

Early career teachers' perceptions of the effectiveness of pre-service teacher training for real-world Physical Education settings

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Abstract

The induction into a real-world Physical Education (PE) setting can be challenging for beginner and early career PE teachers, and could either be detrimental or enriching to the teachers' careers. This study investigated early career PE teachers' perceptions of the effectiveness of their pre-service teacher training regarding unique challenges of PE teaching. Guided by the Self-determination Theory (SDT) and using convenience and purposive sampling, qualitative data were collected by means of open-ended questionnaires and a focus group interview. Eight teachers who had recently graduated with a major in PE at the North-West University in South Africa, completed an online questionnaire and four of these early career teachers participated online in a semi-structured focus group interview. Data analysis revealed the following themes: *Practical teaching challenges*, which entailed obstacles such as high teacher-to-learner ratios and learner discipline and motivation. *Positive experiences* that pointed to positive experiences of teaching PE, including learners' enjoyment of the PE classes, and applying what had been learnt during their teacher training. *Perceptions of and recommendations for PE teacher training* included recommendations from the participants about PE pre-service teacher training. From the findings it was concluded that, although some participants perceived their pre-service teacher training as sufficient, the majority felt that the training could be improved in view of the "real-world" challenges they faced. Based on the findings, the following were recommended: training PE teachers how to improvise by crafting their own equipment using recycled materials, imparting strategies for managing both substantial class sizes and constrained spaces, fostering school-wide PE promotion, formulating learner-specific motivation-enhancing support strategies, and advocating exposure to schools with diverse socio-economic profiles. Overall, this study shows that PE pre-service programs should incorporate various aspects aimed at preparing teachers for the various challenges that they may experience in their first years in practice.

Keywords: Physical Education, teacher training, induction, early career teacher, perceptions.

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Introduction

Physical Education (PE) plays a pivotal role in learners' lives as it contributes to their physical health as well as other aspects like cognitive, social, and emotional development (Zeng *et al.*, 2017). PE is therefore an important subject that should be presented by well-trained teachers (Stroebe *et al.*, 2016), either through effective pre-service or in-service PE teacher training. In this regard, the effectiveness of pre-service PE teacher training refers to the extent to which programmes designed to prepare education students for a career in PE teaching, are successful in equipping them with the necessary knowledge, skills, and competencies to become effective teachers (Kabaran & Altıntaş, 2022; Legrain *et al.*, 2019). In addition, an effective pre-service teacher training programme provides PE teachers with the skills of planning for, managing and solving problems to deal with difficult situations they may encounter in the school (Kabaran & Altıntaş, 2022; Legrain *et al.*, 2019).

There are numerous challenges that even well-trained teachers encounter such as unfairness in the running of and proceedings at schools, lack of teaching material, unfavourable teaching conditions and psychological impacts (Moumezie, 2018). For instance, in the South African national curriculum, PE constitutes only one part of the Life Skills learning area in the Intermediate Phase (Grades 4-6) and one of six topics in the Senior (Grades 7-9) and Further Education and Training (FET) Phases (Grades 10-12) (SADBE, 2011). The findings of several studies indicate that some of the problems in teaching PE in South Africa, stem from the resulting relatively low status of PE due to it not being a stand-alone subject (Du Toit, 2019; Stroebe *et al.*, 2019; Van der Westhuizen *et al.*, 2021). Furthermore, due to the specific conditions that exist in PE classes (for example, physical demands, PE-specific organisational circumstances, and disciplinary requirements), PE teachers often face obstacles that are unique to the subject field (Mäkelä *et al.*, 2014).

Overcrowded classrooms, for example, are a barrier experienced by most teachers in South Africa where the learner-teacher ratio is often as high as 40:1 as opposed to the recommended 30:1 in primary schools and 35:1 in secondary schools (Motshekga, 2012). However, large class sizes in PE are an even bigger problem, as it is more difficult for teachers to maintain discipline and to see every learner at once in a practical lesson which is often held outdoors (Mustafa *et al.*, 2014). The implementation of effective groupwork, as mentioned in the latter part of this paragraph offers a solution to this problem. Unfavourable teaching conditions also include unsuitable facilities for PE, and research done in all nine provinces in South Africa by Roux (2020) shows that suitable facilities is often lacking for effective delivery of PE in schools. Another pertinent factor is the lack of and inappropriate teaching materials, which could lead to inadequate teaching techniques as well as learners' low-performance outcomes (Shahla & Muhammad, 2014). Various studies have reported these challenges in South African schools

