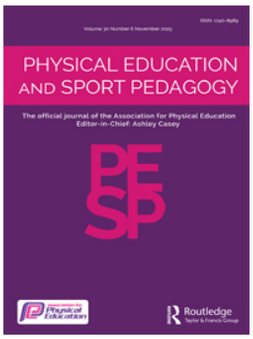

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Teachers' sensemaking in implementation of Meaningful Physical Education

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ABSTRACT

Background: While PE has arguably changed little since the 1960s, there is a rich history of the development of innovations in PE pedagogy. A key challenge lies in the sustained and broad use of these innovations. Researchers have sought to understand how teachers implement these innovations in their classrooms and the factors that lead to their sustained use. The concept of sensemaking offers an avenue for considering the processes by which teachers make sense of innovations in relation to a broad variety of personal and situational factors, which influence teachers' conceptualizations and implementation of innovations. Much of the research to date on teachers' sensemaking has centered on the use of innovations which have been mandated through policy and reforms. However, in this research, we take a different approach by beginning with a group of teachers who have voluntarily adopted the Meaningful PE innovation and integrated it into their regular teaching practice for a sustained period of time. The purpose of this research is to understand how these teachers have made sense of Meaningful PE in their local contexts.

Methods: Six teachers from five countries (Cambodia, Canada, China, Vietnam and USA) participated as collaborators in the study. Data collection methods included (a) individual semi-structured interviews with teachers, (b) teacher-generated artifacts (e.g. blogs and social media posts), and (c) analysis of teachers' local curriculum documents. An inductive thematic analysis of the data was conducted.

Findings: Three themes illustrate how each teacher's sensemaking processes influenced their implementation of Meaningful PE, including making sense of Meaningful PE through (a) the attributes of the innovation, (b) teachers' personal characteristics and beliefs, and (c) local curriculum. Teachers in this study made sense of Meaningful PE through the ways it clearly connected to their beliefs about PE teaching while also helping to resolve ambiguities and uncertainties in their practice. Implementation of Meaningful PE helped teachers bridge the gap between their espoused vision and enacted practice, while

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supporting more authentic interpretations and implementation of curricular goals and outcomes.
Conclusions: This research holds important implications for supporting PE teachers' sustained professional learning about and implementation of innovative practices in PE. Specifically, the reciprocity between teachers' interpretations of the innovation and their local curriculum points to (a) the importance of situating innovations within teachers' local contexts and alongside local policy mandates when presenting them to teachers and (b) the potential for implementation of innovative approaches that deal with the *how* and *why* of teachers' practice to help teachers understand and (re)interpret the *what* (i.e. mandated content and assessment) of their PE teaching in new ways.

Despite claims that physical education (PE) has remained largely unchanged since the 1960s (Kirk 2010), there is a rich history of the development of pedagogical innovations. For instance, Mosston's spectrum of teaching styles exemplifies an early innovation in PE. Through the 1980s, several innovations were developed, such as Teaching Personal and Social Responsibility (Hellison 2010) and Sport Education (Siedentop 1998), and have since evolved to become validated models that have been widely adopted in diverse educational contexts. However, there are also examples of other innovations that have not been taken up extensively or in a sustained manner, such as the Purpose Process Curriculum Framework (Jewett and Mullan 1977).

Research has highlighted some reasons why and how innovations are adopted over time. For example, diffusion of innovations theory has been used to understand teachers' perceptions of and attitudes toward innovations in PE (e.g. Tristani et al. 2020; Webster et al. 2020). Socialization theories have helped to consider the role of contextual factors, such as teacher education programs and teachers' childhood experiences of PE, in the implementation process (Kern et al. 2021). Collectively, research on PE teachers' uptake of innovations has generally pointed to the difficulty of sustaining implementation across time, with teachers rarely moving past 'the honeymoon period' of pedagogical change (Goodyear and Casey 2015). Despite teachers often showing a desire to change their practice, several barriers to the implementation process have been identified including a lack of resources, time and support for professional learning (Goodyear and Casey 2015) and teachers' assumptions and beliefs about teaching/learning (Kern et al. 2021). Consequently, the role of theories and models of individual change has been emphasized. These acknowledge teachers as key to the implementation process and consider a broad array of personal and contextual factors that influence implementation of innovations (Century and Cassata 2016).

The concept of sensemaking offers one lens for understanding innovation implementation through the lens of individual change by enabling analysis of the processes by which teachers make sense of innovations and the messages they carry. Sensemaking helps teachers resolve ambiguities and uncertainties related to innovations to bring about change in their practice (Allen and Penuel 2015). In this way, sensemaking can be conceptualized as a process of structuring the unknown (Waterman 1990), with teachers making sense of change both prospectively and retrospectively (Allen and Penuel 2015). Sensemaking has shown how teachers conceptualize innovations and translate them into practice in their classrooms (e.g. März and Kelchtermans 2013). However, little research has been done on PE teachers' sensemaking of innovations. The aim of this research is to consider teachers' adoption of an innovation – the Meaningful PE approach – through the lens of sensemaking.

