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FOUNDATION PHASE TEACHERS' EXPERIENCES OF PHYSICAL EDUCATION IN LOW-RESOURCE SCHOOLS: IMPLICATIONS FOR CONTINUING PROFESSIONAL DEVELOPMENT

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ABSTRACT

Physical Education (PE) provides Foundation Phase learners aged six to nine the opportunity to develop their cognitive, social, emotional and physical domains. However, if these benefits are not realised for learners in low-resource schools, contextually-based and needs-driven continuing professional teacher development (CPTD) courses may be warranted. The aim of this study was to interpret Foundation Phase teachers' experiences of teaching PE in low-resource schools, to inform the design of CPTD in this area. A qualitative research design situated within the interpretive paradigm was employed. Twenty-four (24) Foundation Phase teachers working in nine Quintile Three schools in Gqeberha participated in semi-structured interviews. The data was thematically analysed. Three broad themes were identified, namely personal barriers, systemic barriers and positive responses to existing challenges. There was a significant overlap between the themes, which highlights the complexity of teachers' experiences and perceptions of PE. The findings support a transformative and collaborative approach to CPTD to assist Foundation Phase teachers with teaching PE in the context of disadvantaged low-resource schools.

***Keywords*:** Continuing professional teacher development; Foundation Phase; Physical education; South Africa.

INTRODUCTION

Physical Education (PE) is fundamental for the holistic development of Foundation Phase learners (Grades R to 3, aged six to nine years old) in South Africa (Department of Basic Education: Republic of South Africa, 2011). The teaching of PE in the Foundation Phase is meant to take place within Life Skills (which forms part of four study areas, namely Creative Arts; Beginning Knowledge; and Personal and Social Well-being) (Dixon *et al*., 2018). PE provides children with opportunities to play, to learn new movements, to socialise, to maintain their fitness and general well-being, and to improve their academic readiness and performance (Brusseau *et al*., 2016; Erasmus *et al*., 2016; Salvini *et al*., 2018; Müller *et al*., 2019). Yet in South Africa, PE teaching is not given the attention it deserves, and implementation thereof is characterised as "practice which is insufficient to adequately promote health and prevent chronic diseases, which may be due, in part, to lack of reach or adoption and impact" (Sport Science Institute of South Africa (SSISA), 2010:2). According to Draper *et al*. (2018:131), PE is participated in by "less than half, [and only] some, children and youth (21 - 40%)", which is a concern given the numerous health and wellbeing benefits PE has to offer (Bailey 2018).

The focus on academic subjects, such as Mathematics, Science and Language, has resulted in subjects such as PE being side-lined (Burnett, 2021). In low-resource (Quintile One to Three) schools in disadvantaged communities, PE teaching is less when compared to more privileged schools (Quintile Four and Five)[1] situated in higher socio-economic communities. The discrepancy in equal PE opportunities is due, in part, to a lack of basic physical resources, large classes, a lack of funding, inability to raise funds, and learners not being able to afford clothing suitable for physical activity (Burnett, 2021). Children in low-resource schools also tend to reside in disadvantaged communities where poverty, poor infrastructure, inadequate nutrition, exposure to violence and a lack of finances at home hinder children's physical, mental, emotional, moral and social development (Atmore *et al*., 2012). The barriers facing the early childhood development (ECD) of infants to nine-year-olds in South Africa's disadvantaged communities are therefore immense.

Children living in disadvantaged communities need the buffering effects PE has to offer, which includes the development of their social, physical, affective and cognitive skills through physical activity (Bailey, 2018). Research indicates that children in low-resource schools in disadvantaged communities selective attention and academic performance benefits from PE intereventions (Gall *et al*., 2018). Helping teachers develop their abilities to promote PE within these communities through Continuing Professional Teacher Development (CPTD) has also yielded promising findings, with children Fundamental Movement Skills (FMS) improving (Okely *et al*., 2017). That is, FMS such as running, jumping, skipping, hopping, galloping, and volleying (to name but a few), which form the foundation of children's future physical activity recreational and sporting endeavours (Brian *et al.,* 2020).

Teachers are meant to teach PE in schools and therefore they need to be supported with training initiatives that help them with teaching PE in low-resource schools within disadvantaged communities. The literature shows that South African teachers do not feel competent and confident to teach PE (Kahts-Kramer & Baard, 2020). They are referred to as "jack[s] of all trades and master[s] of none" due to their generalists instead of as specialists status in the PE field (Stroebel *et al*., 2017). A generalist teacher is a teacher not trained to specialise in PE and who lacks the knowledge and expertise to teach PE (Spittle, 2022). To help Foundation Phase teachers learn how to integrate and improve their PE teaching in low-resource school settings, suitable CPTD programmes are needed. The problem is that such programmes have not been helping, as Foundation Phase teachers feel "workshopped" (Dixon *et al*., 2014:140). Feeling "workshopped" cannot be an outcome of teacher training. Instead, CPTD should leave teachers feeling empowered to transform their PE implementation in their low-resource school context, an important catalyst for positive change. Foundation Phase teachers play a pivotal role in ECD and PE teaching and therefore we need to understand their experiences of PE first, so that we can understand their CPTD needs. The focus of this study thus became answering the research

[1] Quintile Three (or less) schools are defined by the South African government as "no fee schools", as parents or primary caregivers cannot afford school fees (Ncanywa, 2015). Quintile Three (or less) schools, are also referred to as historically disadvantaged or low-resource schools (Veriava, Thom & Hodgson, 2017). Quintile Three (or less) schools are predominantly situated in socio-economically challenged urban or rural areas and are the products, in part, of the erstwhile Apartheid regime. Model C schools "were schools situated predominately in former white areas and are seen as schools situated in more affluent and better resourced areas" and are now referred to as Quintile Four or Five schools (Veriava et al., 2017).

question: What are Foundation Phase teachers experiences of implementing PE teaching in low-resource schools within disadvantaged communities.