which contribute to the inadequate teaching of PE (Du Toit *et al.*, 2007; Kubayi *et al.*, 2014; Pule *et al.*, 2014). PE teacher training needs to prepare teachers for the roles they need to play in schools, even in unfavourable teaching conditions. PE teachers need to design effective learning tasks in lesson preparation, and also ensure that these tasks develop the learners' ability to perform skills, apply tactics and improve them as well as ascertain that learners enjoy what they are doing (Práxedes *et al.*, 2021). Furthermore, PE teachers in South Africa need to be able to handle large groups of learners by using effective group work and other organisational strategies (Mustafa *et al.*, 2014). Teachers also need to provide appropriate feedback to learners during PE lessons for them to be aware of their learners' shortcomings and improvements, and to plan time spent on task, participation, motivation as well as on skill acquisition (Spittle *et al.*, 2020). In South Africa, research (Stroebe *et al.*, 2016; Stroebe *et al.*, 2019; Van Deventer, 2009) shows that school PE teachers are often not trained or qualified for the job, which leads to poor quality PE delivery in some schools.

PE teacher training, related to the induction of PE teachers, has received increased attention in various countries. Ensign and colleagues (2019) examined the factors that facilitate or impede the development of efficacy among ten newly inducted physical educators who received their degrees from five distinct universities in the United States. Ensign *et al.* reported that the efficacy levels of novice Physical Education (PE) teachers are context specific. However, the presence of significant levels of perceived support, both personally and organisationally, can improve the efficacy of beginner and early career teachers to handle demands both inside and outside the classroom. The authors highlighted the necessity for thorough pre-service training in preparation for the challenges during PE teachers' induction, as well as continued support from the training institute upon employment (Ensign *et al.*, 2019).

Beginner PE teachers in Chile in the study of Torres *et al.* (2020), reported similar perceptions of their teaching efficacy related to the management skills needed to handle the new challenges they faced in their first years of teaching PE. Torres *et al.* concluded that PE pre-service teacher training should include problem solving and management skills related to administrative and technical aspects of PE teaching. Similarly, Gentry *et al.* (2018) reported that beginner PE teachers in the Midwestern USA struggled with the classroom management aspects of their teaching positions, and also that the relationships with their colleagues had either a positive or negative influence on their perceptions of their own teaching effectiveness. Based on the findings of a study among novice PE teachers in Quebec, Canada, Rivard *et al.* (2020) suggested that the most important factor influencing the efficacy and satisfaction of novice PE teachers, is the relationships with colleagues and learners. Von Haaren-Mack *et al.* (2019), in a systematic review of 47 studies regarding sources and moderators of stress among PE

teachers, found that the major stressors in PE teachers' careers are the curriculum, inadequate facilities or equipment, the low status of PE and the discipline of learners. Based on their findings, Von Haaren-Mack *et al.* recommended that PE teachers should receive adequate pre-service training aimed at the awareness of and coping strategies for the main sources of stress among PE teachers, in order to prevent burnout, poor health and absenteeism of teachers at schools.

Studies regarding beginner and early career PE teachers' experiences in South Africa are limited. One study (Van der Westhuizen, 2020), however, investigated the perceptions of in-service PE teachers regarding the challenges that PE teachers face, and the participants suggested that both PE pre-service and in-service teacher training should include strategies regarding class organisation, planning and assessment, and continuing support related to implementation hinderances such as time allocation and large classes. In another study involving in-service training of PE teachers in the North-West Province of South Africa, Zeller *et al.* (2020) concluded that PE teacher training should not only include the concepts associated with PE as a subject, but also pedagogic knowledge and insight to adapt their teaching strategies to the instructional settings in which they find themselves. Another South African study by Stroebel *et al.* (2019) recommended that both pre-service and in-service PE teachers should receive training to manage the challenges of PE, as a component of the Life Orientation learning area.

