitive higher education pathways in conditions of ongoing change.

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