PURPOSE OF THE RESEARCH

Foundation Phase PE-based CPTD research studies provide insight into the type of CPTD that could be considered. For example, Stroebel *et al*. (2019a) offer guidelines on who should implement the CPTD programme, what the content should be, and how the programme should be presented to teachers. Zeller and Roux (2020) suggest that continuous and long-term support should be provided, that pedagogical content knowledge (PCK)[2] should be developed experientially, and that practical experience aimed at assisting teachers in adapting their PE teaching to their instructional setting should be included. Valuable insight can be gained from both of these studies. However, these approaches tend to align with a technocratic and facilitator-driven teaching method and do not involve teachers in their CPTD programming experiences and within their school contexts. The first step in a CPTD process should be to determine Foundation Phase teachers' needs, negative and positive experiences, barriers and perceptions regarding PE teaching in their low-resource school settings (Kennedy, 2014). Hence, the aim of this study, which is to interpret Foundation Phase teachers' experiences of implementing PE teaching in low-resource schools within disadvantaged communities.

THEORETICAL FRAMEWORK

Transformative learning theory provides a suitable perspective to interpreting Foundation Phase teachers' experiences regarding PE teaching in low-resource schools within disadvantaged communities, and consequently the type of CPTD they should engage in. Transformative learning is defined as "learning that transforms problematic frames of reference to make them more inclusive, non-discriminating, reflective, open and emotionally able to change" (Mezirow, 2003:59). Within a transformative journey, an individual's meaning schemes (namely their personal paradigms, which encompass their values, beliefs, feelings, expectations, interpretations and consequent actions, also known as points of view) may be changed (Mezirow, 2003; Kitchenham, 2008). Meaning perspectives (the structures of an individual's assumptions based on their past experiences, and how these transform new experiences, and which include a number of meaning schemes) (Mezirow, 1991; Kitchenham, 2008) may also be changed, so that they affect how an individual interprets life and his/her actions. Meaning perspectives are also known as habits of the mind or frames of reference, and they affect an individual's day-to-day understanding and experience of life. Dependency-producing assumptions or distorted meaning schemes and perspectives can emerge from an individual's childhood socialisation process, and the economy, religion, politics, an occupation, bureaucracy, psychology, education and technology (Mezirow, 1985).

[2] According to Karaman (2012:56), pedagogical content knowledge (PCK) is "one of the most critical elements of improving teacher quality". PCK refers to "knowing what to teach, how to teach, and how learners learn in a variety of conditions", and it also refers to "the ability to discern learner knowledge, learning preferences, and to provide accurate assessment with appropriate remediation of task representations" (Parrott, 2016:19).

When applying transformative learning theory to PE, teachers' meaning schemes and perspectives regarding PE – and thus their perceptions of PE – will affect whether, and how, they teach PE. Teachers develop meaning schemes and perspectives regarding PE implementation from their life experiences in childhood, adolescence and adulthood (Capel & Whitehead, 2012). How teachers perceive PE can affect their perceptions of PE, and the value they place on PE (Roux & Dasoo, 2020). For example, a focus on academic performance versus PE teaching is a perceptual barrier to PE teaching (Burnett, 2021).

The process of implementing PE changes or overcoming barriers to teaching PE (such as changing the timetable, funding distributions, equipment procurement, colleague engagement, PCK or teaching styles) within a given context can also be affected by teachers' dependency-producing assumptions of what they believe can be challenged and changed in the education system. Therefore, to assist teachers with perspective transformation (that is, a meaning scheme and perspective change) when it comes to PE and the context in which PE takes place, technocratic and facilitator-driven CPTD initiatives should be avoided. Instead CPTD models should explore teachers' experiences and perceptions and empower them to challenge their own othinking, learn how to overcome barriers and become advocates for change in low-resource schools (Kennedy, 2014). This should be done through collaboration between teachers and the facilitator, to enable dialogue, critical reflection, debate and problem solving relevant to their real-life experiences (Mezirow & Taylor, 2011).

METHODOLOGY

Study design

This study is positioned in the interpretive paradigm (Scotland 2012). An interpretative phenomenological analysis (IPA) design (Smith *et al.*, 2009) was adopted for this study. IPA focuses on capturing participants' unique, individual and subjective feelings and experiences through qualitative methods (Smith *et al.*, 2009). The qualitative methodology used in this study consisted of interpreting how teachers make sense of their PE experiences to produce meaning and to expand boundaries in thinking about PE teaching within low-resource schools within disadvantaged communities.

Sampling

Purposive and convenience sampling (Patton, 2014) was employed to recruit 24 Foundation Phase teachers working in eight different Quintile Three schools in New Brighton and the Northern Areas in Gqeberha (Eastern Cape, South Africa). The New Brighton teachers were participants in a PE programme[3] for which the researcher had been working for a three-year period, and therefore a relationship had already been established. These teachers had often mentioned that children leave their schools to go to schools in the Northern Areas. Teachers from the Northern Areas were therefore included to ensure data saturation (Saunders *et al.*,

[3] The researcher had already established a relationship with the New Brighton community as part of her community development services for the Next Generation Initiative Doctoral Scholarship programme that she had been awarded by Nelson Mandela University. She was implementing PE programmes in low-resource schools under the leadership of Dr Claire Nicholson within her Move-It, Moving Matters programme.

2018), and so the researcher could learn more about PE teaching in other low-resource schools and communities.

All the participants were female. The participants had between one and 31 years of teaching experience and were aged between 23 and 73 years old. The teachers older than 65 years were in retirement but had been given contracts due to staff shortages. Twenty-one (21) participants had a three-year diploma qualification from a former teacher training college,[4] while three were university graduates with a four-year degree qualification. Sixteen teachers had studied further, completing an Advanced Certificate in Education (ACE) and specialising in Information and Communication Technology, Language or Special Needs Education. The teachers had only experienced PE training as part of their teacher training college and university syllabus (versus a specialised focused on only PE within their honours or degree programme). None of the teachers indicated that they had received PE-based CPTD.

