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# How might we do it better? Applying educational curriculum theory and practice in talent development environments

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## ABSTRACT

Although Talent Development is a key function for sports organisations, too little work has focused on the establishment of evidence-grounded methods for optimising progress. Drawing principally on the work of Tyler (1949) and Kelly (2009), our aim is to examine constructs from the field of curriculum studies to establish a range of educational concepts and frameworks that would support talent pathway coaches. Using four fundamental questions concerning curriculum design suggested by Tyler (1949) as a frame, i.e. purpose, content, methods or procedures, and evaluation, we present a range of tangible and robust frameworks and ideas that might be applied to talent pathways. Additionally, we have found accordance between several concepts from curriculum theory and practice and existing practices within talent development pathways. Having an awareness of when and where congruency exists would afford practitioners and scholars the opportunity to refine and cultivate more coherent, purposeful and justifiable talent development environments.

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Curriculum studies; talent; purposes; content; planning

## Introduction

There is increasing recognition that talent development (TD) and performance pathway coaching is a distinct process from that of coaching elite athletes (Collins, MacNamara, & Cruickshank, 2019; Taylor & Collins, 2020). Indeed, this distinction is emphasised in UK Sport's position statement on the matter of performance pathway coaching, which describes pathway coaching as a process of *defining* the characteristics of the participant, whereas the coaching of elite athletes is a process of *refining* (UK Sport & EIS, 2021). There are also several clear boundary markers (e.g. Lyle & Cushion, 2017), that delineate differences between the nature of coaching

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practice at the senior elite and performance pathway levels, including but not limited to, more focus on performance later than performance now and a greater focus on the development of the individual than the performance of the group. The inference here is that the training programme of a pathway participant will be different to that of an elite athlete, with “... *importance placed upon critically considering the experiences required for athletes to learn, develop, and fulfil their potential*” (UK Sport & EIS, 2021, p. 2). Frameworks to accomplish this are in existence and utilised by some National Governing Bodies (NGBs); for example, the English Football Association’s *4 Corner* and UK Athletics’s *5 Rings* models. Given what we know about the dynamic and complex nature of TD however, whilst these content models are face valid and well-intentioned, they are insufficiently detailed for copy and paste application to individual participants, across ages and stages within a given domain (Côté & Vierimaa, 2014; Howie & Bagnall, 2013). Indeed, we suggest that whilst the *what* of TD models, or what we refer to as curricula, are evolving, the *how* and *why* (and why not!) in the development of appropriate TD curricula needs more focused consideration. In short, an evidence-grounded TD curriculum would seem to be a desirable addition. This aim appears timely given the design and application of curricula for talent pathway participants is increasingly referenced in TD literature (Taylor & Collins, 2020, 2021). Consequently, this paper considers what concepts and frameworks might be garnered from educational research, more specifically the sub-field of curriculum studies, to support practitioners in the development of more effectual TD curricula. To be clear, our aim here is to provide a supportive contribution to the work of those involved in TD, by presenting principles that will support their work. Furthermore, we believe a range of stakeholders, directly or indirectly involved in the research, design, development and implementation of TD pathways, e.g. coaching scholars, coach educators, as well as those working more closely with athletes at club, regional and/or national level, e.g. coaches, sporting directors and sport’s governing bodies, would be attracted to and benefit from the principle-based approach to curriculum design presented here.

Notably, applying concepts from educational research and practice is long-established in sports coaching (North et al., 2021), particularly with regard to the educative process of coaches and their pedagogical knowledge and practices. For example, reflective practices stemming from the work of both Dewey and Schon (see Nash, MacPherson, & Collins, 2022), or pedagogical practices, such as games-based approaches that are derived from Bunker and Thorpe’s (1982) Teaching Games for Understanding model. However, we contend that the application of ideas from education, more specifically the sub-field of curriculum studies, has to date been limited. We further argue our aim is timely and warranted given the revived interest and

educational discourse on curriculum theory and practice over the last two decades (Priestley & Nieveen, 2020). This work stands in addition to, recent trends in curriculum developments and the emergence of “*new curriculum*” models (Sinnema & Aitken, 2013), that include goals and features, which arguably align more closely with the nature and ambitions of TD pathways. For example, increased emphases on the centrality of the learner, achieving curriculum coherence and the development of broader core competencies and dispositions, as opposed to narrow, subject specific skills (Sinnema & Aitken, 2013). Therefore, drawing principally on the work of both Tyler (1949) and Kelly (2009), we examine a number of constructs from the curriculum studies literature, with a view to supporting the study, design, planning and development of more effective TD programmes. Our suggestion is that harnessing these principles will support practitioners and scholars to investigate and deploy curricula that are both coherent and optimally designed across the pathway from participants’ entry to exit and beyond the TDE (cf. Webb, Collins, & Cruickshank, 2016). Reflecting these ideas, we suggest that effective TD curricula could primarily come to centre around curriculum development questions posited by Tyler (1949); 1. What is the educational purpose, what are you aiming to achieve? 2. What educational experiences should be provided to achieve the aim(s) of your curriculum? 3. How are these experiences organised to help achieve the aim? 4. How will you know if your curriculum is achieving its aim(s)? Using Tyler’s contentions as a frame, the discussion will focus on each in turn, and consider how they may be used by TD practitioners as a basis for the design and development of more effective TDE curricula.

