Original Article

Exploring the differences in teaching perspectives between Australian pre-service and graduate physical education teachers

BRENDON HYNDMAN
Charles Darwin University, International Graduate Centre of Education, School of Education Darwin, AUSTRALIA

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Abstract:
Limited investigation has been undertaken into Australian physical educators’ teaching beliefs and intentions and those that have been researched have tended to utilise ‘qualitative’ research methods. The present study addresses a gap in the literature by exploring the differences in teaching perspectives between Australian pre-service and graduate physical education teachers. The teaching perspectives inventory (TPI) was administered to pre-service physical education teachers (n=105) graduate physical education teachers (n=37). Each TPI item was linked to one of five key teaching perspectives (apprenticeship, developmental, nurturing, social reform & transmission). Average teaching perspective scores were calculated for each of the five teaching perspectives and the proportions of dominant and recessive teaching perspectives were identified within both groups. Independent t-tests and multivariate chi-square statistical tests were conducted to compare mean teaching perspective scores and proportions of dominant and recessive teaching perspectives. The findings revealed that graduate physical education teachers had significantly higher average scores for the apprenticeship, developmental and social reform teaching perspectives. The nurturing teaching perspective was the most common dominant teaching perspective and the social reform teaching perspective was the most common recessive teaching perspective for both pre-service and graduate physical education teachers. The findings suggest that teacher training programs have the ability to develop and inform knowledge of teaching approaches to facilitate higher scores for a broader range of teaching perspectives in comparison to pre-service teachers commencing their teacher training.

Key words: teaching perspectives, physical education, teacher education, pre-service teachers, graduate teachers.

Introduction
The promotion of an active lifestyle for children is important to establish physical activity habits that can track into adulthood and help reduce the risk of chronic diseases later in life (Dobbins, De Corby, Robeson, Husson, & Tirilis, 2009). Schools and teachers are now being targeted to develop primary and secondary school children’s physical activity opportunities (Kriemler, Meyer, Martin, Van Sluijs, Andersen, & Martin, 2011). Physical education is instrumental in the development of physical competence, understanding physical activities, addressing physical needs and understanding bodily transformations that take place (Trost & Van der Mars, 2010).

School physical education programs (including sport education) are the major avenues for teachers to develop children’s physical skills and physical activity levels (Trost & Van der Mars, 2010). With growing parental safety concerns (Telford, Finch, Barnett, Abbott & Salmon, 2012) and economic pressures on parents beyond the school setting (Paxson, Donahue, Orleans, & Grisso, 2006), providing opportunities for children to develop physically is important. Teachers can provide opportunities for children to develop physical activity, healthy lifestyle skills and knowledge within a safe and supportive learning environment (Trost & Van der Mars, 2010). Fundamental motor skills developed via teaching approaches provide essential building blocks to equip children with the necessary skills to participate in structured, competitive sports as children get older (Barnett, Van Beurden, Morgan, Brooks, & Beard, 2009). Without fundamental motor skill proficiency facilitated by teaching approaches, children may avoid or drop out of sporting experiences with their peers as they get older and subsequently decrease opportunities for vital social experiences (Lubans, Morgan, Cliff, Barnett, & Okely, 2010). Providing children with an opportunity to be physically active plays an important role in children’s physical, cognitive and social development (Trost & Van der Mars, 2010). However, physical education teaching time in many schools is declining (Jenkinson & Benson, 2009) and there are a number of teacher-related barriers restricting effective physical education delivery and opportunities (Jenkinson & Benson, 2010). As teachers are the gate-keepers to informing school physical activity policies, delivery, planning and implementation (Hyndman, Telford, Finch & Benson, 2012), teacher training programs can ensure pre-service teachers to play a
key role in developing diverse physical activity habits and opportunities for children. Teaching perspectives (e.g., a lens of beliefs and intentions that provide direction to teaching) of physical education teachers therefore plays an important role in the approach to how school physical activity and skill opportunities are delivered and experienced by children.