Conceptual framework: teachers' sensemaking

Traditional approaches to educational implementation research have often positioned innovations as objective facts which teachers must implement in their classrooms. Alternatively, a focus on

sensemaking processes acknowledges the role of teachers' subjective interpretations of innovations in the implementation process (März and Kelchtermans 2013). While innovations have objective features and characteristics, they are rarely implemented in uniform ways given that implementation results from 'a complex interaction between the innovation content, the local working conditions (contextualization), and the sense-making by the members of the school team' (März and Kelchtermans 2013, 15). From this perspective, innovations are seen as social constructions which teachers must actively and critically interpret (Luttenberg, Imants, and van Veen 2013). As teachers make sense of innovations, their interpretations both define and restrict possibilities for action (März and Kelchtermans 2013). Thus, different interpretations of the same innovation can lead to different levels of implementation (Spillane, Reiser, and Reimer 2002). This makes understanding teachers' sensemaking critical in studying their implementation of innovations.

For the purposes of this research, we conceive of sensemaking in line with Stollman et al. (2022, 720), who define it as 'the interaction between teachers' personal frames of reference and their perceptions of the situational demands.' From this perspective, the search for meaning occurs at the intersection of the teacher as an individual, the context/situation in which they work, and the innovation itself (Luttenberg, Imants, and van Veen 2013). Teachers' personal frames of reference can be influenced by a variety of factors, including their: practices, knowledge and beliefs; individual characteristics; professional self-understanding and subjective views of educational theory; motivations and perceptions of work; emotions; and individual biographies (März and Kelchtermans 2013; Spillane, Reiser, and Reimer 2002; Stollman et al. 2022). Personal frames of reference are dynamic and can be both context- and situation-dependent (Stollman et al. 2022). Teachers' perceptions of situational demands include both the external demands that are placed on teachers by (a) innovations they are required to implement and (b) the conditions of their particular contexts, as well as teachers' subjective interpretations of those demands (Stollman et al. 2022). The 'situation' in which teachers implement reforms is influenced by social, material, intellectual, temporal, historical, and cultural aspects (Spillane, Reiser, and Reimer 2002). For example, interactions with administrators, colleagues and students influence teachers' sensemaking of innovations in ways that can enhance or restrict implementation efforts (Allen and Penuel 2015). Similarly, the culture and subcultures within a school, as well as structural elements such as programs and departments, all shape how teachers make sense of and implement innovations (März and Kelchtermans 2013). Studying teachers' sensemaking processes allows for consideration of the wide variety of factors influencing teachers' conceptualization of innovations and the role these play in the implementation process.

Much research to date on teachers' sensemaking has centered on teachers' implementation of innovations and reforms which have been mandated through policy (i.e. innovations teachers are *required* to take up). Consequently, much of this research has focused on the extent to which teachers implement reforms and the factors that enable or constrain their implementation. We take a different approach, beginning with a group of teachers who have voluntarily adopted Meaningful PE and made it a part of their regular practice and seeking to understand how they have made sense of the innovation. In this way, we are interested in considering the personal frames of reference and perceptions of situational demands that enabled teachers to become adopters of the innovation, particularly in relation to local curriculum. The question that has guided the research is: What are the experiences of teachers who have adopted Meaningful PE in making sense of the innovation?

Methods

In this research, we take a qualitative approach, with an aim to provide rich description and interpretation of experiences (Punch 2009). Qualitative research methods are particularly appropriate for studies of sense-making in that they allow us to 'make sense of or interpret phenomena in terms of the meanings people bring to them' (Denzin and Lincoln 2011, 3). Ethical clearance was provided by the Mary Immaculate College Research Ethics Committee.

The innovation: Meaningful PE

Meaningfulness has been identified as a driving force for transformative PE curricula (Ennis 2017). An emphasis on meaningful experiences in PE has the potential to improve students' quality of life (Kretchmar 2006) and to promote lifelong engagement with physical activity (Engström 2008). While the value of promoting meaningful PE experiences has been widely acknowledged, few teachers have been taught *how* to do so (Kretchmar 2000). The Meaningful PE approach has been developed in response to this gap (Fletcher et al., 2021). Meaningful PE is an innovative approach to teaching PE, serving as a framework to guide teachers' prioritization of meaningfulness for their students. Meaningful PE is designed to be used alongside and complement other approaches and models.

Meaningful PE is conceptually and practically grounded in democratic and reflective pedagogies (Fletcher and Ní Chróinín 2022). Democratic pedagogies include a focus on equity and inclusion, where students are provided opportunities to exercise agency and autonomy and take ownership of their educational experience (Ovens and Lynch 2019). Reflective pedagogies provide opportunities for students to make sense of the continuity of their experiences (reconciling present experiences with those from the past and connecting them to the future) (Dewey 1938), and to become aware of what makes a movement experience meaningful for them personally. The use of democratic and reflective pedagogies can help teachers facilitate the types of experiences students often identify as meaningful, namely those which, among other things: (a) include positive social interactions, (b) offer immediate enjoyment, (c) are appropriately challenging, (d) allow for the development of motor competence, and (e) are perceived as personally relevant (Beni, Fletcher, and Ní Chróinín 2017). Meaningful PE is designed to have a flexible implementation so teachers may adapt it to their particular situations and contexts.