## **Part I: establishing the purpose of the curriculum**

### ***Clarity of purpose***

With reference to purpose in education, notable curriculum theorists such as Dewey and Stenhouse (1975, 1980) have suggested that a possible start point is not an external focus on knowledge, culture, economic or civic goals but, rather, that education should focus on the child themselves and their development as a human being. This idea has given rise to the learner-centred approach, prominent in contemporary education systems and policies, in addition to the adoption of process curriculum models which view education as, “... *predicated around a view of what an autonomous adult should be and a learning process ... that may serve as the route to achieving this state*” (Priestley & Humes, 2010, p.350). The case for such a purpose and curriculum model is also founded on equality of entitlement, and a desire to ensure that everyone has access to a curriculum which will promote their development as human beings (Kelly, 2009). Whilst the nature and purpose

of this aim and model may appear at odds with the nature and purpose of talent pathways, most of which are selective and thus exclusive, the relevance here may be that there is equality of entitlement for those within a TD pathway and ensuring that some participants do not become more equal than others. Maintaining such purpose in TD curricula may serve to safeguard against unequal or incoherent provision for the range of participants experiencing the TDE. This is not to suggest that the TDE should lack competition or that some participants will achieve higher levels than others. That is inevitable in the pursuit of elite-status where places for participants are finite and as meritocratic as is possible. The point here is that practitioners maintaining cognisance of the participant experience in an organised fashion could protect that long-term experience from being interrupted by, as two from many examples, short-term distractions such as team selection and performance in the now. Indeed, recent findings support and demonstrate the positive and wider outcomes of effective TDEs (e.g. Williams & MacNamara, 2020), as successful and unsuccessful participants alike are still able to accrue and apply the transferable psychological and physical skills which the TDE may offer. Such benefits can be coupled with a growing need for a less exploitative end goal, often associated with elite sport structures (Bishop, 2020), and is certainly more defensible to parents and other stakeholders.

### **Higher purpose**

Kelly (2009) refers to schools as “*cultural transmitters*” (p.101); namely, that curricula convey and pass on the culture of the society, which is particularly relevant to those positive outcomes outside the TDE, such as achievement in education, positive relationships, and early career success. On this basis it has been argued that much of what is to be taught in schools can be decided by reference to “*the common cultural heritage*” (p.59), of the society they are created to serve. We would contend here that TD programmes could be viewed similarly; that is, they should transmit the culture of the activity or the particular club or team in which the TDE is located in order to tangibly service it and those drawn from it.

Against these contentions, the notion that curriculum design principles should be derived from the prime purpose of the educational process as with human (as opposed to solely athlete) development (Kelly, 2009), may have merit as something for TDEs to exploit. In fact, ensuring that participants have every opportunity to develop as human beings may serve to enhance the opportunities which participants have for positive outcomes both inside and outside TDEs (Williams & MacNamara, 2020). This is particularly important against current concerns based on the small number within the

pathway who will actually experience sporting success, i.e. progress on to become elite adult performers in that particular sport or team.

### ***Nested purposes***

In fact, there is an increasing recognition of the desirability of broader objectives for TDEs (e.g. Williams & MacNamara, 2020). Upon further consideration of the notion of establishing purpose, educational objectives could be framed in terms of the processes which we regard education as able, and concerned, to promote (Kelly, 2009). Purpose ought not to be viewed as a goal to be achieved at some later stage in the process but rather, as procedural principles which should guide practice throughout (Kelly, 2009). A lesson for TD here may be to take a nested approach to purpose with each age and stage of a given TDE having linked purposes, which support the overall intention of performance later (Abraham & Collins, 2011). Ensuring these nested purposes are balanced across both sport-specific and human development, can support well-adjusted outcomes for participants in the long term, also preventing the need for certain stages to compensate for areas of development that have been poorly accounted for earlier. For example, early stages of a football pathway may seek to develop awareness of generic principles of play of invasion games as a purpose to be achieved, before a later stage carries the expectation that participants will become fluent in more specific tactical models and formations (cf. Price, Collins, Stoszkowski, & Pill, 2021). Furthermore, these nested purposes ought to allow for a bandwidth of successful achievement, given the dynamic trajectory of TD and the established notion that finite outcomes at ages and stages of a TDE are poor indicators of future success at the elite level. To this point, there should be purposes where practitioners are looking for progress against at given ages and stages, as well as levels to be reached and targets to be accomplished.