Theoretical Framework

This study is grounded on the Self-determination Theory (SDT) (Ryan & Deci, 2020), originally developed by Deci and Ryan (2004), which contributes to a better understanding of motivational factors in human behaviour. SDT postulates that an individual's self-determination is affected by the extent to which his or her psychological needs for competence, autonomy, and relatedness are fulfilled or satisfied (Ryan & Deci, 2020). While competence reflects the effectiveness of a person as well as whether a person feels that he or she has sufficient ability, autonomy is the extent to which people feel that they are in control of their behaviour and that they are the originators of that behaviour (Ryan & Deci, 2020). Relatedness is a feeling of belonging or connectedness to others and valuing an activity for its inherent worth (Lauderdale *et al.*, 2015; Ryan & Deci, 2020). If all these needs are met, then they could have a positive impact on an individual's intrinsic motivation to continue with a specific behaviour (Deci & Ryan, 2013; Ryan & Deci, 2020). Framed by SDT (Deci & Ryan, 2012; Ryan & Deci, 2020), PE teachers must have these basic psychological needs satisfied to be intrinsically motivated to teach PE effectively. In the context of PE teaching, intrinsic motivation is thus self-determination which emanates from sources within the self (for example, experiencing enjoyment and satisfaction from teaching PE) rather than sources outside of the self (for example, pressure from other colleagues, head teachers, school principals or parents) and is supposed to lead to more positive cognitive, affective, and behavioural consequences in the PE class (Cox & Ullrich-

French, 2010). Intrinsic motivation also plays a vital role in the way of accepting or doing things by both teachers and learners as well as their emotional engagement in teaching or participating in PE activities (Van den Berghe *et al.*, 2015). It is therefore important to consider the extent to which a PE teacher's pre-service training supports and meets the teacher's psychological needs as this can have a profound effect on his or her intrinsic motivation and self-determination in the early years of teaching (Van den Berghe *et al.*, 2015). This study was carried out to investigate early career PE teachers' perceptions of the effectiveness of their pre-service teacher training to enable them cope with the unique challenges of PE teaching.

Methodology

Research design

A qualitative research design involving an interpretivist paradigm was used to examine early career PE teachers' perceptions of their experiences, and of the extent to which pre-service teacher training prepared them for these experiences.

Participants

The participants were eight female and male early career teachers (within their first three years of teaching PE) who attained a Baccalaureus Educationis (B.Ed.) degree or Post-Graduate Certificate of Education (PGCE) with PE as a major, at the Potchefstroom campus of North-West University (NWU), South Africa. The participants thus represented a purposive and convenience sample, as all the former students who were teaching PE in their first three years in the field (who were also present in the social media [*WhatsApp*] groups usually created for students in their final year of study in the subject), were invited to participate. Participant recruitment based on a question whether they were teaching PE at a school, was placed on active social media (*WhatsApp*) group that had been created in the their final year of PE study. Thereafter, an e-mail was sent by an independent person to the individuals who responded positively to the social media message. The invitation was e-mailed to the participants using the subject group's contact list of previously enrolled students who graduated from the NWU. Individually e-mails were sent to each of the former students, explaining the research study, inviting them to participate, and including a consent form for completion by the teachers who were willing to participate. Participants were included in the study if they were: teachers who had received their PE teacher training at NWU within the previous three years; teachers in their first three years of PE teaching; teaching PE as one of their subjects in the Senior and/or FET-phase; willing to participate in the research project; and sign written informed consent. Participants were excluded if they had not received their PE teacher training at NWU; were not teaching PE as one of their subjects in the Senior and/or FET Phase; and were neither willing to participate in the study nor sign the informed consent .

A total of 17 early career PE teachers confirmed on the social media group that they taught PE at a school and were in their first three years of teaching. All 17 teachers, comprising 10 women and seven men, whose ages ranged between 22 and 28 years, were invited to participate in the study. Of the 17 teachers invited, only eight gave consent and completed the questionnaire anonymously. Four of the 17 teachers also consented to participate in the focus group interview. As the questionnaires were completed anonymously, the characteristics of the eight respondents were not known. However, the characteristics of the four interviewees were divulged during the interviews, and these are presented in Table 1.

Table 1: Characteristics of participants in the focus group interview

Participant number	Gender	Age	School's socio-economic status	Year of teaching PE
1	Female	23	Middle	1 st
2	Female	26	Low to middle	3 rd
3	Male	26	Low	3 rd
4	Male	27	Middle to high	1 st

Data collection methods

Data were collected by means of firstly, online open-ended questionnaires. The open-ended questionnaire was uploaded on the *Question Pro* program. The link to the questionnaire was included in the information letter e-mailed to the participants, so that they were able to read the information regarding the research project and then click on the link to provide informed consent and access the questionnaire. The questionnaire focused on the participants' experiences in teaching PE in the school and the extent to which they perceived their pre-service training to have prepared them adequately to cope with these challenges. Secondly, an online, semi-structured focus-group interview was conducted by means of a *Zoom* application. The findings from the open-ended questionnaires informed the questions in the focus-group interview designed to allow the researcher to have a clear and thorough understanding of the participants' experiences. The focus group interview was concluded when data saturation was reached.