With the demanding nature of the daily roles and responsibilities of physical education teachers (Jenkinson & Benson, 2010), it is important to consider how physical education teaching perspectives and approaches develop. Pre-service teachers enter their teacher training programs with beliefs and intentions that have been established during their childhood (Bird, Anderson, Sullivan, & Swidler, 1993). These beliefs and intentions are significant in assessing pre-service teachers’ learning processes within their respective courses (Courneya, Pratt, & Collins, 2007; Doolittle, Placek, & Dodds, 1993). Teacher training programs can enable pre-service teachers to confront their beliefs and intentions by considering their appropriateness within the context of their teaching practices (Minor et al., 2002). A number of studies (Barney, 2006; Lowell & Dansby, 2000; Hodge, 1998; Tabachnick & Zeichner, 1984; Kerr, Cote, Hay, & Cote-Laurence, 1998) have been undertaken investigating pre-service teachers’ beliefs and intentions, with the most common identified perspective perceived by pre-service teachers to teach effectively revealed as a ‘student-centred’ approach. Other key themes identified from pre-service teachers to teach effectively include classroom/behaviour management, classroom preparedness, student learning, enjoyable classes for students, competent instruction, ethical conduct, enthusiasm, knowledge and professionalism (Barney, 2006). Findings have also revealed that significantly more male pre-service teachers than female are concerned about developing effective classroom/behaviour (Barney, 2006).

There is an important need to investigate the effect teacher training programs have on pre-service teachers’ perspective on teaching, especially in the field of physical education. An awareness of how physical educators are being socialised into the profession is vital (Hopper & Sandford, 2006). Research has identified a necessity to assess whether teacher training programs can modify pre-service teachers’ beliefs and intentions by providing a ‘developmental overlay’ that wasn’t present when commencing their teacher training (Collins, Jarvis-Selinger & Pratt, 2003). Similarly, there has been interest in identifying whether or not pre-service teachers’ preconceived teaching perceptions are modified from their teaching development and experiences during their undergraduate course. It has been suggested that teacher training programs should modify their delivery to ensure pre-service teachers develop broader teaching perspectives to ensure they can become successful teachers (Fajet et al., 2005; Minor et al., 2002). There is a need to assess the influence educational institutions generate on pre-service teachers’ perspectives and how such perspectives can be developed, revised according to the experiences undertaken during pre-service teaching training. It has been common for teacher training programs to have a single view on how teachers should teach, therefore broadening pre-service teachers’ development of all five teaching perspectives could be an important consideration (Collins et al., 2003). The investigation into whether teaching perspectives are significantly different in graduate physical education teachers compared to undergraduate physical education teachers is based upon Vygotsky’s “socio-cultural” theory. This theory assumes that the social world (e.g. teacher training program experiences) can influence an individual’s mind (e.g. pre-service physical education teachers; Lave & Mcalughlin, 1991).

Previous research has outlined extensive research into pre-service teachers’ beliefs, perceptions, perspectives and other value orientation components related to teacher training programs (Barney, 2006; Fajet et al., 2005; Lowell Dansby, 2000). Despite this research, there is a gap in the research relating the teaching perspectives of physical educators (Curtner-Smith, 1997; Hopper & Sandford, 2006). A teaching perspective is defined as teachers’ view of ‘what it means to teach’ (Collins & Pratt, 2010). Previous literature has identified that there is a significant need to further explore comparative, cross-sectional studies to determine if there are significant differences between the teaching perspectives (intentions, beliefs) of pre-service teachers compared to graduate teachers (Collins et al., 2003). The present study fills a gap in the literature and has the potential to inform teacher training programs relating to the development of physical education teachers’ perspectives. This study aims to explore the differences in teaching perspectives between Australian pre-service and graduate physical education teachers.

Method
The research design was conducted as a quantitative, cross sectional and comparative study exploring whether the significant differences in teaching perspectives between undergraduate and graduate physical education teachers. First year pre-service teachers (n=120) within the Bachelor of Education (Physical Education) at the University of XXXX first year cohort were invited to participate in the research during their first week of university. A total of 105 pre-service teachers completed the teaching perspectives inventory (TPI). The students’ completion of the inventory indicated their willingness to participate in the teaching perspectives study. In addition to the first year pre-service teachers, all physical education graduate teachers (n=80) were invited to participate and complete the TPI which was distributed prior to their graduation ceremony. A total of 37 graduate physical education teachers completed the inventory to ensure an effective comparison between the
pre-service and graduate physical education teachers’ beliefs and intentions. The graduate physical education teachers’ completion of the TPI indicated their willingness to participate in the physical education teaching perspectives study. Clearance from the University of XXXX Human Research Ethics Committee and the head of department at the university was obtained prior to the commencement of the teaching perspectives study. The Teaching Perspectives Inventory (TPI)