### ***Performance later***

Intention for impact can be seen as the primary step in designing effective TD curricula that will see the practitioner as orchestrator; formulating their intended outcomes prior to the event and refining them as things develop (Martindale & Collins, 2005). Performance in the present is less relevant than developing skills for later performance for TD participants. Indeed, given performances at discrete age group levels are accepted as unreliable indicators of future success in elite adult settings (Bailey et al., 2010). Therefore, when combining the notion of a complex and dynamic trajectory, with the longer-term (and higher currency) progress that taking a long-term view of performance can facilitate, there would appear to be



merit in pathways generating a set of optimally developmental experiences. When establishing purpose(s), elevating thought above the micro level allows us to observe the broader need to cater for the balance of today and the future as suggested by Taylor and Collins (2020).

### **Appropriate challenge**

When we consider the notion of “*optimally developmental experiences*” (UK Sport & EIS, 2021, p. 2), we are referring to appropriate and sufficiently challenging experiences. In TD there is growing recognition that facing and overcoming a degree of challenge is desirable for aspiring elites and, as such, this should be recognised and employed, rather than avoided (Collins, MacNamara, & McCarthy, 2016b). The TDE should not be a necessarily comfortable place to be, rather, it should offer a variety of lessons to be learnt in and through both explicit and implicit means, which is also worth noting, when we set out to design a curriculum (Collins & MacNamara, 2012; Taylor, Ashford, & Collins, 2022). The implicit may occur via what Kelly (2009) defines as the “*hidden curriculum*”, which accounts for that which is received through the environment, even though it hasn’t been explicitly planned for or taught. In a sporting context, academy participants receive much through experiencing the professional training environment, interacting with those more experienced than themselves and observing that, which is novel to them. Critically, curriculum developers should reflect on what implicit learning is taking place and whether it is in line with the planned curriculum that is being delivered.

Previously, programme developers have stressed that the TD pathway must be as supportive as possible; in other words, minimising and/or countering extraneous pressures on the developing athlete so that they can focus solely on the task at hand; namely, negotiating the route to the top. However, recent evidence indicates that much of this effort is misdirected. That, in fact, potential can often benefit from, or even need, a variety of challenges to facilitate eventual adult performance (Collins, MacNamara, & McCarthy, 2016a; Taylor & Collins, 2021). Therefore, the purpose of an effective TD may then centre around providing an appropriately challenging set of experiences, that run throughout the totality of a participant’s experience, with the view of facilitating performance in the future, more so than performance in the present. Of course, we must not neglect the obvious possibility that participants will not always stay the course in one TDE for the totality of their experience, or work with the same coaches throughout their journey. However, providing and planning appropriately challenging experiences (with an eye on the overall trajectory) with associated and coherent briefing and reflection, is still worthy of consideration. For example, practitioners having the opportunity to share with participants, their



significant others and those who will go on to assume responsibility for the participants' future development the proposed (malleable) map of experiences at the point they exit a given TDE for another. This is something we will elaborate on in a subsequent section when discussing the planning of curricula.

Lastly, it would be wise for those developing TDE's and TD pathways to ensure awareness and clarity of purpose among participants and stakeholders. These purposes may relate to developing more than just sporting talents in participants; furthermore, challenging them appropriately to facilitate future performance as a priority over that of performance in the present. Furthermore, understanding that prescribing appropriate content is a key factor in achieving the stated purposes of any curricula, the next section focuses on Tyler's (1949) second contention that prompts practitioners to consider what educational experiences should be provided.

## **Part II: deciding on appropriate content**

### ***Avoiding content led models***

In curriculum theory and practice literature, Kelly's conception of curriculum scrutinises inadequacies in any form of curriculum planning that lays too great a stress on the role of content or indeed any one aspect or subject of the curriculum over others (Kelly, 2009). Likewise, the importance of preserving balance appears in recent research on TD (Taylor & Collins, 2020). Arguably, many of the models NGBs have developed for TD in their sport address this matter of balance as they encompass generic technical, tactical, physical, and psychosocial elements, such as the aforementioned Football Association and UK Athletics models. Importantly, however, a key shortcoming in these and other content-led models is the lack of sufficient detail on how the elements ought to be delineated across ages and stages in an optimal fashion. The analogy of a stool directs practitioners to observe the principle of balance over focus, where removing any one or more of the legs renders the stool unusable. Whilst imbalance may not render a curriculum impotent, it will reduce the probability of achieving its intended purpose(s).