Data analysis

The data from the questionnaires and focus-group transcript were analysed inductively (interpreting raw data to derive concepts, categories and themes), and answers were compared to identify common responses, as well as trends, patterns, categories and themes (Younas *et al.*, 2021).

Trustworthiness

Trustworthiness constitutes the establishment of the credibility, transferability, confirmability, and dependability of the study's findings (Stahl & King, 2020). To enhance the credibility of the study, triangulation was employed by comparing the

data from the questionnaires with those from the focus-group interview. The researchers also used member checking by presenting the identified themes and categories to the participants for validation (Merriam & Grenier, 2019; Taylor *et al.*, 2015). The identified themes and a general report of the themes were presented to participants individually *via* e-mail, as well as during the focus group interview, respectively. Transferability was ascertained by providing thick descriptions of the participants and the research process, and to ensure confirmability and dependability, peer debriefing was conducted by asking an independent qualitative researcher to examine the collected data and to confirm the interpretation thereof (Merriam & Grenier, 2019; Stahl & King, 2020; Taylor *et al.*, 2015).

Ethical clearance

Ethical clearance to conduct this study was obtained from the North-West University's Faculty of Education Research Ethics Committee (EDU-REC) (Ref.: NWU-00261-22-A2). All participants gave informed consent and subsequently completed the questionnaires, participated in the interview in their free time at their homes and were requested not to name any schools in their responses. Pertinent ethical principles and considerations such as anonymity, confidentiality, non-maleficence, and voluntary participation were strictly adhered to throughout the study.

Findings

The main themes identified in the data analysis included practical teaching challenges, positive experiences, and recommendations for PE teacher training.

Practical teaching challenges

Teacher-to-learner ratio

All but one of the participants reported that they had a high ratio of teacher-to-learners in their classes, where the ratio was higher than 1:35.

The participants agreed that, with such great numbers of learners per class, it made it almost impossible to teach PE effectively, as learners easily get disruptive and unsettled. One participant from the interview stated that: *"Forty-one learners in class that have to do PE! and it is difficult as there is no space, and it disrupts the class."*

The participants in the interview all agreed that high teacher-to-learner ratios made class organisation as well as assessment of PE, difficult. A participant from the interview expressed the challenge of large classes as it made it difficult for them to assess or even observe all learners at the same time: *"I have about 40 learners*

in class, and it is a big challenge as it makes it difficult to observe all learners at the same time; plus other learners show no interest."

The problem of large classes was aggravated by another issue – that of insufficient time allocation to PE in the school timetable. Several of the participants and interviewees indicated that the time allocated to PE was inadequate. In most of the participants' schools, the PE period was 30 minutes, and they felt that this was too short to assess learners according to curriculum prescriptions, and also to fit in all the recommended content as prescribed in the CAPS document. Some of them stated as follows: *"There is one period per week, per class.... Each period contains only 30 minutes of PE...."*

"My challenge is to get enough time to do and assess all the physical exercises with the students..."

"...it takes most of the time just for them to do warm-up exercises and then there is no time left for the rest of the presentation."

Another problem related to overcrowded classes and insufficient time allocation, according to several participants, was learner discipline. For instance, two participants in the questionnaires stated: *"Discipline in a big group of students is a big challenge when you only have a certain amount of time."*

"Learners' discipline becomes a concern to PE teachers as learners tend to do as they please while teachers are giving lessons."

Participants in both the questionnaires and interview, related the lack of discipline to learners' motivation to participate in the PE lessons in the following ways: *"The main problem is that learners want to do something else instead of doing PE."*

"...most of the learners find that they can use the PE period as an 'off period' and that means it's hard to get every learner involved in the activity."

Some participants also referred to the role of the learners' socio-economic background, the general approach of the school, and of their parents, in their motivation to participate in PE. Pertinent expressions in this regard included:

"Parents also play a big role in encouraging their kids to participate in PE ..."

"The schooling system has unfortunately decided that the bare minimum of work and practical are needed to pass."