The TPI has been reported to be a highly reliable and valid instrument for assessing teaching perspectives (Collins & Pratt, 2010). The TPI displays a strong internal reliability (Cronbach’s alpha) of 0.76 across all five teaching perspective scales (Collins & Pratt, 2010). Internal reliability of the TPI has been evaluated with over 100,000 online respondents (Collins & Pratt, 2010). The five point likert scale TPI is used to examine five different perspectives (apprenticeship, developmental, nurturing, social reform and transmission) of what it means to teach among pre-service and graduate physical education teachers. Due to the strong internal reliability of the beliefs and intentions sections of the TPI (Collins & Pratt, 2010) and limited opportunities for the first year pre-service teachers to develop teaching experiences, the actions section (15-items) was not required in the present study. The revised 30-item TPI (intentions and beliefs sections) was administered to the pre-service and graduate physical education teachers with three statements within each section being linked to each of the five teaching perspectives (teaching perspective scores ranging from 6-30). The ‘apprenticeship perspective’ is characterised by a procedure of enculturating students into a series of social norms and methods of working (Pratt et al., 2001). The ‘developmental perspective’ assumes that for teaching to be efficient it must be prepared and conducted from the learner’s viewpoint (Pratt et al., 2001). The ‘nurturing perspective’ assumes that a persistent and thorough effort to achieve originates from the heart, as well as the head (Pratt et al., 2001). The ‘social reform perspective’ assumes that quality teaching seeks to modify society by awakening students to embedded values and ideologies (Pratt et al., 2001). The ‘transmission perspective’ assumes that effective teaching requires a strong obligation to the subject matter or content (Pratt et al., 2001). A dominant perspective was defined as a teaching perspective that tends to be significantly higher than other perspectives (Collins & Pratt, 2010). A recessive teaching perspective was defined as a teaching perspective that is significantly lower than the others (Collins & Pratt, 2010).

Statistical analyses

All questionnaires were coded and data was entered into the Statistical Package for the Social Sciences (SPSS, Version 14) data analysis program. Normality of the data was checked by conducting a range of descriptive analyses. Data cleaning involved checking any unusual scores or missing values against the original survey and errors were amended to the spreadsheet. In order for comparisons to be made between the pre-service and graduate physical education teachers, independent t-tests and chi-square statistical tests were conducted.

Results

There was a higher percentage of female pre-service physical education teacher than males and a higher percentage of male physical education graduate teachers than females in the study (table 1). The majority of pre-service teachers were aged between 17-21 years, followed by 21-26 years and there were no pre-service teachers aged over the age of 26 years (Table 1). In contrast, there were no graduates aged under 21 years, the majority fell into the 21-26 age group and there was a small amount of pre-service teachers in the over 26 year old category (Table 1).

The majority of pre-service physical education teachers had previously completed their secondary school education at government (55.2%), catholic (25%) and independent schools (19.8%). The pre-service physical education teachers had previously attended regional and rural schools (41%) and the least amount of pre-service teachers had previously attended metropolitan schools (17.4%). Most pre-service teachers attended co-educational schools (87.5%) in comparison to single gender schools (12.5%). The majority of graduate physical education teachers attended a government school (62.5%), followed by a catholic school (27.5%) and an independent school (10%). The majority of graduate physical education teachers attended regional schools (47.8%), followed by rural (34.8%) and metropolitan (17.4%). Further, most graduate physical education teachers had previously attended co-educational schools (91.3%) in comparison to single gender schools (8.7%).

Table 1. Gender and age distributions for the Australian pre-service and graduate physical education teachers.

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-service PE* teachers</td>
<td>51</td>
<td>49.0</td>
</tr>
<tr>
<td>Graduate PE teachers</td>
<td>22</td>
<td>55.0</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-service PE teachers</td>
<td>53</td>
<td>51.0</td>
</tr>
<tr>
<td>Graduate PE teachers</td>
<td>18</td>
<td>45.0</td>
</tr>
<tr>
<td>Age</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>17-21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-service PE teachers</td>
<td>97</td>
<td>94.2</td>
</tr>
<tr>
<td>Graduate teachers</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>21-26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-service PE teachers</td>
<td>6</td>
<td>5.8</td>
</tr>
<tr>
<td>Graduate PE teachers</td>
<td>38</td>
<td>95.0</td>
</tr>
<tr>
<td>26+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-service PE teachers</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Graduate PE teachers</td>
<td>2</td>
<td>5.0</td>
</tr>
</tbody>
</table>

*PE= physical education
There was a significant higher average score ($p<0.05$) for the graduate physical education teaching perspectives for apprenticeship ($p=0.045$), developmental ($p=0.005$) and social reform ($p=0.002$) teaching perspectives in comparison to the pre-service physical education teachers (fig. 1). There were no significant differences identified between pre-service and graduate physical educators for the transmission and nurturing teaching perspectives (fig. 1).