Context and participants

In a recent study (Beni, Fletcher, and Ní Chróinín 2022), 12 teachers in Canada were studied across two school years as they implemented Meaningful PE. The relationship between Meaningful PE and their curriculum was a topic that came up repeatedly. Some teachers found that Meaningful PE became a worthwhile part of their practice in part because it helped support students in reaching curricular objectives. However, some viewed Meaningful PE as something they had to consider *in addition* to teaching the curriculum. Given that all the teachers were teaching from the same curriculum document, it was clear that teachers had different ways of making sense of Meaningful PE in relation to curriculum. This led to an interest in the ways teachers make sense of Meaningful PE in terms of aligning its characteristics and substance with their local curriculum, ultimately leading to the current research.

Our approach was to conduct research with, rather than on, teachers. We are reluctant to say the teachers were co-researchers, as they were not intimately involved in the research design and analysis. However, given that the insights teachers shared in this project are based upon years of practitioner inquiry, we have positioned participating teachers as experts and co-authors (Authors 4–9). Although this is somewhat unconventional, we wanted to harness and acknowledge their expertise to understand how they made sense of Meaningful PE. These teachers were purposefully recruited based on their implementation of Meaningful PE over a sustained period (i.e. two +years). By openly sharing their experiences of implementation on social media, podcasts, blogs, or research outputs (e.g. book chapters), we were made aware of their practice and had been in contact with each over more than one year. All of the teachers are PE specialists. While the contexts in which they were teaching (in terms of location, age group and public or private education) varied, they were all teaching compulsory PE courses at the time of the research. In Table 1, we introduce each teacher, including their context, teaching experience, and the curriculum/frameworks they were mandated to use to guide their teaching.

Table 1. Teacher participants' contexts, experience and curricula.

Name and country of origin	Context	Experience	Curriculum
Jo; UK	Secondary PE; publicly funded school in midwestern USA	26 years teaching in 3 countries; administrative roles in state and national PE associations; recipient of SHAPE America's Midwest District High School Teacher of the Year award; active on social media and blogs	SHAPE America National Standards and Grade Level Outcomes
Leticia; Spain	Primary PE; International Baccalaureate (IB) school in Cambodia	20 years teaching in five countries; invited guest on several podcasts and webinars; active on social media and blogs	IB Primary Years Program (PYP)
Marcus; Canada	Primary PE; IB school in Vietnam	13 years teaching in five counties; leadership positions in PE department; active on social media and blogs	IB-PYP; Australian Health and PE curriculum (ACARA); Universal Design for Learning (UDL)
Mel; Australia	Middle school PE; international school in China	20 years teaching in 4 countries at 5 international schools: leadership and administration roles in PE and beyond; active on social media and blogging	IB Middle Years Program; Ontario HPE curriculum
Ty; Canada	Primary PE; IB school in Alberta, Canada	10 years in three countries; leadership positions in PE; invited guest on podcasts and webinars; author of edited book chapter on Meaningful PE; active on social media and blogs	IB-PYP; Alberta PE curriculum
Milena; Canada	Elementary (K-8) PE; publicly funded school in Ontario, Canada	30 years in Ontario; leadership and mentorship roles; PE policy and curriculum development; author of edited book chapter on Meaningful PE	Ontario HPE curriculum

Data collection and analysis

We collected three forms of qualitative data. First, each teacher engaged in a one-on-one semi-structured interview with one of the first three authors. Interview questions centered around the teachers' contexts and curriculum frameworks, how they came to know about Meaningful PE and their perceptions of Meaningful PE in relation to their curriculum. Interviews lasted between 47 and 62 minutes and were audio-recorded and transcribed. Second, we collected teacher-generated artifacts including any social media posts, blog posts, podcasts, book chapters and/or conference proceedings authored by the participants and related to Meaningful PE. Although these artifacts were publicly accessible, we sought consent from each teacher to use the artifacts as data for this research. Third, we engaged in an analysis of each of the teachers' curriculum documents, specifically looking for areas of (mis)alignment with Meaningful PE. General or specific considerations from each curriculum document that were identified as being relevant to our study were compiled into a document and color-coded to align with one or more aspects of Meaningful PE (e.g. democratic pedagogies, features of meaningfulness, etc.). This aspect of the data collection was primarily used as a form of triangulation, to compare the teachers' understandings of each curriculum and how it might align with Meaningful PE to our own.