### ***Content to enable***

In education, increasingly merit has been given to the notion of developing curricula, and associated content, that promotes and enables, rather than constrains, learner agency (Priestley & Philippou, 2019a). To exercise autonomy, people need a range of consequent capabilities. In this case, autonomy is not merely a negative concept signifying

freedom from constraints. It is also a positive notion implying the development of those capacities which will, or can, enable one to make the personal choices, decisions and judgements that autonomous living implies, and give one as much genuine control over one's destiny as is possible (Kelly, 2009). This supports the inclusion of developmental skill sets such as the Psychological Characteristics of Developing Excellence (PCDEs) in TD curricula (MacNamara, Button, & Collins, 2010a, 2010b), as they are also concerned with placing control in the hands of the participant. Parsimoniously, PCDEs have been described as a hand of cards for performers to play in response to the real-world situations they encounter. This affords the participant control to apply the required skill to the situations they encounter on their journey, instead of adhering to a fixed plan. Priestley (2011) supports this concept that education is concerned with the development of personal autonomy, understanding, a cognitive perspective and a recognition of the value of certain kinds of activity. The point is not to state extrinsic goals for education but rather, to identify features that should characterise any process that is to be described as educational. TDEs have every opportunity to positively contribute to this development of individuals within our democratic societies if their curriculum content sufficiently caters for this kind of individual personal development. Additionally, interdisciplinary skill development should not be solely concerned with TD in the given domain or as a discrete scheme of work to be completed or achieved. Talent Developers have the opportunity to promote the application of broader skills beyond the TDE in conjunction with key stakeholders in other settings the participant experiences daily, such as at school, community sports settings and at home. Instead, it could and should be intrinsic to a broad highway of content inculcated within the delivery of the TD or education. Maintaining a broad highway of selected content within a long-term performance focus should receive a great deal of attention in our approach to planning of TD curricula. When seeking to enable progress, practitioners will do well to select content that is appropriate to their participants' needs and context. Previously we have seen a cascading of skills from the elite level down to the TD setting, which we now know is insufficient given the distinct nature of TD (Bailey & Collins, 2013). Therefore, as the coaching of elite athletes has been articulated as a process of refinement (see UK Sport & EIS, 2021), a unidimensional set of skills will be insufficient for those on the journey through the TDE, who are in the process of defining their technical, tactical, physical, and mental capabilities.

### **Generalisable skills**

Inevitably a low percentage of those who progress through a talent pathway arrive at the point of making it i.e. progressing to elite status at senior level (Williams & MacNamara, 2020). Accordingly, incorporating generalisable psycho-behavioural skills to allow participants to do more and be more, both inside and outside of the sporting domain and post deselection from a talent pathway, has been deemed highly advisable (Williams & MacNamara, 2020). Practically, this means that TD curricula should be concerned with developing wider capabilities, abilities, and behaviours as requisites for learning and development, with less blinkered attention given to the distinct activity they are primarily focused on (MacNamara & Collins, 2010). The planning of this broad content ought to be carried out by the multi-disciplinary team who deliver it, within a given TDE, with expert consultants sought out for areas where there is a dearth of permanently employed expertise, as an example, nutrition. Such emphasis would reflect the focus on broader skills and dispositions evident in the “*new curriculum*” models adopted by many education systems worldwide (Priestley, Philippou, Alvunger, & Soini, 2021; Sinnema & Aitken, 2013).

Notably, success in sports is very rarely determined by a narrow range of characteristics. Even those that seem to rely on a relatively small number of physical characteristics (such as rowing or bodybuilding), place considerable demands on psycho-social competence as well (Abbott *et al.*, 2002). As mentioned, PCDEs have been identified as a set of skills which can both facilitate the process of development and optimise the impacts of TDEs (MacNamara *et al.*, 2010a). They are intended to be descriptive of those skills and characteristics that enable young athletes to cope with the inevitable ups and downs of development, maximise growth opportunities, and learn from setbacks. Optimally developing and deploying these skills has also been investigated (Collins, MacNamara, & McCarthy, 2016a). This is not to suggest that technical, tactical, and physical content is irrelevant; rather that, in this defining period for participants balance is required, avoiding too narrow a focus and, in turn, offering performers the opportunity to develop across a range of areas (Taylor & Collins, 2020). Coaches will harness their Professional Judgement and Decision Making (PJDM) to mediate the approach between focus and balance, as appropriate to their setting and participants (Collins & Collins, 2015). A process which involves drawing on their own experience, seeking perspectives from suitably qualified others and collecting a significant amount of relevant information to inform decision making.

In summary, talent developers would do well to avoid curricula being led by sport-specific content alone, with a greater focus placed on ensuring balanced content which enables participants to achieve in a range of settings

beyond the specific pathway they are involved in. Furthermore, we contend that including psycho-behavioural skills, given the importance they merit, would be a significant step when practitioners are prescribing content for their curricula, irrespective of sport or activity. As mentioned previously, harnessing the experience of a suitably qualified expert will be key for the content included to have maximum impact. So, having now discussed the need to consider both purpose and content when developing curricula, attention will focus on Tyler's (1949) third contention and the need to consider how the selected content is planned for and organised within a curriculum to achieve the intended purpose(s).