A major barrier evident from the responses in the questionnaires and interviews, was that most schools lack equipment, and sometimes facilities to teach PE with no or limited funds available to buy necessary resources. All the participants agreed that a lack of equipment made it difficult for them to reach the outcomes stipulated in the curriculum. Some stated: *"There is limited number of resources available, and it makes it hard to teach sports in PE if you don't have balls and bats."*

"There is not enough equipment though we have fields."

Most of the participants stated that PE is not well-funded and most of the time, the funds are allocated to “important” subjects. One of the questionnaire participants pointed out that: *“Currently the support of PE is very low, due to insufficient funds for PE equipment.”*

Positive experiences

Learner enjoyment

Three of the participants in the questionnaires and three interviewees mentioned that, even with limited equipment and time, their learners enjoyed the PE lessons, as some of them stated: *“...the learners always enjoyed it.”* *“I am lucky to say that the learners in my class like the Idea of PE and always participate.”*

Two participants who completed the questionnaire, referred to the role of well-structured and goal-orientated PE lessons in learners’ experiences of the subject. Some participants in the interview supported the view that well-structured PE lessons contribute to the positive experiences of learners, and in this regard, two participants emphasised the importance of a well-trained, knowledgeable teacher who can offer a variety of activities and motivate learners to participate: *“In my personal experience the PE classes are nice because students (learners) love PE when there is structure and a goal in mind.”*

“A well-trained Phys Ed teacher creates the environment in which learners will learn, participate in activities and motivate them to try new activities, but then it needs to be structured and learners must know what the goal of this specific activity is.”

Other participants in the interview agreed that learners were more enthusiastic in their PE lessons when the teacher offered new and exciting activities, and emphasised the benefits of physical activities, as two interviewees mentioned:

“My learners love it when I encourage them to try new and cool activities, not just the old fitness and sport stuff...”

“When I remind them of the good things of exercise, like improving their marks, and I give them nice activities, they like it.”

Successfully applying aspects of teacher training

Being able to apply successfully what was learnt in their pre-service PE teacher training was perceived as positive experiences by respondents. Most of the teachers interviewed, concurred that if a teacher has a passion for PE, he or she will find a way to overcome the barriers and create a positive class atmosphere. One of the teachers narrated how she convinced her principal to allow more time for PE classes, stating that *“the teacher should always be innovative when it comes to PE”*, while another described the equipment she had made in order to present PE so that learners could achieve the desired outcomes. Both questionnaire and

interview respondents referred to the making of equipment from waste material, which had formed a part of their pre-service training, as a solution to the problem of a lack of equipment in schools:

"...equipment can be self-made, or objects can be used that is suitable and safe. Sometimes you need to think out of the box for needed resources."

"You can also use different objects as cones and can create new equipment that can be used for multiple purposes for PE classes."

Another positive aspect of some participants' experiences was that they felt well-equipped in the different content themes of PE and could offer the learners a wide variety of activities within the prescribed content of the subject, as reflected in the words of one teacher: *"...students enjoyed it when I gave them many different things to do so there would always be something for everyone, like dance and traditional games..."*

Recommendations for Physical Education teacher training

Improvisation of equipment and facilities

Although some of the participants had incorporated what they had learnt in their undergraduate training regarding the improvisation and making of equipment in their PE programmes, the majority recommended that PE pre-service training should incorporate more ways to make and improvise equipment for PE lessons, as reflected in the words of one questionnaire respondent: *"I think more training should be given about what to do if you don't have any equipment."*

Two interviewees also mentioned that teachers could receive more training to present PE activities in small spaces and with no equipment.

Promotion of Physical Education

Participants in the interview mentioned that finding ways of motivating and proclaiming the value of PE before an audience or on social media, should form part of the training of PE teachers. One participant suggested that pre-service PE teacher training should include an assignment for students to develop strategies to "market" PE, including promotional methods such as powerpoint presentations for SGB (School Governing Body) and parental meetings, and the use of social media. In particular, one of the teachers recommended: *"The educator can use social media to boost PE."*

The majority of the interviewees were of the opinion that pre-service PE teachers should be encouraged to make a stand for PE in the school, even in the case of little support from school management or co-teachers.