Data collection methods

Sixty-minute semi-structured interviews (Galletta, 2013) were conducted with each participant at their respective schools and in a venue of their choosing. Structured questions obtained demographic information about the teachers such as their years of training and education levels. Also included was the duration and frequency of teaching PE, the barriers they face in teaching PE, their access to outdoor and indoor facilities, whether staff absenteeism affected PE teaching, whether there was staff support for PE teaching and which movement activities they employed during PE. Open-ended questions were then used to probe and allow teachers to discuss in more depth their perceptions of the relevance of their pre-service and in-service PE training, their experience of teaching PE in low-resource schools, their thoughts on the CAPS Life Skills PE learning outcomes, and their recommendations on what is needed to improve the teaching of PE. Exploratory questions also included what was taught during PE sessions, whether the activities differed for boys and girls (and why), and what observations and assessment took place during PE. Opportunities were provided to teachers to add anything to the discussion that they believed was important to share.

All interviews were conducted by the primary researcher. Interviews were recorded with a digital audio recorder and were transcribed verbatim. The data collection process was repeated with teachers until no new information was being shared by teachers. During the data collection process, the researcher created memos of her experiences after each session and also whilst transcribing and reading through the data. Memos are important within qualitative research as they help the researcher keep track of their reflective thoughts, any major events that may influence the findings, ideas about possible codes and themes, conceptualising the data, and keeping note of important quotes (Razaghi *et al.*, 2020).

Analysis of data

Only the primary researcher coded data. Braun and Clarke's six-step thematic analysis (Clarke *et al.*, 2015) was used to analyse the data gathered and to derive themes and categories. At first, 55 holistic codes presented during the first cycle of coding, in which attribute, descriptive,

[4] After apartheid, to save costs and to restructure education, teacher training colleges for diploma qualifications were "closed" in the 1990s, by either being reabsorbed into universities or becoming high schools, community colleges or provincial training centres (Chisholm, 2009).

process, values, emotion, versus and In-Vivo codes were used to analyse the data (Saldaña, 2015). These codes were refined as transcripts were reread and the researcher's memos were reflected on. During the second-cycle coding phase, findings were collated into categories and then themes, with a focus on finding relationships between codes, categories and themes. Initially 13 categories presented. After numerous refinements, where the researcher reflected on the confirmability audit (Loh, 2013) with two independent coders, and with one specialist in the field of PE (someone who has a honours or degree focused only on PE specialisation), the final themes and categories were established.

Measures to ensure trustworthiness

A confirmability audit, as recommended in Guba (1981), Krefting (1991) and Loh (2013), between the researcher and two independent coders, was employed to assess the degree of uniformity between our findings, which served to establish and confirm the truth, neutrality and consistency value of our findings. According to Krefting (1991), if research findings have high truth value, then a group or individuals that are from the original sample, or a different group or individuals that share that experience, would immediately recognise the descriptions within the findings presented. At a workshop presented by the researcher with a different group of Foundation Phase teachers from the same schools in the same community settings, the themes and categories that emerged in this study were discussed[5]. In this way the truth value of the findings was ascertained. To enhance the truth, applicability, consistency and neutrality of the findings, the researcher engaged in reflexivity (Meyer & Willis, 2019), by using a reflexive journal and memos. Critical friends in the field of qualitative research were consulted to help with identifying biases in thinking. These measures to ensure trustworthiness helped the researcher as a white middle-income female researcher in the field of qualitative data collection and analysis to enrich and deepen her understanding, aiding in interpretation of the findings and the analytical insights gathered.

Ethical considerations

Ethics clearance for the research was obtained from the relevant university authorities (H14-HEA-HMS-015). Permission to conduct the study was also obtained from the Eastern Cape Department of Education. Principals gave permission to conduct the study at their respective schools. Foundation Phase teachers that volunteered to participate gave informed consent after they were provided with an in-depth explanation of the nature of the interview and the reason for conducting the interview. Ethical requirements associated with qualitative research studies were upheld, and they included guidelines related to non-maleficence, justice, beneficence and anonymity (Miller *et al.*, 2012).

FINDINGS AND DISCUSSION

Three broad themes were identified, namely personal and systemic barriers to PE, as well as positive responses to these barriers. There is a significant overlap between themes, which

[5] This study was part of a two-phase research project (Kahts-Kramer, 2021). All teachers who took part in the semi-structured interviews were invited to review the findings. In addition, any other Foundation Phase teacher that may have been interested in Phase Two of this study, were included in this workshop session. The "different" group of Foundation Phase teachers reflecting on the findings included the original sample and other Foundation Phase teachers.

highlights the complexity of teachers' experiences of PE. The positive responses of the teachers emphasise that they possess the creativity and the advocacy to overcome the barriers. However, because teachers tend to work in isolation limited sharing of their ideas and challenging their colleagues perceptions regarding the barriers to PE, takes place. Transformative learning opportunities are therefore restricted due to lack of collaboration between colleagues.

What follows are details of the sub-themes and associated subcategories that were identified. These are discussed in relation to relevant literature. The relevant implications of the findings for CPTD are then shared.

Theme 1: Personal barriers to teaching PE

This theme reflects (a) teachers' mostly negative self-beliefs about their physical ability to teach PE, (b) their low self-efficacy regarding their knowledge and competency to teach PE, and (c) their low regard for PE as a subject. This theme is not a reflection of the influence of the low-resource school context within disadvantaged communities on teachers' abilities to teach PE. Instead, it explains the experiences of those working within these school contexts and the possible influence of teachers' generalist status on their abilities to teach. Low-resource schools cannot afford to employ specialists (Burnett, 2021), making pertinent CPTD that develops the capacity of teachers in this regard.

Sub-theme 1.1: Lack of self-efficacy to teach PE

The teachers' lack of self-efficacy to teach PE is due to their low physical self-concept and their generalist teacher status.