### **Part III: appropriate planning strategies**

#### ***Planning for learning***

Educationalists understand that, much as with the development of talent, learning does not occur in a linear fashion, and should be accounted for when planning curricula regardless of the specific domain (Priestley, Philippou, Alvunger, & Soini, 2021). Although the transmission of knowledge may be a linear process, the development of understanding certainly is not. The latter is a more subtle process, more likely brought about by some form of what Bruner has termed a "*spiral curriculum*", where one returns to concepts at ever higher levels of complexity and understanding, than by a "*Thirty-Nine Steps*", linear and hierarchical set of offerings (Priestley, 2011). Consequently, talent developers would be wise to consider such a 'helical' organisation and distribution of content in their planning for the most impactful learning to occur.

#### ***Planning the non-linear***

As previously acknowledged, TD has been viewed as a relatively linear process with talented individuals perceived to develop both steadily and smoothly (Bailey et al., 2010). The Standard Model of Talent Development (SMTD) (cf. Bailey & Collins, 2013) is one example of a specified descriptor which, although challenged, had been accepted as a logical explanation for the journey which participants follow on the talent pathway. Implicit within the SMTD is a conception of development and performance in sport as conceptually simple, linear, and predictable. Whilst this may have been convenient at one time, subsequent research has resulted in widespread acceptance that the development of talent is a non-linear process (Abbott, Button, Pepping, & Collins, 2005; Savage, Collins, & Cruickshank, 2017; Vaeyens, Lenoir, Williams, & Philippaerts, 2008). The process of

development is likely to be complex and long term; it is certainly not straightforward, sequential or a short-term outcome (Tedeschi, Calhoun, Tedeschi, & Calhoun, 2004). Therefore, a standard model may be less appropriate for the planning of distinct TD curricula, than principles for planning the most appropriate curricula for a given TDE. Accordingly, taking a localised approach may be more appropriate, as wherever curriculum policy or guidance is derived from, be it professional club or national governing body, those policies should (but rarely do) afford practitioners the flexibility and agency to develop the curriculum they implement (Biesta, Priestley, & Robinson, 2015). We contend that the principles presented here would guide those with responsibility for TD pathway design towards what to think about rather than what to think, as is often the case with specific models of TD.

### ***Localised curriculum planning***

Curriculum theorists posit that curricula are enacted in a range of diverse settings and about how curriculum making occurs as a non-linear, re-contextualisation process in those settings (Bernstein, 1996). This idea is increasingly realised in contemporary curriculum models and educational policies with less emphasis on specification of content and greater focus on the autonomy of teachers and schools in relation to curriculum development (Priestley, Philippou, Alvunger, & Soini, 2021). Importantly, though, there are clear advantages and disadvantages to localised school-based curriculum development. The advantages of thinking in terms of principles for curricula development, being the increased scope for the continued development of curricula to suit to individual pupil needs, should be compared with more centralised and modelled forms of curriculum development. Disadvantages may include some disconnection from standardised practice and the risk that those developing the curriculum are not suitably qualified or experienced to do so. An aim of this paper is to provide a resource to enhance practitioner qualification to then gain experience in curricula development. A lesson here for TD may be that coaches should develop their curricula against the backdrop of their specific context with consideration for their participants, resources, and environment. A centralised model communicated by a NGB, for example, the FA's *4 Corner* model, will undoubtedly fail to have accounted for all the complexity encompassed in the experience of individual athletes in differing contexts, although they are interacting within the same sporting domain. Principles for curricula thinking aligned with established principles for TD could support practitioners

to develop balanced and relevant curricula for their participants in their setting.

### ***Planning for coherence***

From an educational perspective, curriculum coherence is a complex construct that comprises more than just alignment within and between the elements of the curriculum. Akin to TD curriculum coherence (cf. Webb, Collins, & Cruickshank, 2016), it also depends on the consistency of the aims being pursued and the intended effects of the curriculum (Priestley & Philippou, 2019a). It is suggested that curriculum coherence consists of three complementary components: consistency of the intended direction (complimentary to our TD focus on eventual performance); an integrative approach to teaching and learning (consistent epistemology of methods between coaches); and alignment between objectives, content, and assessments (vertical and horizontal coherence from conception to evaluation) (Priestley & Philippou, 2019a; Webb, Collins, & Cruickshank, 2016). These three components may be too broad and sweeping to fully account for the complexity of developing coherence in the TD sphere. They do, however, lend support to the need for cognisance of the full range of factors and agents in developing coherence. Consequently, it has been suggested that the application of curricula may be appropriate in developing coherence both vertically and horizontally, across the full network of stakeholders who will have influence on a talent pathway participant (Webb, Collins, & Cruickshank, 2016). Though we do not suggest that this is easily done, only that it is a necessary consideration in optimising the experience (Grecic, MacNamara, & Collins, 2013). We contend that TDE managers should hold authority and responsibility for aligning the different ages and stages of their pathway in the same way a head of department or director of studies would within a school setting. Moreover, considering how the transition process is supported in schools and adopting associated practices or establishing “*bridges*” (see Rainer & Cropley, 2015), might help those with responsibility for TD pathway design to achieve greater horizontal, vertical and epistemological alignment between coaches at different levels as well as between different environments and curricula the athlete encounters.