An inductive thematic analysis was guided by Braun and Clarke's (2012) step-by-step process. We (authors one through three) began by familiarizing ourselves with the data by reading and re-reading each data source. Two of us then generated initial codes in the data using descriptive codes, such as 'obvious alignment' and 'open to interpretation.' After initial coding, we met to discuss our preliminary thoughts and begin searching for themes. Although we had some sense of direction, we decided to engage in another round of coding, with the first author revisiting each data source. In this way, we deviated from the linear nature of Braun and Clarke's (2012) approach, at times revisiting previous stages in the process when we felt it would enhance our analysis of the data. We then met again to regroup initial codes, settling upon three themes. The first author then engaged in a process of focused coding, coding for specific aspects within each theme. We then

named and defined these themes. The final stage – reporting – constitutes the bulk of the results section. Importantly, we engaged in member-checking with each teacher to identify instances of resonance or conflict with the reporting of the analysis.

Findings

Our analysis of interview data and teachers' blogs, podcasts, book chapters and social media posts clearly confirmed that all participating teachers have been using many of the ideas from Meaningful PE and experimenting with them in some degree for two or more years. There were numerous examples of democratic and reflective pedagogies and a prioritized emphasis on the features of meaningful experiences in how teachers described their practice. For example, in Ty's blog, he wrote about redesigning a triathlon through the lens of Meaningful PE by providing students with choices in relation to their level of challenge and group dynamics, providing opportunities for individualized goal setting, engaging students in a culminating reflection, and intentionally reducing the emphasis on zero-sum outcome competition. Our analysis led us to identify three themes related to how teachers made sense of Meaningful PE, including through: (1) attributes of the innovation, (2) personal factors and experiences and (3) local curriculum.

Theme one: making sense of Meaningful PE through its attributes

For many of the teachers, the spark for initially implementing Meaningful PE in their classrooms was a perception of some attribute(s) of the approach as having the potential to solve a problem they had identified in their practice. For instance, Jo was concerned that her approach to PE teaching had catered only to highly skilled students: 'I just felt that we weren't speaking to a huge population of students who are not involved in sport.' In response, Jo began to ask tough questions about her practice:

> What can I change in the way I'm teaching, in delivering this? Even if the nitty gritty of the core objectives or the learning principles we're trying to get across, they stay the same, but how can my delivery change to have the students get more out of it for themselves personally?

When Jo began to read about Meaningful PE, she felt it just 'made sense' and could provide a solution to her problem(s). In his former school, Ty suggested that being an international teacher posed unique challenges in terms of creating PE experiences that were contextually and culturally relevant for students. He shared about a group of Canadian teachers teaching North American sports which left Korean students asking, 'Why do people play this sport?' When Ty first came across Meaningful PE, these ideas 'resonated' with him as being a potential solution:

> It made a lot of sense of thinking about more than just the physical domain and thinking about what is relevant to kids and how we were challenging kids, because everyone was doing the same thing. […] There's not really any democracy, and there's no reflection.

Ty perceived democratic and reflective pedagogies of Meaningful PE as holding the potential to bridge the relevance gap he was experiencing with students.

Important to teachers' decisions to *sustain* their implementation of Meaningful PE was the perception that they experienced early, significant 'wins' with their students in relation to problems they were wanting to resolve. For instance, Milena experienced a significant change in students who would normally be off-task or misbehaved. She said: 'I'm getting through. They love to move. They can't wait to come down [to the gym]. No matter what we're doing, they buy in' (Milena). For Leticia, after several failed attempts to share her love of running with students, she felt that everything changed after implementing ideas from Meaningful PE:

> Everybody was running because there was an option for all of them […] Just giving them choice and seeing what was more relevant for them and also how they could push themselves. And I have great results; like kids who never would run, they're pushing themselves […] It was amazing really.

In considering their practices, teachers perceived that Meaningful PE mostly informed the *how* and *why* of their teaching rather than the *what* (i.e. their pedagogy rather than the content):

> So it's the day-to-day conversations that those ideas [about Meaningful PE] are driving for us, as we consider the how. I know *what* I'm going to teach because I've got these standards that I need to assess against, but *how* am I going to do that? And *why* is that important? (Mel)

One of the most valued aspects of Meaningful PE that teachers spoke about was its flexibility. Mel valued that the approach involved a lot of ideas that resonated with her 'but not in any hierarchical form.' On the contrary, she felt the freedom to use ideas about Meaningful PE in a way that suited her context, students and approach. Mel preferred to use Meaningful PE *after* she had identified curriculum standards, an instructional model, and the content of her lessons. Meaningful PE guided the 'composition' of Mel's lessons – to ensure the features of Meaningful PE were present for her students and to filter her in-the-moment decision-making. Similarly, Marcus felt it was most appropriate to use ideas from the approach 'loosely' in some contexts (for example, when teaching online) and more fully in others. Leticia, who was quite committed to using the approach regularly in her classroom, did so in different ways for different units. For example, she spoke of taking a lot of time for written reflections during athletics but prioritizing opportunities to play during striking/fielding games and thus opting for end-of-unit verbal reflections instead.