Management of diversity and large classes

One of the questions in the questionnaire concerned whether the teachers felt that their pre-service PE teacher training had prepared them adequately for teaching practice. Although more than half of the participants responded that it had, several of them indicated that the teacher training should include more information, exposure to, and management strategies regarding teaching at schools in settings with learners from low socio-economic backgrounds. In this regard, three respondents stated: “...because of our diversity in South Africa some schools are not as fortunate and privileged as others and students aren't exposed or prepared sufficiently for such cases.”

“Student training includes more of the ideal situations and focus on how it is supposed to work in a class environment, but don't prepare you for example for low socio-economic school environments.”

“Introduce, inform and expose where possible, the students to some of the terrible conditions that await them just to prepare them in case they have to teach at a disadvantaged school.”

Another questionnaire participant recommended that more training should be incorporated regarding PE for learners with disabilities:

“We do learn how to include learners with physical disabilities, but I think we should incorporate more material about how to work with the learners that have a mental disability. For example, one of the learners in my class is autistic and I never learned how to include them in every activity.”

Some participants saw the diversity among learners as a contributing factor to the challenge to keep them engaged and motivated to participate, as noted by one:

“A challenge is finding an activity that suits every learner in the class and keeping their attention to explain the activity.”

More training with reference to the motivation of learners to participate was recommended by several participants, as well as teaching strategies for large classes. Some suggested the following specifically: *“Train PE teachers to teach large and unmotivated classes.”* *“...the training can be more specific regarding teaching large classes and unmotivated learners.”*

Discussion

The purpose of this study was to investigate early career PE teachers' perceptions of the effectiveness of their pre-service teacher training regarding barriers and challenges faced in their PE teaching experiences. It was evident from the data analysis that the major challenges early career PE teachers faced, were high teacher-to-learner ratios, insufficient time allocation, learner discipline and a lack of equipment and facilities.

Most government schools in South Africa have overcrowded classrooms with between 50 and 60 learners (Buso, 2019). The issue of large class sizes in teaching PE is similar to findings of other studies. For example, in the national study of Burnett (2020) involving primary and secondary schools in South Africa, more than 40% of the teachers and learners indicated that large class sizes contributed to negative experiences of PE. Similarly, Truelove *et al.* (2021) investigated the practices of PE teachers in primary schools in Canada and reported that teachers identified overcrowded PE classes as having a negative effect on their abilities to achieve prescribed curriculum outcomes.

With reference to insufficient time allocation to PE in the school timetable, most of the teachers in Burnett's (2020) study indicated that the time allocated in the school timetable was grossly inadequate for assessment in PE, and that learner motivation to participate was a challenge to the quality implementation of PE. Limited time allocation and learner discipline were also reported as hinderances to PE programmes in studies in Saudi Arabia (Almutairi *et al.*, 2022), Greece (Syrmpas *et al.*, 2017), Australia (Wanyama & Quay, 2014) and the USA and England (Bann *et al.*, 2019). In the context of SDT, the findings of this study thus show that overcrowded classrooms, limited time allocation and a lack of learner motivation were factors that frustrated the psychological needs for autonomy and competence of the early-career teachers in the present study.

The lack of facilities, equipment and funding puts a lot of strain on PE teachers as it becomes difficult for them to meet their curricular outcomes. PE teachers in South Africa have also reported the lack of equipment and insufficient facilities as challenges, specifically in the studies of Du Toit (2019), Stroebel *et al.* (2019) and Burnett (2020). According to Du Toit (2019) and Stroebel *et al.* (2019), teachers should be guided on how to overcome lack of resources. As part of their PE teacher preparation, they should be taught how to create their own apparatus and to effectively use them, especially in in-service training programmes (Stroebel *et al.*, 2019).

The data further revealed that the participants' positive experiences were learner enjoyment and successfully applying aspects of teacher training. Their positive experiences are consistent with findings reported in the literature where the role of a structured PE learning environment with regards to learner enjoyment and motivation has been widely acknowledged (Beni *et al.*, 2016; Griffin *et al.*, 2017; Krijgsman *et al.*, 2020). In the systematic reviews of Beni *et al.* (2016) and Curran and Standage (2017), fun, challenge and personally relevant learning were shown as important factors that a PE teacher had to facilitate by means of well-structured lessons, to make PE meaningful for learners and the teacher. Similarly, in previous American (Griffin *et al.*, 2017), and Iranian (Behzadnia *et al.*, 2018) studies, learners were reported to be more intrinsically motivated to participate if PE lessons which were structured such that they had fun, were challenged, improved

their motor skills, felt connected and understood the worth of what they were doing in the PE class. They also cited studies that also supported the notion that a PE teacher should construct and present PE classes to meet the psychological needs of autonomy, competence and relatedness of learners, as postulated by SDT (Ryan & Deci, 2020).