Subcategory 1.1.1: Low physical self-concept

The teachers expressed their lack of belief in their ability to perform well as a PE teacher, since they do not have confidence in their own physical ability or in that of their older colleagues:

> I mean I look like an idiot outside trying to straighten my leg and it can't. You know what I am saying? It is not a case of that we don't want to do it. Like I said, the ladies in Grade 1 and 2, and not only them, they're old. Imagine them jumping and showing. I mean you have to demonstrate to the kids what they must do. So, it is not that we don't want to. It is just I feel it will be more of an advantage to them [the learners] if we could have a PT [physical trainer]. (Q1)

Physical self-concept refers to individuals' perceptions about their physical appearance and/or ability (Shavelson *et al.*, 1976). Research shows that individuals that experience social appearance anxiety fear being humiliated or negatively judged by others, and they consequently avoid activities that they perceive may lead to these negative experiences (Sabiston *et al.*, 2014). Research on older adults has established that physical self-concept is a strong mediator of participation in exercise and health-related quality-of-life activities (Hsu & Lu, 2018). The teachers in this study would need to be given an opportunity to have their perceptions of their physical self-concept challenged (in other words, their meaning schemes and perspectives). Not being able to perform a movement perfectly within PE does not mean there are not alternative ways to support learning (such as illustrating a video of the correct movement or asking a learner who is proficient to exhibit the movement). Being older does not necessarily equate to being unfit and incapable of presenting PE.

Subcategory 1.1.2: Generalist teacher status and low PE self-efficacy

Being generalist teachers negatively impacts on the teachers' self-efficacy to complete their work competently, as they clearly feel poorly trained to meet their PE teaching role. Participant Y2, who completed a degree qualification, emphasised that:

> In our first year was Creative Movement. They [the lecturers] did not really focus on Physical Education [or] any type of sport. But in Life Skills we have to cater for Physical Education as well, because it is worked into our timetable. When I started, I did not know what ball games are. (Y2)

The degree teachers in this study only completed low-credit modules embedded within their degrees, at low National Qualification Framework (NQF)[6] levels (ETA College, 2019; Nelson Mandela University, 2019). Teachers are expected to implement PE at schools, yet they do not receive specialised training (Stroebel *et al.*, 2017).

The teachers' pre-service training for those who went to colleges, furthermore, did not accommodate for the nature of low-resource school contexts:

> It is not easy for us to implement the training that we got from the colleges, as we were trained for facilities which are well developed. It [the training] never accommodated the nature of our schools. That is the disadvantage. (V2)

The lack of context-specific pre-service training is a concern confirmed by Zinn *et al.* (2014), who found that Foundation Phase teacher education programmes in Gqeberha mainly prepared teachers to work in well-resourced contexts. For example, teachers PCK is not developed for low-resource school contexts that lack equipment, have poor infrastructure and limited access to sports fields and courts, and do not have indoor facilities (such as a gymnasium). The weather conditions (severe heat, rain and/or cold) means teachers cannot do PE outside and therefore need to learn how to adapt their PE teaching accordingly to inside classroom environments (with chairs and desks). The type of PE being implemented therefore needs to constantly adapt and change based on the infrastructure and equipment available, the weather and the safety within the community.

When discussing in-service PE training, the participants in this study complained that the training provided is generally not effective. The training programmes are mostly short workshops conducted by outside facilitators, didactic in nature, and they lack continuing support: "Teachers are so *gatvol* [tired] of going to workshops, just listening and coming back in here and not attending follow-up workshops. It is just a waste of time" (Q2). With such poor training, according to the teachers, having a PE specialist who is qualified would be "more of an advantage to the child, because [teachers are] stressing about all the other things" (Q1). Similarly, participant Q2 asked: "Why don't they just send in specialist teachers to do it?"

The participants in this study were aware of their need for "more instruction on how to do it [PE], how to put it into practice, [how to] organise, putting them [the learners] into groups, [and] how to lay out, how to set out, how much time is given there, [and the need for] more specific information" (U3). The training provided by the Department of Education is

[6] The NQF is "a comprehensive system, approved by the Minister of Higher Education and Training, for the classification, registration and publication of articulated and quality-assured national qualifications and part-qualifications" (SAQA, 2018).

ineffective: "They just give you the book. The curriculum says you must do this and the other, but there is not enough information. Take me through a course first" (Q2). The ineffectiveness of in-service training workshops is confirmed in the literature (Dixon *et al.*, 2014).

In conclusion, and based on the teachers' generalist status and their inability to become specialists due to the lack of pre- and in-service training provided, the teachers were not developing confidence in their PCK for their school contexts. To increase their self-efficacy beliefs about teaching PE, a CPTD programme would need to challenge them to change their meaning schemes and perspectives. It would also need to be closely linked to the context in which they have to teach, so that they can think critically about how to overcome barriers linked to the lack of resources.

Sub-theme 1.2: Low regard for PE as a subject

PE is not a subject within the South African curriculum, and instead a study area embedded within Life Skills. This is problematic as PE is a specialist subject, and should be viewed as such. The participants generally expressed negative attitudes towards teaching PE, linked to the belief that it is not important in the curriculum: "The feelings of some of the teachers [are that] this PE is such a waste of time. It is just an extra thing, [and so] not all of us concentrate on that" (Y1). The participants also believed that "physical education is not all that important, [stating that] it always comes last" (Q2).

Another participant shared how her attitude towards PE changed, as she perceived that the necessary support structures were not in place for her to pursue it:

> I had a strong love for Physical Education, and I put everything in it. But I was very disappointed to find out that I could not go any further with it, because they [the educational institutions] did not have the course here [in Gqeberha] on it. (R3)

The teachers' negative perceptions of PE can be attributed to the low priority of PE in the curriculum, which both local and international researchers have confirmed (UNESCO & North Western Counties Physical Education Association (UK), 2014; Stroebel *et al.*, 2016). Teachers would need to be provided with an opportunity to explore and unpack their values, beliefs, assumptions and attitudes regarding PE by engaging in critical reflection, dialogue with others and problem solving (Mezirow & Taylor, 2011).