Ultimately, after having implemented the approach for some time in their classrooms, many of the teachers explained that they had come to see Meaningful PE as an 'overarching framework' for their practice: 'We should be using this lens to look at almost everything and say […]: To what extent are we crafting meaningful experiences? […] And if we're not, then we need to start looking at changing things.' (Jo). This idea resonated with Mel, who suggested Meaningful PE 'slides perfectly in on top' of any lesson, and Marcus, who, after designing units and lessons and choosing an instructional model, says: 'It's the Meaningful PE approach that's going to go over the whole thing.'

In summary, these teachers made sense of Meaningful PE through its attributes as helping to address a pedagogical problem or relevant issue in their practice. They used an accessible, incremental approach to implementation – beginning small, seeing immediate results, and thus sustaining and expanding their implementation across time. Meaningful PE offered a rationale for their PE teaching practice (*why*) alongside pedagogical direction (*how*). They valued its flexible nature, which was critical to it working in their local contexts. Across time, they came to think of the meaningfulness of students' experiences as the lens through which they made pedagogical decisions.

Theme two: making sense of Meaningful PE through the personal

When asked about their experiences of implementing Meaningful PE, teachers spoke extensively about their personal frames of reference – specifically the role their personal characteristics, prior experiences, beliefs, and philosophies about PE teaching have played in the process. Teachers described themselves pedagogically as a risk taker (Milena), a lifelong learner (Jo), flexible, open-minded to trying new things (Leticia), and confident (Mel). For these teachers, the prospect of implementing a new approach in their classrooms was perceived as being experimental: 'Some of us [are] … willing to experiment and try things and take a step. It may not work, but that's okay' (Mel). Our analysis of several conversations between these and other teachers on Twitter resonated with teachers' descriptions of themselves, being willing to put their practice on display and to seek and receive feedback from trusted colleagues.

In addition to their personal characteristics, the teachers were conscious of the ways their prior experiences of PE (as both students and teachers) were influencing the ways they made sense of Meaningful PE. For instance, when interviewed, Jo shared about finding meaningfulness in her experiences as a student in a 'sport centric traditional-type PE program' and as a pre-service teacher

in a teacher education program which presented a very 'corrective' approach to motor-skill learning. However, when confronted with ideas about meaningfulness, she began to question if these were the types of experiences she wanted to reproduce for her students: 'It was great. I had a great time. Then you don't consider till later on that that definitely did not fit everyone else' (Jo; Interview). For Jo, moving away from a traditional approach to PE teaching was a long-term professional learning journey over 'many, many years,' which was not yet complete (Interview).

Teachers also spoke repeatedly about their own beliefs about teaching and learning in PE and how these shaped their priorities and practices. Specifically, teachers articulated a vision for student-centered learning as core to their practice, often with a strong emphasis on physical, social and emotional learning. They prioritized fostering a sense of personal relevance and the ability for students to '[make] connections to what happens outside [the] gym' (Milena). They tended to emphasize social skills such as teamwork, respect, responsibility, problem solving, and working with others (Jo, Marcus). Artifacts from social media and blogs showed many examples of prioritizing student voice and choice. For example, on Ty's blog he wrote of using feedback from students to completely rethink and redesign a cross-country running unit to focus on students experiencing an appropriate level of challenge and making a connection to the outdoors. In a podcast series, Leticia shared about the ways her practice had evolved after realizing her overly prescriptive planning was resulting in a very teacher-centered approach:

> How can we offer voice and choice to the students if we are just telling them what to do and teaching them specific sports and specific drills, specific games? I just realize [now] it's not about me; it's about the students.

Key to the teachers' sensemaking of Meaningful PE was their perception that it emphasized student-centered learning. For Leticia, creating a conscious awareness of the features of meaningful experiences (e.g. social interaction, challenge, fun) with her students was important because it facilitated opportunities for reflection and was something that they could do together. While they started small in this collaborative process, it was something that grew over time: 'Well now for gymnastics it's more than working on the goal; it's creating together what the success criteria looks like for this unit' (Leticia). For Jo, the emphasis on personal relevance in Meaningful PE was something she had 'always been big on.' She understood that fostering relevant experiences for her students would not be possible without their input:

> I said [to my students], 'I'm going to be trying to find out from you: How are we doing? […] Is this working? Is it not? Where are we missing the mark? Because otherwise I don't know, so I am going to be asking you for feedback. (Jo)

Although the teachers saw Meaningful PE as well aligned with their beliefs about PE, they were also conscious of how Meaningful PE pushed them in their teaching practice. Ty referred to an experience of planning a dance unit with colleagues and challenging the way they had always done it:

> We talked and said, well, if Meaningful PE is supposed to be student-centred, how is a teacher going up in front of the class and [saying]: 'We're all going to move like me.' […] like, how … ? That's not student-centred. That's very teacher-centred. I do, you follow. But we're trying to acknowledge that, well, for some kids that may not be the answer.