Given the range of agents interacting with and influencing an athlete’s development it is crucial to consider pathway coherence from the earliest possible point of entry all the way to elite-level transition and beyond. Coherent pathways should be underpinned by a clear definition and understanding of the typical performer that the sport aims to produce (Webb, Collins, & Cruickshank, 2016). This will have implications for the nested planning idea discussed earlier. Within the intended end point, where participants will aim to progress to at each age and stage should be clear

and within that where they will have progressed to at different points within an individual stage (Abraham & Collins, 2011). Reflecting the increasing support networks that characterise the TD landscape, the task of the coach or teacher is one of pulling the various support disciplines and influences together in a coherent and coordinated manner to best support and provide suitable challenge and opportunity for an athlete. This is vital, as well-intentioned support personnel can inadvertently undermine the whole process through not adhering to the agreed development plan and going off task, especially during periods when the athlete is seeking homeostasis (Collins et al., 2016). The wrong conversation at the wrong time, even if the advice therein is well intentioned and accurate, may have a significantly negative effect on the long-term trajectory of a performer (Calhoun & Tedeschi, 2006; Taylor, Collins, & Cruickshank, 2021). Further complexity may occur because in many sports the athlete finds themselves part of several different environments, working with several different coaches, athletes, staff, teachers and perhaps agents. This reflects the notion of a curriculum being the totality of the performer's experience (Taylor & Collins, 2020), and consideration of the *hidden curriculum* highlighted previously (Kelly, 2009), as well as that which is set out in the formal curriculum. Combating such incoherence requires the experiences of an athlete to be planned to mutually and progressively reinforce a limited set of clear guidelines. An example of this may be all coaches (inside and outside the TD) understanding and applying a constructive approach to feedback with a participant for an agreed period, without deviation. This might be a coach-led method of making experiences appropriately challenging for participants. Furthermore, it would provide a coherent connection between those who hold influence and a clear thread which builds over time to form a heuristic for handling challenges that the talent development journey will present (Pankhurst & Collins, 2013). Where previously we alluded to who might benefit from an evidence grounded curricula, those significant others who work with and support TD participants in community clubs and schools, could benefit from the participants curricula experience being shared with them and rationalised for them to illuminate where and how they might contribute to the participants development and where they could inadvertently hamper the development of a TD participant. As with other considerations for increasing coherence, the translation and communication of TD curricula for significant others is by no means without challenges. However, in the same way that parents or guardians are included in pupils academic journey it seems increasingly relevant that they and others, such as club coaches, understand and be included in their sporting journey (Taylor, Collins, & Cruickshank, 2021).

TD curricula ought to cater for coherence both horizontally and vertically, meaning different coaches, even at different levels (e.g. club and



region) will communicate and combine their approaches, both epistemologically (methodology) and content-wise (technically/tactically/physically/psychologically), to optimise the impact of the planned curriculum. If a pathway is coherent horizontally there may be some benefit accrued at each discrete stage. However, without vertical coherence and integration between these stages, that benefit may be lost; especially if there is counter-intuitive practice taking place at differing ages and stages within the pathway. Points of transition must also be considered to maximise impact. The theoretical framework proposed by Wylleman and Lavallee (2004) situates the developmental, interactive, and interdependent nature of transitions. Transitioning between ages and stages of pathways will mean different things for different participants. Some may be overly ready to thrive as they move from one stage to the next, whilst others may be underprepared and consequently anxious. TD curricula resultantly ought to consider who is responsible for the supporting their deployment to bridge the gap between one stage and the next (Danish, Owens, Green, & Brunelle, 1997).

To sum up, when planning, talent developers should take account of the impact scheduling can have on the opportunities which participants have for learning, whilst also being fixed on the destination and flexible on the route will allow talent developers to adapt to the inevitable non-linear trajectory of talent development. Additionally, planning in groups guided by principles for what to think about as much as what to think, at a localised level might allow practitioners to achieve greater coherence across a staffing group in their context. Having established the need for talent developers to consider the nature and purpose of their curricula, the final section will focus on Tyler's (1949) fourth contention and the need for evaluation to establish whether their curriculum is achieving its intended aims.