Theme 2: Systemic barriers to teaching PE

This theme captures participants' concerns about the lack of a supportive environment in which to teach PE, especially when considering issues such as policy pertaining to the subject of PE, infrastructure and equipment, class sizes, learner characteristics, parental support, and safety and security.

Sub-theme 2.1: Policy concerns

Curriculum policy changes have clearly influenced the implementation of PE by teachers:

> Not a lot of focus is put on this [PE], because we have other things. I mean English, Afrikaans and Maths are our main subjects. They [the learners] have to pass those subjects. You can't fail Phys Ed. These things [PE] must be taught, so we will just do them quickly. (Q1)

The curriculum changes have also resulted in teachers' workloads being "difficult" (Q1) and "stressful" (U1, Y3), and in teachers and learners that "cannot cope, [as] it's just too much"

(Y1). The teachers confessed that to achieve the learning outcomes of the priority subjects, they "steal time, [they] take the Phys Ed time [to] do other assessments", and that although they know that they are "supposed to go out twice a week", "the time is not there to go out" (Z2), so they do not. Teachers also shared that:

> The CAPS document is too much writing. The subject advisors want something written. The department also wants. We got two schedules. The department don't want this stuff [PE]. They only want the way how to teach certain things [Maths and languages]. (W3)

Although the teachers confessed that they "heard at one stage the Department of Education is going to bring back what we had in previous years", and that they "must be able to do the Phys Ed with the kids", the current policy has left teachers feeling "more mad that they took it away in the first place" (Q2). The participants were aware of how the changes have affected their learners: "I don't think the children today get what the children got in the olden days" (Z3). This shows that, overall, the curriculum changes have had a negative effect on the participants and their learners.

At present, academic performance versus PE is the focus (Burnett, 2021), and subjects that contribute to children's holistic development, such as PE, are falling by the wayside due to curriculum changes (Sundaresan *et al.*, 2017). Transformation of PE within the curriculum has been scrutinised by researchers (Stroebel *et al*., 2016), who have called for PE to be a stand-alone subject with adequate teaching training opportunities. At present, the densely packed curriculum (Dixon *et al*., 2018) has resulted in teachers having to fill various roles, creating heavy teaching workloads for them: "We need to be everything. Where is the librarian? Where's the nurse? We are the school nurses. Where are the social workers? It is just too much" (U2).

CPTD should aim to empower teachers to challenge the changes to the curriculum and the accompanying stress that they bring (Govender, 2018). Within a transformative learning framework, critical discussion on such issues could support changes in teachers' meaning schemes and perspectives towards PE.

Sub-theme 2.2: School and environmental barriers

Teachers' PE implementation is affected by their experiences and perceptions regarding infrastructure and equipment, class sizes and learner characteristics, the social context surrounding the school, and the level of community support from parents.

Subcategory 2.2.1: Insufficient infrastructure and equipment

The teachers were aware of infrastructure and equipment shortages, and they shared that:

> [i]f it is raining, are you going to do outdoor exercises? No. Is the indoor allowing you to do what you are supposed to do? No. We don't even have the apparatus. If we are going to, for instance, play catch and throw, where are we going to get the balls from? We don't have. If we are going to play, for instance, netball, simple things, because netball is falling also on Phys Ed, we don't have a playground to do that. If we going to do balancing, we don't have the facilities. The [lack of] facilities are the barriers to the implementation of the Phys Ed. (V2)

Other teachers shared that their school is "built like a shack, [with poor] drainage", and that they have school grounds that are conducive to children getting hurt when they fall: "If children

run outside and fall, it is just blood" (R1). Furthermore, it is not easy for schools in historically disadvantaged areas (Quintile One to Three schools) to find the necessary funding when compared to former Model C schools (Quintile Four and Five schools). Although participant S1's response relates to human resources, it highlights the disparity in funding: "Those Model C schools they have coaches. They hire coaches. They can pay for them. What about us? Because we can't".

Lack of PE equipment and infrastructure has consistently been the subject of discussion in research for over a decade (DuToit *et al.*, 2007). The poor infrastructure at Eastern Cape schools has been attributed to ineffective service delivery by the Eastern Cape Department of Basic Education, resulting in some schools being "the worst-affected in terms of using inappropriate material", due to a "lack of basic services" (Phakathi, 2018). Furthermore, the divide between rich schools and poor schools persists, with not all schools being able to provide learners with good-quality education (Veriava, 2012). CPTD training would need to include elements of autonomy and agency, so teachers can transform their low-resource school contexts, especially when the focus is on achieving quality PE in schools (Stroebel *et al.*, 2019b). Transformative learning opportunities includes empowering individuals to realise they have a voice and a choice regarding the changes they would like to see within their community settings. Taking on new roles and responsibilities and acquiring the necessary knowledge and skills to achieve planned outcomes, is part of the transformative learning steps towards change (Kitchenham, 2008).

Subcategory 2.2: Large class sizes

Large class sizes was identified as another serious barrier to teaching PE. Participant Z3, for example, observed that "to take out that 40 or more learners, it is difficult. If you take the little ones outside, they are all over the place. The groups are big, and discipline needs to be maintained". In this regard, participant Z3 felt that teachers have not been trained to design PE lessons for large classes, and that the training should include "time management and type[s] of activities that does not take a lot of preparation to implement, [or] equipment, to take out with that 40 or more learners".

The current reality of schooling in South Africa is that most teachers have large classes to manage (Marais, 2016). This affects the quality of teaching and learning. The negative effect of such large class sizes on PE has been confirmed by research (Gross & Buchanan, 2015). Discipline problems, "off-task" behaviour, lack of one-on-one instruction, equipment shortages and lack of administrative support when managing large classes are common barriers to teaching PE (Gross & Buchanan, 2015). How to effectively deal with large classes would need to be included in teachers' CPTD.