For Ty, Meaningful PE helped him to close the gap between his belief in a student-centered approach and its enactment. Similarly, in a podcast Jo described her experience of implementing Meaningful PE as requiring her to engage with ideas she had never considered before. This included small changes like allowing students to make decisions about who they would work with and more substantial changes, including a 'philosophical shift' away from the mentality that you have 'got to play by the rules, and it's got to be done this way.' Being more flexible in her approach allowed Jo to better meet the needs of her students. While Jo acknowledged that ideas about meaningfulness were likely present in her practice to some extent before implementing Meaningful PE, she saw a clear shift when she began implementing it more formally:

> I'd say [I was] unwittingly doing some bits of it but not in any sort of organized manner, or you know, cognisant pattern of really considering all those things at once. So, if some of it was happening, it was probably more of a happy accident than proper planning.

Jo valued the intentionality Meaningful PE brought to her practice in helping bridge the gap between her vision for PE teaching and what she was doing in her classroom.

In summary, the teachers in this study saw themselves as innovative risk-takers. They valued student-centered learning and prioritized social-emotional learning alongside the physical. They made sense of Meaningful PE through analyzing the ways it aligned with their beliefs and philosophies and helped them bridge their vision for effective PE teaching with what was happening in their classrooms.

Theme three: making sense of Meaningful PE through curriculum

The teachers all saw strong alignment between Meaningful PE and their local curricular goals and outcomes. When asked if Meaningful PE felt like another thing to think about on top of curriculum, Jo, who was teaching from the SHAPE America standards and grade level outcomes, replied:

> I don't see it as an addition, I see it as a compliment. I see it like the two are embedded within each other … To me it completely aligns with the curriculum we're trying to teach and the outcomes that we say we want for our students.

Similarly, in an article he wrote, Marcus described Meaningful PE as 'a pedagogical approach that can be applied across all PE content (e.g. dance, gymnastics, aquatics, games) and can be linked to the learning intentions of a curriculum' (Down 2021).

Some of the alignment teachers saw was quite explicit in the curriculum. For example, the IB curriculum directly called for the fostering of 'meaningful, connected learning experiences for students' (IB Organization 2009). Marcus, who was teaching in Vietnam, pointed to several instances in which the ACARA and IB curricula and UDL framework used similar language to Meaningful PE, such as, 'optimising individual choice, relevance, value and authenticity' (CAST 2018). However, other aspects of alignment were more implicit. For instance, Mel talked about the way 'ideas from Meaningful PE naturally come into the Ontario curriculum,' which she was using to teach her students in China. This included, for example, motor competence development in the active living strand and a focus on the relevance of participating in PE. Ultimately though, Mel 'wouldn't say that [Meaningful PE is] explicit in the text of the curriculum.' Thus, while Meaningful PE was viewed as 'a natural piece of the curriculum' (Milena), this tended to reflect teachers' perceptions of alignment rather than explicit references to Meaningful PE in the text of their curriculum documents.

In some instances, teachers' use of Meaningful PE led them to think of curriculum in new and perhaps more authentic ways. For example, Jo suggested that the complementary nature of Meaningful PE alongside the curriculum can help the teacher 'visualize,' 'articulate,' and 'nail down exactly what you [are] aiming for.' Similarly, Leticia shared how her use of Meaningful PE allowed her to engage students in Cambodia in more authentic assessment strategies by using language and ideas from Meaningful PE to guide students in reflecting on their experiences and learning and sharing these with their parents. Leticia reflected that this type of informal assessment was 'much more valuable than a report card, really' (Interview).

While the teachers saw a great deal of alignment between Meaningful PE and curriculum, three of the six teachers expressed concerns about 'fitness' when asked if there were any areas of the curriculum that they saw as conflicting with the approach. These teachers generally pointed to concerns that traditional approaches to teaching fitness-related learning outcomes were likely to lack meaningfulness for students. When asked if Meaningful PE was inherently 'at odds' with fitness outcomes or could potentially be used to rethink a pedagogical approach to teaching fitness in a more meaningful way, all three teachers were optimistic that fitness *could* be meaningful for students, although there was some uncertainty as to how:

> That's the only piece where I would get kind of stuck. I don't know. I mean, it does fit with challenge […] but I just look at it from the flip that if I have someone that's so focused on the physical fitness piece […] that they're going to lose the kids and then all of it … the fun is gone; the social interaction's gone because so-and-so's making fun of me because I can't do this. So, I don't know. (Milena, Interview)

This area of misalignment seemed to remain unresolved for these teachers, in that they were still considering *how* to rethink their approach to teaching fitness-related curricular outcomes through the lens of Meaningful PE.