In a South African study on the effect of a PE teacher training programme on teachers' perceptions of PE, Van der Westhuizen *et al.* (2020) found that PE teachers had positive perceptions of teaching PE after they had implemented needs-support strategies in their PE classes for six months. In Van der Westhuizen *et al.*'s study, PE teachers also reported that implementing aspects of the teacher training programme such as applying knowledge of the value of PE, offering a variety of ideas for physical activities, and improvising their own equipment for PE lessons, contributed to their positive experiences of teaching PE.

Teachers need proper and concise training to fulfil their duties to their outmost best. Without proper training they face barriers that are difficult to overcome as they are not fully equipped to do so, which will negatively impact their need for competence and affect their intrinsic motivation to teach (Griffin *et al.*, 2017; Ryan & Deci, 2020). According to Granero-Gallegos *et al.* (2022), teacher training is important since it is during this training process that teachers could be assisted in acquiring the skills, capabilities, and competencies necessary to address their professional development. In their study on pre-service PE teacher training at different higher education institutions in Australia, Barwood *et al.* (2020) concluded that PE teachers' experiences of PE in their first few years, are dependent on the type and content of pre-service training.

In South Africa, many schools are faced with the absence of appropriate equipment and a dire shortage of well-trained PE teachers (Burnett, 2020; Stroebel *et al.*, 2019). Du Toit *et al.* (2007) point out that teacher training should include apparatus improvisation and facilitation for creative skills in situations where there is limited space and insufficient apparatus.

To be exposed and trained to manage the challenges of working in schools in different socioeconomic settings, PE teacher preparation should include several field experiences. This assertion is supported by Adamakis and Dania (2019), who investigated Greek pre-service teachers' experiences in their school practicums, and Lynch (2015), who studied the effects of a university-school partnership where student teachers gained field experiences in various modules of their PE teacher course over a four-year period. The findings of Adamakis and Dania concur with those of Du Toit (2019) in which pre-service PE teachers were reported to have gained hands-on knowledge and experience regarding the teaching of learners from diverse backgrounds in a service-learning programme.

Du Toit (2019) further states that service-learning programmes have some other benefits such as enhanced self-competence, gains of content knowledge, enhanced ability to use different instructional strategies, and cultural awareness.

Since teachers are faced with the challenge of large PE classes comprising unmotivated learners, their training should prepare them for a variety of circumstances. In a study involving 1256 middle school learners in the USA, Zhang *et al.* (2020) found that the prior knowledge of the learners and the PE teacher overrode all other factors that were considered to impact on learning (lesson frequency and length, equipment, facilities, and class size), suggesting that a well-trained and skilled PE teacher could overcome the common challenges facing new PE teachers. One strategy for teaching large groups of learners recommended by León *et al.* (2021) and Silva *et al.* (2021) for PE teacher training, is cooperative learning. In a study of over 1000 Spanish learners, León *et al.* (2021) reported that cooperative learning strategies improved learners' academic performance in PE especially when the PE lessons were structured such that group processing, promotive interaction, and individual accountability, were facilitated. Other teaching strategies recommended for large classes include task (traditional) teaching (where the teacher demonstrates specific movement activities to the learners who then perform the activities at different stations, before applying the skills in a modified game), peer teaching (where learners teach one another according to specific instructions) and tactical games (where the learners play a series of modified games to learn about the tactics and skills of the sport) (Metzler & Colquitt, 2021).

Another recommendation by the participants in our study is that PE teacher training should incorporate specific teaching strategies to motivate learners' participation. Research focusing on teaching strategies to improve the motivation of learners to participate in PE has shown that needs-support strategies employed by PE teachers have enhanced the intrinsic motivation of learners (Griffin *et al.*, 2017; Kleitsch & Kulinna, 2022; Oelofse, 2020; Van der Westhuizen *et al.*, 2020). Consequently, learners' need for autonomy can be met when teachers involve learners in planning and deciding about the activities that they can do, as well as concepts that they could present to learners with a range of activities to choose from (Kleitsch & Kulinna, 2022; Oelofse, 2020). The need for competence can be met when teachers apply organisational and improvisation strategies to provide learners with sufficient opportunities to learn and practise movement skills, thus offering achievable but challenging activities and teaching movements and new skills that are applicable in life outside school (Kleitsch & Kulinna, 2022; Oelofse, 2020). The need for relatedness can be met when teachers present new and exciting ideas, challenging learners to fun activities, helping them internalise the value of PE for themselves, being supportive, positive and caring during activities, and facilitating group activities which develop feelings of inclusivity, integration, trust and respect among peers (Kleitsch & Kulinna, 2022; Oelofse, 2020). This study