Subcategory 2.3: Teachers' perception of learners' barriers to learning

The participating teachers stated that the violence that many children are exposed to in their poor communities tends to be acted out in their interactions with their peers:

> The people are poor. There is gangsterism. There is a lot of violence. And when you outside with them you can see that they experience and see a lot of violent acts in their community. You can see how they interact with one another when they are outside. The fighting and the pushing. So that is where the discipline comes in. Like before you can actually start with your lesson, you spend a lot of time just disciplining them. (Q2)

The areas in which this study was conducted are referred to as "crime hotspots within the Eastern Cape Province, with a high incidence of gang violence, hijacking and robbery" (Nelson Mandela Bay Municipality, 2017:49). Lack of discipline in South African schools due to the violence learners witness and experience in their own communities is a concern and has been found to be a barrier to learning (Baruth & Mokoena, 2016).

The teachers also noted that many learners suffer from foetal alcohol syndrome (FAS), and consequently from "many physical problems that affect physical education" and that "if you take them out, there is problems" (Z3). Regarding children with FAS, the participants shared that they find it difficult to encourage them to participate in lessons: "They can't sit like this. Their posture is not good" (U2), and "They don't even want to hop. They don't want to jump. They will stand there and look at me like that" (Y3). Ellis (2016) reports that some of the highest rates of FAS are found in Gqeberha, which validates participants' claims.

The participating teachers also mentioned that learners are not fluent in the language of teaching and learning (English), which makes communication difficult in PE, as in other subjects: "You want to reach everybody, and you want everybody to understand you. The message is not always clear to those isiXhosa children, also the Coloured Afrikaans-speaking children" (Q2). With having to cater for non-English-speaking learners as well, participant X1 felt that she is "always behind", as "learners they are very slow". Participant U2 emphasised that the Department of Basic Education (DBE) does not understand what teachers in low-resource schools and disadvantaged communities go through. She could not understand how the DBE can ask "Why is the pass rate so low?", and she shared that "a public school can't be compared to Model C schools. It is a whole different story. It's difficult".

CPTD would need to support teachers by providing them with an opportunity to explore how they can include normally developing learners and differently abled learners (such as FAS learners), learners that have discipline problems, learners that speak different languages, and learners that may have learning problems, as part of inclusive education (Loftus & Block, 2013; Roth *et al.,* 2017; Orr *et al*., 2018). This is important as part of transformative learning means challenging teachers' meaning schemes and perspectives regarding differently-abled learners.

Subcategory 2.4: Lack of parental support

Several participants referred to the indirect effect the lack of parental support has on education, let alone PE implementation:

> Children come to school with empty stomachs. There is no proper care at home. He is not given that chance of being a child. Some are heading houses. At times you feel sorry for them. No one is preparing their clothes. The socio-economic factors are playing a role in their lives. They have a bad effect. (Y2)

South Africa has implemented a National School Nutrition Programme to alleviate short-term hunger among children and to entice them to attend school (Devereux *et al.*, 2018). Child-headed households are, sadly, a common characteristic of the Eastern Cape. Lack of parental support is often cited as a barrier to quality education by Foundation Phase teachers (Neethling, 2015). This lack of parental support affects teachers' workload for teaching academic subjects, as they have the added responsibility of having to attend to the personal problems of the learners:

> You must start from scratch when you are teaching. You don't just jump to Maths. You're supposed to start first with the Life Orientation [This teacher was originally from the Senior Phase, and therefore discussed Life Orientation versus Life Skills[7]]. The granny is old, and the mother is still outside, looking for another baby [in otherwords, to fall pregnant again, instead of looking after her current child]. Parents don't look after their children. (X2)

With the time available for teaching academic subjects encroached upon by teachers having to address social issues, the time for teaching PE is also negatively affected. Furthermore, if teachers do not perceive the benefits of PE for learners that live in poverty, which have been proven by research, then the likelihood will be low that teachers will use PE to buffer the effect that the low socio-economic status of the community has on their learners.

Subcategory 2.5: Lack of safety and security

The data clearly indicate teachers' awareness of the effect of the immediate social environment on their teaching of PE. They reported that "with the shooting and stuff, we can't do the Physical Ed. outside" (U3), "[i]t is not safe to go outside, because the *tsotsi's* [gangsters] are moving around" (S1), and "[t]here is a lot of shooting, so some of the parents won't allow their children to play outside" (U1). Chirume (2018) and the African News Agency (2019) report indicate that violence and gangsterism are common barriers faced by communities in historically disadvantaged areas in Gqeberha. Teachers would therefore need to know how to accommodate for the effects of violence on their learners within their CPTD.

Theme 3: Positive responses to barriers

Teachers experience of PE in low-resource schools within disadvantaged communities were also positive. Despite the overwhelming barriers reported by the teachers, they manage to implement some form of PE in their low-resource school contexts. Unfortunately, teachers believed that "you do it [your PE teaching] your way, and I'll do it my way" (Y1), and this perception negatively affected their collegial engagements. Although the participants voiced the need to collaborate more with other teachers so that they could "all [be] working from the same page and level it [PE] should be" (U3), this rarely happened. According to Elliot and Campbell (2015), a culture of isolation is often experienced in the teaching profession, which is not conducive to the pursuit of lifelong learning. From a transformative learning perspective, collaboration is key to challenging and changing meaning schemes and perspectives (Kitchenham, 2008). Within PE, when teachers do not work together, they do not have the opportunity to collaborate and share ideas, engage in dialogue, critically reflect on their thoughts, and problem solve their barriers to PE. In this section, we therefore share what positive perceptions and actions teachers were engaging in, highlighting the importance of CPTD that encompasses transformative learning and collaboration, since clearly there are solutions to PE barriers.