Importantly, all of the teachers articulated a conceptualization of curriculum as non-rigid. For instance, Jo shared:

> I think [standards] send a picture of rigidity to teachers like, 'I must do this,' rather than a fluidity, but then they are a guideline, so how are they going to look in your environment? What's most suited for your environment? […] There's more than one way to do things. (Podcast)

Teachers viewed the language of their local curriculum documents as being 'very, very open to interpretation' (Milena) and saw themselves as having the opportunity to do some 'maneuvering' (Mel) in how they would implement curriculum in their classrooms. Teachers' interpretations of curriculum as non-rigid were complementary to their perceptions of Meaningful PE as flexible and able to be adapted to the local contexts. Milena pointed to the need for PE teachers to be 'reading the room' and adjusting based on students' needs. Perceiving both Meaningful PE and the curriculum as leaving room for this was a primary reason why Milena felt '[the Ontario] curriculum lends itself beautifully to [the implementation of Meaningful PE].'

Teachers' perceptions of curriculum as non-rigid seemed to be largely connected to their local contexts, working in environments where they were treated as professionals. For example, Ty explained that because his school affords teachers 'quite a bit of autonomy,' he feels 'pretty free to decide what it is [they] want to do.' For Marcus, working in an IB school meant collaborating with a curriculum coordinator. However, coordinators tended to treat teachers as 'subject area specialists,' creating an atmosphere of mutual respect: 'They're going to trust you in most cases. I've never had any issues' (Marcus).

Importantly, teachers' views of curriculum as non-rigid did not imply a casual, uncaring or unprofessional attitude. On the contrary, many spoke of a strong sense of professional responsibility to the curriculum. While they valued having autonomy in their schools, they also appreciated departmental and school-wide accountability structures (e.g. team teaching, curriculum coordination), which prevented an 'anything goes' approach to PE (Ty, Mel). They tended to pair their sense of professional responsibility to the curriculum with their need to enact it in a way that met their students' needs, and thus aligned with their vision for a student-centered approach. They were strong advocates for considering what individual students 'bring to the table' in order to 'create something that's going to meet their needs' rather than having to adhere to guidelines 'that [are] definitely not going to work for [students]' (Milena).

While their interpretations of curriculum were both related to and influential in their implementation of Meaningful PE, the teachers were also clear that they did not necessarily see curriculum as a strong, significant factor in their decision to implement Meaningful PE. Rather they saw the two as serving related and complimentary, yet different purposes: Meaningful PE guided the *how* of their PE teaching and the curriculum guided *what* it was they were teaching and looking for students to achieve. As Ty suggested, 'I'm not sure how much it's the curriculum. The curriculum I think gives us lots of flexibility.' Through his experience teaching not only in Alberta but in international schools with colleagues from around the world, part of the draw for Ty was 'that the features of Meaningful PE transcend curriculum. It [allows] us to kind of further the experience of students regardless of where we [have] come from until this point.'

In summary, all of the teachers made sense of Meaningful PE in relation to how it aligned with and was complimentary to their local curriculum. In some ways, Meaningful PE allowed teachers to engage with curriculum in more authentic ways that aligned with their commitment to a student-

centered approach. Teachers' view of curriculum as non-rigid was complimentary to the flexible nature of Meaningful PE. In their contexts, they valued both the autonomy and professional responsibility they had to implement curriculum in a way that would meet the needs of their students. Ultimately, these teachers perceived Meaningful PE as a complement, rather than hindrance, to their ability to teach the curriculum.

Discussion

Our research question asked, 'What are the experiences of teachers who have adopted Meaningful PE in making sense of the innovation?' Our analysis suggests that the teacher's overall experiences with Meaningful PE have been overwhelmingly positive. First, the teachers learned about the innovation through reading blogs and listening to podcasts. Attributes of the innovation were attractive to them based on their local needs and interests. Next, they experimented with the approach, generally starting by playing with the features of Meaningful PE in their lessons. These experiences were transformative in better aligning their teaching approaches with their personal beliefs about teaching. Then, based on those early wins, teachers experimented more with the ideas and implemented them more widely in their teaching, leading to even greater congruence of approach and intent. Across time, based on the outcomes of implementation, they sustained their engagement with the innovation in their own practice. Finally, they shared their own learning with others through blogs and podcasts.

This story provides an illustrative account of how individual teachers innovated through self-led professional development in PE. None of these teachers were required to engage with Meaningful PE; there was no incentive, promotion or inducement involved. Yet, their accounts indicate deep engagement, longitudinal commitments, emotional investment and critical reflection. Understanding their motives, decisions and experiences can provide valuable direction for others interested in supporting teacher-led professional development.

Our findings illustrate that the attributes of the innovation, the teacher's characteristics and the curricular context all mattered to how the teachers made sense of the innovation and their ultimate decision to sustain their implementation of it (März and Kelchtermans 2013; Stollman et al. 2022). The innovation attributes and their potential to address real problems of practice were important in attracting attention to the innovation. In this way, teachers made sense of Meaningful PE as helping to resolve an uncertainty they had identified in their practice (Allen and Penuel 2015). This points to the importance of teachers seeing the relevance of the innovation in their own context. For innovation designers, it reinforces the understanding that not all teachers will take up an innovation in the same way or to the same extent (Stollman et al. 2022). Several attributes, such as flexible implementation, were also crucial to teachers investing in and sustaining the innovation. The accessibility of the innovation ideas was significant as it allowed teachers to find a way into getting started with implementing ideas in advance of complete mastery of the approach. Teaching successes nurtured growth and wider implementation. Sharing their experiences provided new avenues to discuss and develop their practices.