## **Part IV: evaluating the benefit of the curriculum**

### ***Evaluation is subjective***

Educationalists understand that assessment must be recognised as being a highly imprecise activity at all but the most basic levels, and as being judgemental rather than metric in character (Kelly, 2009). TD can learn from this educational perspective and avoid the outmoded habit of regarding assessment as a form of measurement rather than an essentially judgemental process which it often is (Kelly, 2009), with coaches making balanced evaluations of participants' progression along the TD journey. If assessment is to have a genuinely valuable educational role, it must rely more on professional decisions made by teachers of their own pupils or coaches of their athletes. Furthermore, within TD curricula these judgements should occur at the micro and meso level of sessional, weekly, and monthly points,

to support macro decisions about curriculum tweaking at retention and release points. For example, developing a frame for evaluation and judgement that is agreed and implemented at these micro and meso stages to create properly substantiated macro evaluation. Furthermore, creating shared understanding, i.e. developing shared mental models of evaluation and including them in curricula, may appropriately guide practitioners in articulating and recording these frequent judgements, before feeding them into the bigger picture of the collective discussion. Shared mental models have also been used to explain team functioning. The idea being that team performance improves if team members have a shared understanding of the task that is to be performed (Jonker, Riemsdijk, & Vermeulen, 2010). Pathways may outline the things that participants must, should and could have by certain stages of their pathway to effectively assess progress. Additionally, coaches involved in the delivery stage have a role to play in making and recording frequent assessments of which participants are showing progress towards the intended levels of different ages and stages.

### ***Methods of evaluation***

There are a range of evaluative tools, both formative and summative, in education that TDEs may be wise to deploy in supporting curriculum evaluation and participant progression. Formative assessment has utility to establish where the learner is, where they are going and how to get there (Leahy, Lyon, Thompson, & Wiliam, 2005). This may be relevant to TDEs in managing the highs as well as the lows for participants (Taylor & Collins, 2020). An example here would be the frequent nature of selection and deselection into the competitive opportunities the TDE has to offer. Diagnostic assessment has utility where learning difficulties may be scrutinised and classified so that appropriate remedial help and guidance can be provided. This may have value on a sessional level, where coaches are able to challenge and support participants to make progress in areas that require urgent development. TDEs may also be able to harness diagnostic evaluation to prescribe appropriate resources and personnel to support development. An example in a rugby TDE would be a specific positional coach being deployed to work with a hooker on his throwing abilities. Additionally, summative assessment, concerned with appraisal of work may be deployed for the recording of the overall achievement of a pupil or participant in a systematic way. TDEs should include these modes of assessment as inclusion is not infinite for participants. Summative methods would inform and support judgements at transition and exit points on the TD pathway. However, what practitioners choose to make summative evaluations on is important. Evaluative assessment, in educational terms, is also the means of

which some aspects of the work of a school, an educational authority, or other discrete part of the educational service and system can be assessed or reported upon (Kelly, 2009). Furthermore, TD practitioners must not only assess their performers but also evaluate themselves. Doing so enables them to critically reflect on the curriculum their athletes experience and whether it is deemed to possess appropriate content and effective methods and procedures in relation to achieving the desired objectives.

### **Caution when evaluating**

Given the inherent complexity involved in the development of talent, TD pathways do not necessarily need to submit themselves to judgement by statistical outcome or results in the competitive setting; even though this is an increasingly common metric applied by some funding agencies. If the intended purpose is improving the way people perform, paying attention to the final score or to the performance on opening night is insufficient, as “*football coaches, teachers of violin and voice coaches have known for a long time*” (Eisner, 1985, p. 179). TDEs may better observe the essential interplay between curriculum planning and assessment points, especially if we are to avoid assessment-led planning or curriculum distortion in response to numerical results, without regard for the context in which they were produced (Kelly, 2009). Additionally, TD practitioners may take heed in avoiding judgement of curricula solely based on the number of participants who attain elite status.

### **Teach-test-tweak-repeat**

Evaluation is important in assessing the efficacy of any constructive endeavour, such as education or TD. The cycle of teaching, challenging, evaluating, and refining, corresponds with Kolb’s Cycle in experiential education (Kolb & Fry, 1974), and is central to this approach of assessment. In following what is referred to as a *Teach-Test-Tweak-Repeat* cycle of skill development (cf. Collins & MacNamara, 2022), TDEs can cultivate systems within sport that allows an individual to monitor personal as well as team performances (MacNamara & Collins, 2010). Nesting this approach to evaluation within curricula would see participants experience a gradual development of skills, which are then tested against realistic (rather than contrived) and appropriate challenges (Collins, MacNamara, & McCarthy, 2016b). There are advantages of developing the skill set through a variety of methods, followed by ongoing evaluation and refinement (or tweaking), through a range of formative and summative tests (Collins & MacNamara, 2012). Again, with the intention being

to clarify whether the curriculum is fulfilling its purpose(s) and meeting the needs of the participants.