From a belief point of view (and thus meaning scheme and perspective), teachers motivated themselves to implement PE as they believed PE was "taking their [learners'] minds off gangsterism and drugs" (Q2). Furthermore: "By taking them outside, it [Physical Education] has that ability. They [the children] become one. So it is good to go outside, then. It gives them the opportunity to forget about their home" (V3). Participation in PE and/or sport has been

[7] Within the South African curriculum, Grades R to Six include Life Skills (with PE being a component thereof). Grades Seven to Twelve include Life Orientation (with PE being a component thereof) (Department of Education, 2001).

found to help learners to socialise and to divert learners from negative social behaviour, such as violence, in school settings (Mandigo *et al*., 2016).

The pro-academic benefits of PE also motivated teachers to implement PE: "Their movement abilities they learn in PE and what they do in PE is transferred over into the classroom. It [PE] gives the brain exercise. It gives the brain oxygen. Outside they are getting fresh air and sun" (Z1). PE improves the academic performance (Gall *et al*., 2018) and school readiness (Erasmus et al., 2016) of children from communities with a low socio-economic status.

Teachers recognised the general health and psychological benefits of PE: "A healthy body equals a healthy mind, because when they come outside you could see they've got that vigour" (V2). A reduction in cardiovascular risk factors (Müller *et al*., 2019), and improved cardiovascular fitness (Brusseau *et al*., 2016) have been demonstrated in research on children living in poverty who engage in physical exercise. The participants were therefore aware of the numerous benefits PE has to offer, especially regarding their learners' physical development:

> I think PE in the Foundation Phase is very important for the child to develop skills, these fine motor skills. Because I still find these children are very unstable, unbalanced. So if you practise maybe once a week or so, catching a ball, eye–hand coordination, that everything helps with all those, like when they come to school for all that preparation before they can go to the real things [sport]. (T3)

When considering teachers positive actions (and thus ideas they could share with their fellow colleagues on how to overcome the perceived barriers to PE as part of transformative learning), the teachers overcame equipment shortages by making their own equipment: "If you don't have something, you try and make something [using] recycled equipment. We make it ourselves" (Y1). Ebersöhn (2014:568) found that teachers in low-resource school contexts and poverty-prone areas in South Africa adapt what resources they have to the context they find themselves in, particularly when the teacher has "traits such as compassion, creativity, optimism and especially flocking [networking] to access and use scarce protective resources". Solutions by PE teachers for resource constraints have also included "[n]ew games with minimal equipment and set-up time, simple non-equipment based DPA [daily physical activity] activities, and more indoor DPA for the classroom" (Martin & Murtagh, 2015:20). To overcome equipment shortages, the teachers in this study stated that they also used group work: "Equipment is divided according to the groups. Children will share" (U1). Dividing learners into groups to share equipment and to manage discipline with large class sizes is a proven tactic shown to help with implementing PE (Gross & Buchanan, 2015).

The teachers employed creative time management strategies by firstly being aware of how their time schedule affects them, and then choosing a time during the day that will set them up best for success: "I tried to fit it in after second break, but then I got bogged up with the work. So I do Phys Ed in the mornings instead" (Y2). Time management skills are important for any teaching professional (Khan *et al*., 2016), and incorporation thereof in PE teaching is therefore not surprising. Other forms of time management suggested by PE teachers have included reducing curriculum expectations for other subjects and implementing a whole-school programme (Martin & Murtagh, 2015). The latter ensures that PE becomes less of a burden, as everyone is involved at the same time, which creates school spirit and a sense of community.

The teachers shared that they adapt PE for differently abled learners, by not "forcing a learner to do something, rather [giving] them something else, not being so aggressive" (Z2). As part of the Quality Physical Education guidelines suggested by UNESCO (2015:8), PE is meant to be accessible, and so the following must be ensured:

> Provision of facilities, equipment, curriculum, and pedagogy, which is available to the entire student population including persons with disabilities, girls, or those with specific cultural/religious requirements, and where appropriate is modified or adapted to meet specific needs. Located in a safe environment free from threat and danger, regularly serviced, fully functioning and fit for purpose.

Some teachers included "physical education in the classroom" (U1), especially when it rains or there is gun violence in the neighbourhood. Integrating PE with other subjects (such as Maths and English) in the classroom environment and within an interdisciplinary curriculum model in PE, is not a foreign concept. Teachers can employ this approach to support their educational outcomes in the classroom setting, for example integrating Maths with movement activities (Lohren, 2017), resulting in learners increasing their physical activity levels throughout the day (Martin & Murtagh, 2015), regardless of violence in the community. Exploring indoor PE with teachers is a viable creative alternative to outdoor activities if it is dangerous to go outside and/or to support learners with their development. Even though the classroom activity is for education purposes (versus a gymnasium dedicated to physical activity endeavours), teachers can explore some movement activities which will help their learners stay active. This may not be sports-based (as it is in a classroom with desks) but instead can include creative alternatives (such as desk-based stepping up-and-down activities to music).

Creative activities were also implemented by the teachers in this study in their classroom time to improve PE discipline before going outside: "Because it takes a while to get out of class… due to discipline problems. So, what I will do is, I normally tell them to stretch out, 'stretch out your arms'. We do breathing exercises before we go outside" (T2). There are many teaching approaches that can be used to achieve success in PE lessons. Preparing learners for the lesson through appropriate warm-up sessions is one such method, as it "sets the tone for the rest of the lesson", and it "can shape a class into a well-behaved group" (Beighle & Pangrazi, 2019:85).

Checking on the Internet when not knowing what to do in PE is another resourceful activity implemented by the participants in this study: "I googled. You can get a lot of ideas. You don't have to sit there with your hands folded and say 'I don't know what to do'" (Y2). This action is a form of self-directed learning (Elliot & Campbell, 2015) through using online resources (Tindall & Enright, 2013:110).

While international research exists on teacher-based solutions to the PE barriers that teachers face daily (Strampel *et al.*, 2014; Weatherson *et al.*, 2017), the findings need to be extended to low-resource schools, especially in the Eastern Cape (South African) context. Furthermore, although teachers have many ideas on how to overcome barriers to PE, these are not being shared with colleagues, indicating that more collaborative CPTD is needed if transformative learning is to take place.