The teacher's vision for what PE might look like and achieve seemed to be the driving influence on why and how they took up and shared Meaningful PE. Teachers' personal frames of reference (Stollman et al. 2022) – beliefs, experiences, characteristics – were most important because of the voluntary and self-led adoption of the innovation. Their descriptions of themselves as teachers aligned closely with the concept of 'innovativeness,' which has long been shown to be predictive of teacher change (Bechtel and O'Sullivan 2007). That is, these teachers did not allow their practice to stagnate; they regularly sought new ideas to better suit their needs and those of their students. Their perceptions of resonance with their beliefs were critical in sustaining Meaningful PE beyond initial exploration. The direction and strategies suggested by Meaningful PE not only aligned with their individual beliefs, experiences and visions, but also pushed them in their professional development, helping them to resolve uncertainties by providing a bridge between their vision for PE teaching and their practice.

Curriculum context was also important. Teachers' made sense of the innovation as aligned with and yet separate from curriculum. While sensemaking is an inherently complex process, this is further compounded when an innovation is added to an existing curriculum (Spillane, Reiser, and Reimer 2002). In the current research, there was a reciprocal nature between teachers' interpretations of the innovation and curriculum, in that teachers' interpretations of curriculum as aligned with Meaningful PE influenced their sustained implementation, and at the same time, teachers' implementation of Meaningful PE led to more nuanced and authentic interpretations of curriculum across time. This highlights the importance of situating innovations within teachers' local contexts and alongside local policy mandates when presenting them to teachers. Further, this holds key implications for policy reform, suggesting that innovative approaches that deal with the *how* and *why* of teachers' practice may help teachers understand and (re)interpret the *what* (i.e. mandated content and assessment) of their PE teaching in new ways.

While the three themes are presented as distinct, the research points to an understanding of teachers' sensemaking of Meaningful PE as occurring at the intersection of the three. In other words, teachers' interpretations of the innovation itself cannot be separated from their perceptions of alignment with their local contexts, their personal beliefs and characteristics, and their interpretations of curriculum, which is resonant with previous work on teachers' sensemaking (Luttenberg, Imants, and van Veen 2013; Spillane, Reiser, and Reimer 2002). Further, these themes are inclusive of both teachers' personal frames of reference (personal characteristics) and their perceptions of situational demands (innovation attributes, curriculum) – key elements of sensemaking processes (Stollman et al. 2022).

Conclusions

The current research extends previous work on sensemaking in that we began from the end, identifying a group of teachers who had already implemented the approach in a sustained fashion. Although they had adopted Meaningful PE as a part of their regular practice, they faced both personal and situational challenges throughout the implementation process. For instance, some of the teachers struggled with overcoming the tendency to return to their prior, teacher-centered experiences of PE (as both learners and teachers), most notably in relation to traditional fitness activities and learning outcomes. This challenge is not unique in that research has previously highlighted that teachers' occupational socialization tends to serve as a strong barrier to the implementation process (Kern et al. 2021). However, in the present research, teachers pointed to their experiences of implementing Meaningful PE – in a flexible, self-initiated and self-directed manner, across an extensive period of time, and sharing with and learning from others via social media along the way – as helping them to overcome challenges, resolve ambiguities and uncertainties, and ultimately improve their practice. This holds important implications for supporting teachers' sustained implementation of innovations. Allen and Penuel (2015) have pointed to the need to develop supports that help teachers make sense of ambiguous and uncertain situations, particularly in contexts where teachers lack sustained collegial support in the sensemaking process. This research highlights the time and space teachers had to engage in the implementation process on their own terms, as well as their use of social media and blogging, as offering support for their sensemaking. However, we acknowledge that these teachers represent a particular group of teachers in that they are all PE specialists with several years of teaching experience and have all 'bought-in' to ideas about prioritizing meaningfulness in their teaching. Further research should consider PE teachers' sensemaking in broader contexts and situations.

In conclusion, teachers in this study made sense of Meaningful PE in terms of the way it helped resolve ambiguities and uncertainties in their practice. The innovation was clear in that it made sense to teachers right away and they saw clear connections to their vision for PE teaching. Across time their understanding of Meaningful PE brought clarity to their commitment to student-centered teaching, helping them reconcile their vision with their practice and curriculum. In this

way, Meaningful PE supported more authentic interpretations and implementations of curricular goals and outcomes. All of these teachers are champions of Meaningful PE because of the value and benefits for their students. For these teachers, this was the right innovation at the right time to promote professional congruence and cohesion in their teaching. Meaningful PE offers one way for physical educators to approach their teaching of PE in ways that attend to student needs, teacher strengths and the demands of local context.

Disclosure statement

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