### ***Avoiding too much tinkering***

Whilst ongoing evaluation is critical, coaches and performers will do well to maintain a long-term focus and keep things in perspective during the TD process (MacNamara & Collins, 2010). We must maintain a longer-term view when evaluating the curriculum of an athlete to avoid too much tinkering with the agreed plan in response to what may only be short-term diversions or deviations from the desired outcomes and rates of progression. Indeed, provided these deviations and diversions remain within a bandwidth of functional variability (see Webb, Collins, & Cruickshank, 2016), we can allow positive consequences to accrue from the undulating bumps in the road as part of the challenge-full pathway we suggested earlier. Whilst judgement and evaluation will be ongoing, occurring as regularly as a sessional basis, retention, and release points of participants (often annually), may provide appropriate opportunities for practitioners to evaluate the outcomes of ages and stages of a TD pathway, with a licence to tweak before repeating.

### **Conclusion**

This paper has identified and appraised several concepts, frameworks, and methods from educational research and practice, more specifically the sub-field of curriculum studies, that practitioners and scholars involved in the design, development, implementation and/or research of TD pathways might wish to consider. Recognising that constructs from curriculum theory and practice have, to date, been less widely applied in sports coaching, and more precisely TD settings, we have considered various concepts that we contend could guide and support practitioners, with such responsibilities, to plan, develop and deliver more effectual TD pathways. We acknowledge the ideas presented might principally benefit those practitioners within a club, region or governing body tasked with developing TD curricula at a more localised level. Though challenging, engaging with the ideas and practices associated with “*lifelong learning*”, which has received ongoing attention in the wider educational literature (Holford et al., 2022), might support integration and application of those constructs and frameworks across an athlete’s entire TDE journey, and we suggest that this notion be considered in future appraisals.

Firstly, conscious of the limitations of fixed, one-size-fits all TD models, such as those currently adopted by many sports governing bodies, a key contention was the use of Tyler’s (1949) four fundamental questions

concerning curriculum design. We suggest Tyler's questions, focused on four seemingly discrete, but interdependent dimensions (purpose, content, methods or procedures, and evaluation), have potential to contribute to evolving work on TD models and curricula. Furthermore, they may also provide a useful starting point or scaffold for planning and organising more coherent TD pathways that better meet the requirements of the athletes involved and the contexts in which they operate.

Secondly, acknowledging the limited focus on *why and how* in relation to the development of TD curricula, we considered each of Tyler's questions in turn. Furthermore, for each we presented a range of tangible ideas and robust frameworks from the curriculum studies literature that TD practitioners might consider applying to the pathways they have responsibility for devising and developing. For example, when discussing Tyler's initial question focused on establishing the purpose(s) of a curriculum, we have suggested TDE's, and pathways consider adopting broader, more holistic aims, in-line with Kelly's (2009) notion that the prime purpose of education should be on human development. Aligning themselves to such a purpose, as opposed to solely focusing on athletic development and performance, may ensure participants accrue skills, behaviours, and attributes that would allow them to achieve not only inside the pathway, but also outside of it. This is particularly relevant given the small percentage of participants who progress through the pathway to the point of elite status. Furthermore, in undertaking our appraisal we discovered a good deal of congruency between the extant literature on curriculum studies and talent development research and practice. For example, when considering Tyler's second question on what content will enable the purposes of the curriculum to be met, the more widely applicable skills and dispositions that are the focal point of many contemporary educational policies and national curriculums (Sinnema & Aitken, 2013), arguably correspond with more generalisable psycho-behavioural skills frameworks, such as PCDE's (see MacNamara, Button, & Collins, 2010a, 2010b). We realise the development of generalisable skills is not perhaps a novel concept for TD practitioners and something that may already be a focus within their pathways. The relevance here is that practitioners and other stakeholders are aware of where there is congruency. In this case, recognising that an athlete's school curriculum also focuses on generalisable skills may afford the opportunity to ensure greater alignment and coherence within and between the different elements that comprise the athlete's TDE.

Acknowledging the limitations of this appraisal, firstly, the scope of the paper limited the range of concepts that could be considered. Given the extant body of research that is available and arguably under-utilised by TD practitioners and scholars, we advocate further engagement with the curriculum studies literature to establish a broader range of constructs and

frameworks that may support the design and development of more effectual TD pathways. Secondly, a natural progression of the ideas presented here is to undertake empirical research to understand how those directly involved in the development and delivery of TD pathways actually plan and organise their curricula. More specifically, we suggest future research focus on TD practitioners and investigate their decision-making process in relation to the *why*, *what*, and *how* of their pathways in order to understand the factors that influence and guide their judgements.

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