THE IMPLICATIONS OF THE FINDINGS FOR CPTD

Foundation Phase teachers in this study demonstrated that they can come up with creative ideas to improve the quality of PE teaching in their low-resource school contexts. However, this was overshadowed by teachers' personal and systemic barriers to PE, and their lack of collaboration due to their perceptions of PE. CPTD would need to consider these barriers to PE teaching by including teachers in their CPTD programming and challenging their meaning schemes and perspectives regarding the barriers to PE. It would also need to empower them to be advocates for change within their teaching context when the situation seems hopeless.

The findings show that teachers' perceptions regarding their self-efficacy and their attitude towards PE affect their PE teaching and collegial engagements negatively. Some teachers in this study mentioned that they believe they are incapable of teaching PE due to their lack of physical ability, their old age and/or their poor pre- and in-service training for their low-resource school contexts. Teachers also viewed PE as a waste of time, and as not contributing to children's academic development, which negates collaborative engagements with their colleagues to discuss how PE can be taught at their school. Without addressing these dependency-producing assumptions or distorted meaning schemes and perspectives (Mezirow, 2000) in CPTD, PE teaching will not transpire in low-resource schools within disadvantage communities.

Many of the values, perceptions, attitudes and beliefs regarding the barriers to PE presented by teachers in this study can be transformed and/or challenged in CPTD. Research indicates that older individuals' perceptions regarding their ability to participate in movement activities can improve (French *et al.*, 2014). PE teachers' beliefs about their PE teaching ability have also been shown to improve with appropriate CPTD (Sum *et al.*, 2018; Makopoulou *et al.*, 2019). Research shows that PE is not a waste of time, and that, instead, it positively contributes to children's holistic development (Weiss, 2011; Zach *et al.*, 2017), thus contradicting the perceptions of teachers in this study of the irrelevance of PE in the curriculum. Visagie (2016) highlighted the need for CPTD-based research that provides teachers with an opportunity to identify the benefits of PE to their learners. In her study the coaches implementing PE needed to know the benefits of PE before they were willing to implement it. CPTD should therefore provide Foundation Phase teachers with transformative learning experiences to challenge their negative perception of PE, highlighting the positives.

The findings regarding the systemic barriers to PE also have important implications for CPTD. One of these implications is the need to acknowledge the effect that policy and the learning environment have, not only on PE teaching, but teachers' well-being, and ultimately their learners' educational outcomes. Roux (2020) attests to the difficulty that teachers in low-resource schools have in implementing PE. Advocacy for change will be needed from teachers when circumstances are not conducive to learning and instead hindering children's growth.

In this study, teachers reported facing policy shortcomings, equipment and infrastructure constraints, large class sizes, difficulty with accommodating differently abled learners, a lack of parental support, and unsafe teaching environments. CPTD needs to account for this complex learning environment, and how to change it for the positive. Govender (2018:S1) supports this notion, by sharing that: "a new and integrated framework [of CPTD], offering much-needed effective, systematic, ongoing professional development programmes that translate into

improved teaching practice and learning success [is needed]". By an integrated framework, the author means that CPTD should provide teachers with an opportunity to practically apply curriculum change in their classroom practice, and to continuously collaborate with key stakeholders. It should also take into consideration the changes that have to happen in the school system "to support, guide, monitor and develop teachers in ways that enable them to succeed in implementing change initiatives and improving learning" (Govender, 2018:S9).

A collaborative and transformative CPTD model is a promising approach that can provide Foundation Phase teachers with the opportunity to explore their systemic barriers to PE, to challenge their personal barriers and beliefs and to change their situations for the better. Research has shown that generalist PE teachers' understanding of PE implementation can be improved by forming communities of practice (Nash, 2009; Dyson *et al.*, 2016). In such groups, negative attitudes can be changed by discussing with others "the struggles of new teachers, the challenges of learning a new curriculum and how to communicate effectively" (Martin *et al.*, 2009:516). Thereby, the systemic barriers and struggles that teachers in this study face can be resolved. Participatory forms of learning between teachers can also result in (1) resolving many of the barriers to education in low-resource school communities, (2) providing a platform for empowerment and advocacy, and (3) providing teachers with a voice to share their grievances and their hopes (Zuber-Skerritt, 2011; Kennedy, 2014; Wood, 2020).

LIMITATIONS

The findings are applicable to the teachers interviewed in a given context and at a given time of the year. There could have been miscommunication between the teachers and the researcher, and the researcher's interpretation of the responses could have been subjective. Second-language communication could have affected the researcher's interpretation of the results. Nonetheless, measures were taken to ensure that teachers' voices were represented in this study.

CONCLUSION

The exploration of teachers' experiences of PE in low-resource schools within disadvantaged communities revealed that teachers face numerous personal and systemic barriers to PE, which highlights the complexity of implementing quality education in low-resource schools generally, and particularly in PE. Regardless of the many barriers that exist, the positive responses show that teachers do show creativity in overcoming many of the barriers they face. Unfortunately, opportunities to challenge negative beliefs about personal and systemic barriers are limited, as teachers work in isolation when it comes to PE teaching. Interpreting the findings from a transformative learning theory perspective, it was established that a transformative and collaborative CPTD model may be a promising approach to help Foundation Phase teachers overcome their personal and systemic barriers to PE, and to optimise sharing of their positive responses. A transformative and collaborative approach to CPTD would provide contextually based and needs-driven CPTD learning opportunities and would position teachers as the main protagonists in their own learning, helping them challenge their perceptions of the barriers to PE in low-resource schools in disadvantaged communities. Future research should explore the use of a transformative and collaborative CPTD approach to support transforming PE in low-resource schools within disadvantaged communities.

Conflict of interest

There are no conflicts of interest to report in this study.

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