shows that PE pre-service programs should incorporate various aspects aimed at preparing teachers for the various challenges that they may experience in their first few years in practice.

Conclusions

Valid and valuable conclusions can be drawn from the findings of this study to address the undesirable situation of PE and pre-service PE teachers training in South Africa. Beginner and early career PE teachers experience various challenges in teaching PE, are often left to self-induct in schools, fend for themselves, but are expected to achieve results similar to those of experienced teachers. Effective pre-service teacher training is crucial in ensuring that future teachers are well-prepared to provide good quality PE to learners as well as promoting health and well-being through physical activity and sports. Some early career teachers in our study stated that their pre-service training did prepare them well to teach PE, but the training did not equip them sufficiently for some of the real-world problems they faced, like the marginalisation of the subject, the lack of support from schools and how to deal with unmotivated and diverse learners. The conclusion can thus be drawn that early career PE teachers in this study felt that their teacher training prepared them to teach PE to a limited extent, but that the training programme should be improved. Assessing and improving the effectiveness of PE teacher training programmes are essential for the overall quality of PE in schools.

Recommendations

Several recommendations arise from the findings of this study. In light of the importance of quality PE in fostering the well-being and development of learner, it is imperative to assess the effectiveness of pre-service PE teacher training programmes across higher education institutions (HEI's) with the intent of enhancing nationwide pre-service PE teacher education. As an integral component of these pre-service teacher training initiatives, it is advisable that PE service-learning programmes be introduced such that student-teachers can gain experience and exposure to schools of different socio-economic backgrounds. This will better prepare them for different circumstances they might face, concurrently addressing the PE-related needs of communities. Furthermore, the Department of Basic Education should introduce in-service training programmes, such as subsidised short courses in PE, to ensure that PE teachers attain the necessary qualifications. Provincial Departments of Education should also play an instrumental role by appointing qualified subject advisors in PE, thereby ensuring that learners receive good quality PE instruction from well-trained teachers. Moreover, beginner and early career PE teachers should receive guidance and support from experienced mentors within their respective schools.

Considering the lack of equipment and funding for PE that many schools face, preservice teachers can be trained to improvise by making their own PE equipment when in dire situations, using recycled material. Additionally, a module focused on the management, organisation, and assessment of large classes, as well as the effective utilisation of limited space in PE, should be incorporated into the PE teacher training curriculum.

Drawing from the findings regarding the low status of PE, pre-service teachers should be trained on how to advocate for PE in schools to the SGB, school management team (SMT), learners and parents. For example, pre-service students can be given an assignment to make a *power point* presentation which highlights the value of PE and the importance of having PE well-supported and funded in schools. This can be used as a tool to demonstrate the importance of PE in the curriculum. To enhance the intrinsic motivation of learners to participate in PE classes, it is recommended that pre-service PE teacher training include needs-support strategies described above, to use in their PE lessons. As expounded in the SDT, the implementation of the aforementioned recommendations has the potential to positively influence the satisfaction of psychological needs and the levels of intrinsic motivation among early career PE teachers.

The findings of this study should be considered in view of certain limitations, which lead to recommendations for similar future research., Firstly, only eight participants were involved in this study, which resulted in findings that are relevant, but which cannot be generalised to all beginner PE teachers. Therefore, future research should include more participants, who teach at schools of different socio-economic backgrounds, as this would facilitate a better understanding of the needs of earlier career PE teachers in their pre-service training which could improve their teaching experience. Secondly, only participants from one university in one area of the country were used. Future research should include beginner PE teachers who studied at other universities, and are teaching in other parts of the country. Overall, the present findings emphasise the need for pre-service PE programmes to incorporate various aspects aimed at preparing teachers robustly for the various challenges they may experience in their first few years in actual practice. The findings further imply that existing PE teacher training programmes can be improved by implementing the recommendations proffered above.

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