Nurturing was the single, dominant teaching perspective for the highest number of pre-service teachers with 77%, followed by apprenticeship (8%), two dominant perspectives (6%), transmission (4%), no dominant perspectives (3%), developmental (2%) and social reform (0%; fig. 2). Nurturing was also the single, dominant teaching perspective for the highest number of graduate participants with 70.3%, followed by the apprenticeship and transmission teaching perspectives (8.1%), two dominant perspectives (5.8%), no dominant perspectives (4.4%), social reform (0%) and developmental (0%; fig. 2). Social reform was the recessive teaching perspective for 49% of pre-service physical education teachers, followed by two recessive teaching perspectives (13%), transmission (11%), apprenticeship (8%), no recessive teaching perspective (5%) and nurturing (0%; fig. 2). A similar pattern was revealed for proportions of recessive teaching perspectives for the graduate physical educators with social reform (29.7%), transmission (27%), two dominant (13.5%), no dominant (8.9%), apprenticeship (8.1%), development (0%) and nurturing (0%; fig. 3).

The proportion of pre-service physical educators with social reform as the recessive teaching perspective was significantly higher ($p<0.05$) than graduate physical education teachers (fig. 3). In addition, the proportion of graduate physical education teachers with a recessive teaching perspective of transmission was significantly higher ($p<0.05$) than the pre-service physical education teachers (fig. 3).

Discussions

The primary goal of this study was to fill a gap in the literature by assessing whether there was a significant difference in the teaching perspectives between Australian pre-service and graduate physical education teachers. This investigation was guided by the assumption that exposure to four years of teacher training (e.g. social learning theory) can develop broader beliefs, intentions and overall teaching perspectives in graduate physical education teachers. The findings from this study offer support for this assumption with graduate physical education teachers possessing significantly higher scores for the apprenticeship, developmental and social reform teaching perspectives in comparison to the pre-service physical education teachers.

Over three decades, Pratt and colleagues gathered qualitative evidence to discover what it means to teach and were able to summarise, organise and classify the teaching concerns of hundreds of teachers into five teaching perspectives: Apprenticeship, Developmental, Nurturing, Social Reform and Transmission (Collins & Pratt, 2010). Each teaching perspective is a ‘point of view’ or a combination of beliefs and intentions that can be present in more than a single perspective. For example, teachers may have similar beliefs about the significance of critically reflecting, yet may hold entirely different teaching perspectives (Collins & Pratt, 2010). The ways in which teachers respond, listen and question vary significantly between each of the perspectives and are related to the individual’s underlying values. Furthermore, each

Fig. 1. Mean teaching perspective scores for pre-service physical education teachers and graduate Australian physical education teachers.

★ = significantly higher average teaching perspective score ($p<0.05$) for graduate physical education teachers in comparison to pre-service teachers.
Teaching perspective represents teacher thinking about the content, learning processes, learners and educational contexts (Collins & Pratt, 2010). It is suggested that there is no single most effective teaching perspective, however identifying teaching perspectives can be used as a diagnostic tool for reflection and discussion in relation to the socio-cultural influences on ‘what it means to teach’ (Collins & Pratt, 2010). Importantly, the present study supports the notion that comparing teaching perspectives will provide greater insight and reflection into the underlying values and components of an Australian physical education teacher training program.

Similar to many previous studies (Collins & Pratt, 2010), the nurturing teaching perspective generated the highest mean scores for both pre-service and graduate physical education teachers in the study. The nurturing teaching perspective assumes that for teaching to be effective “it must be planned and conducted from the learner’s point of view” (Pratt et al., 2001, p. 3). The nurturing teaching perspective was the single, dominant teaching perspective for a large proportion of both pre-service and graduate physical education teachers in the study. These findings are consistent with an earlier study into teaching perspective differences among disciplinary majors in which 59% of pre-service teachers had nurturing as the single, dominant teaching perspective. It has been revealed that, “aspiring teachers with a nurturing perspective are more likely to be preparing to teach Physical Education (p5, Collins et al., 2003). It is concerning there isn’t a more equal distribution in these teaching perspective studies and could suggest that teacher training programs are more accustomed to delivering nurturing-related material and messages to pre-service teachers. The components of all five teaching perspectives and the ability of teachers to draw upon these characteristics for varying situations are important. It has been suggested that high nurturing teaching perspectives are often the result of higher female
populations (Collins & Pratt, 2010), yet within the present study gender distribution was even. Although nurturing characteristics of care and trust are vital for learning environments, utilising this perspective in all situations could hamper the learning process (Clarke et al, 2005). It has been revealed that teachers tend to have higher nurturing teaching perspective scores (Pratt, Collins, & Jarvis-Selinger, 2001). These findings suggest that further research should be undertaken to identify why teachers tend to develop high nurturing teaching perspective scores. Additionally, the teaching perspectives identified within the present study could be used by teacher educators to generate further investigation and discussion about how suitable nurturing is as a teaching perspective.

In contrast to nurturing, social reform had the lowest mean score for both the pre-service and graduate physical education teachers. Similar to previous teaching perspectives research (Collins et al., 2003), the social reform teaching perspective had the highest proportion of participants as the single, recessive teaching perspective. Researchers suggest that both the popularity of nurturing and unpopularity of social reform as teaching perspectives is to be expected (Collins et al., 2003). Social reform is suggested to be recessive for pre-service teachers due to common objectives to learn and develop essential teaching information and skills prior to endeavouring to influence social components within a classroom (Collins et al., 2003). Future research could be undertaken into why social reform scores can be so low in developing teachers. The implications from the absence of social reform as a teaching perspective and whether pre-service physical education teachers should have greater exposure to knowledge relating to social reform approaches could also be investigated.

The present study revealed valuable information relating to physical education teacher training program influences on graduate teachers’ beliefs and intentions, however future research is warranted. Future research into which structural components of physical education teacher education programs influence the development of pre-service teachers’ perspectives is vital. It is important to determine whether the development of the five teaching perspectives are being addressed evenly within physical education teacher training programs (Collins et al., 2003) and the best approaches to facilitate broad coverage of the teaching perspectives. Furthermore, a longitudinal study could enhance understanding of how pre-service teachers’ perspectives are influenced and evolve over time. Studies exploring physical education teacher training programs internationally could also be examined.

It should be acknowledged that the physical education teaching perspectives study was conducted in single institution, therefore any generalising of the findings should be done so with caution. There was also a smaller sample size in the graduate physical education teachers. This can be expected due to the attrition across a four year teacher training program and with not all graduate physical education teachers in attendance at graduation. Future investigations of this nature could potentially present examples and insight into the components of the five teaching perspectives prior to administering the TPI. The actions section was disregarded in this study due to the pre-service physical education teachers having limited exposure to teaching situations. Due to the strong internal reliability of the beliefs and intentions sections provided a clear picture of the specific teaching perspectives of both pre-service and graduate physical education teachers.

Teachers within both previous studies (Collins et al., 2003) and the present study possessed high mean scores and proportions of participants with the nurturing teaching perspective as the dominant teaching perspective. This may result in implications for physical education teacher training programs to review the impact and influences of developing teachers possessing such a teaching perspective. Teacher training programs may need to become more attractive for large number of future teachers that have preference for other teaching perspectives. Alternatively, the high scores and proportions of the pre-service and graduate physical education teachers having preference for a nurturing teaching perspective in comparison to the other four teaching perspectives may lead to educational institutions more strongly addressing the nurturing perspective in future advertising campaigns. Ensuring teacher training programs recruit higher numbers interested in teacher training programs may assist societies where there are significant teacher shortages.

Conclusions

In conclusion, the present study shows that exposure to a number of years of teacher training can influence Australian graduate physical education teachers to have broader beliefs, intentions and overall teaching perspectives. It was revealed that teacher training can influence graduate teachers to possess significant higher scores for the apprenticeship, developmental and social reform teaching perspectives in comparison to first year pre-service physical education teachers. This study reinforces the influences teacher training programs can have on transforming and developing pre-service teachers’ knowledge of broader teaching perspectives in readiness for careers in the teaching profession.

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References


