



## **Perceptions and Experiences of Pre-service Teachers with Physical Education (PE) and Daily Physical Activity (DPA)**

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## **Abstract**

To improve practice, we need to understand how pre-service teachers are prepared to implement school-based physical activity policies such as Ontario's Daily Physical Activity Policy (DPA). This study explored the perspectives and experiences of Ontario pre-service teachers with DPA and physical education (PE). Data are presented for five participants who completed a semi-structured interview. Three super-ordinate themes were found for pre-service teachers: theory of DPA and PE, practical development of DPA and PE, individual factors. Varied experiences with DPA and PE were identified by pre-service teachers. Our findings raise questions about the consistency of early career preparation and how best to support pre-service teachers' experiences not only with PE, but also DPA.

**Key words:** Daily physical activity (DPA); pre-service teachers; teacher education.

## **Résumé**

Il est important de comprendre comment les étudiants en formation à l'enseignement sont préparés pour implanter en milieu scolaire les politiques comme celle portant sur l'activité physique quotidienne, pour pouvoir améliorer cette implantation. Cette étude explore les perspectives et les expériences d'étudiants en formation à l'enseignement en Ontario en lien avec l'éducation physique et l'activité physique quotidienne. Des données provenant d'entrevues avec cinq participants sont présentées. Ces données ont fait apparaître trois thèmes: la théorie sur l'activité physique quotidienne et l'éducation physique, le développement de l'activité physique quotidienne et de l'éducation physique et des facteurs individuels. Les expériences de ces étudiants en formation à l'enseignement sont variées. Nos résultats font émerger des questions sur la cohérence de la formation en début de carrière, et sur l'appui à offrir à ces étudiants en formation dans le domaine de l'éducation physique et aussi de l'activité physique quotidienne.

**Mots clés:** activité physique quotidienne; enseignants en formation; formation à l'enseignement.

## Introduction

Elementary schools continue to serve as a setting tasked with providing physical activity opportunities for children and adolescents (e.g., Naylor & McKay, 2009). In Canada, several provinces, including Ontario, require daily physical activity (DPA) for students at the elementary level (ParticipACTION, 2015; Patton & McDougall, 2009). Ontario's DPA initiative, which began as a separate policy from the formal Health and Physical Education (H&PE) curriculum, requires the provision of "a minimum of twenty minutes of sustained moderate to vigorous physical activity each school day during instructional time" (Ontario Ministry of Education [OME], 2005, para 4). The policy is now mandated within the province's elementary H&PE curriculum (OME, 2010; 2015) whereby

DPA is a requisite part of a comprehensive health and physical education program.... Since physical activity is only one component of a complete health and physical education program, there may be the occasional day when a health and physical education class does not include twenty minutes of sustained physical activity. On these days (or on days when a health and physical education class is not scheduled), other opportunities for DPA must be provided. (OME, 2015, p. 53)

Initial efforts to understand the uptake and effect of DPA policies in Canadian provinces, however, paint a disturbing picture. Olstad and colleagues (2015) concluded PA levels nationally are largely unaffected by DPA mandates and further highlighted variation in the translation of the policy into actual practice. Stone, Faulkner, Zeglen-Hunt, and Cowie Bonne's (2012) assessment of students' physical activity at school also indicates Ontario's DPA policy is not being fully implemented. This finding is supported by survey data where roughly 40 to 50% of Ontario teachers reported implementing and fulfilling the DPA mandate (Allison et al., 2016; Gilmore & Donohue, 2016; Patton, 2012).

Subsequently, a growing body of literature related to factors influencing DPA implementation is emerging. For example, Brown and Elliott's (2015) interviews with 19 teachers and principals in Ontario revealed that the likelihood of fulfilling the DPA policy may depend on: how the policy is implemented (e.g., student involvement, DPA in other curricular areas), factors assisting implementation of the DPA mandate (e.g., teacher qualities, school environment), barriers to implementation (e.g., space, time), the positive and negative impact of DPA (e.g., positive focus, lack of organization), and perceptions of how the policy should be altered (e.g., clarifying responsibility, accountability). Several of these findings have been corroborated by others, particularly in reference to the barriers identified in DPA implementation (e.g., Middlemass Strampel et al., 2014; Patton, 2012).

Brown and Elliott (2015) further mapped key barriers and facilitators onto a specific social ecological framework that included physical, sociocultural, economic, and policy environments relevant to both a school and class level as well as the Ministry and board level. Although other studies have not always adopted a theoretical lens, one recent exception to this is from Allison et al. (2016) who overviewed social ecological correlates of DPA and PE practice at the individual, interpersonal, and organization level. Using an adapted multilevel model, their findings focused on how teacher, administrator, and school factors influence DPA implementation and practices. Notable factors related to DPA implementation in their study included: being aware of DPA, having DPA timetabled and monitored at the school, teacher confidence, perceptions of fewer DPA barriers, and belief in the importance of the policy.

Emerging inquiry related to DPA appears to mirror more established research in the broader domain of teaching physical education (PE). For example, work by Morgan and Hansen (2008a; 2008b) has served to underscore challenges in PE from the practicing teacher perspective such as low confidence, absence of appropriate pre-service educational experiences, and poor past experiences in PE. Further, challenges at the school level included what Morgan and Hansen (2007, p. 102) termed a “crowded curriculum”, in addition to a lack of accountability, school support, and perceived value of PE (see also Morgan & Hansen, 2008a).

Practicing teachers (both specialists and generalists who may teach PE/offer DPA) arguably control access to the number and type of student physical activity experiences (i.e., act as gatekeepers) through the design and implementation of both DPA and PE opportunities. Yet at present, the perspectives and experiences of another key group, pre-service teachers, has been overlooked with regard to DPA. The importance of looking at pre-service teachers becomes clear if one subscribes to Fessler’s (1992) view of teacher development as a “dynamic, career long process” (p. 21) influenced by both personal (e.g., family) and organizational (e.g., regulations) factors that change over time. Pre-service teacher training experiences, including those related to the design and delivery of physical activity-related content in schools (e.g., DPA and PE), likely set the stage for pre-service teachers’ ability and motivation to implement such curricular expectations in the future.

Morgan and Bourke (2005) demonstrated a link between reflections on the quality of teacher education and confidence in delivering PE among both pre-service teachers and practicing teachers. In Canada, the recognition that PE is taught largely by generalists have led some to offer guidance specifically for these teachers to fill a perceived gap in both content knowledge (Lu & Lorusso, 2016) and pedagogy strategies (Lu & DeLisio, 2009). Further, Fletcher’s (2012) case study with two pre-service teachers in Ontario revealed that a teacher’s identity around PE may be favourably developed through the Faculty of Education course experiences. On the other hand, Fletcher’s (2012) participants had little practicum experience with PE. Overall, insufficient pre-service teacher preparation may have a negative influence on their teaching practices later in the career cycle.

Consequently, there is a need to understand the preparation and implementation experiences of pre-service with DPA as part of the broader PE curriculum to further our understanding about the perceptions of those in early phases of the career cycle. As such, the aim of the current study was to explore Ontario pre-service teachers’ perspectives and experiences with DPA situated in the context of the wider PE curriculum.

## **Method**

### **Participants**

Qualitative data are reported for five pre-service teachers. Pre-service teachers included three males and two females ranging in age from 22 to 30 years ( $\bar{X} = 26.0$ ,  $SD = 3.39$ ). At the time of the research, all five of the participants were enrolled in an eight-month long post-undergraduate degree Faculty of Education program. Two had an undergraduate degree in Kinesiology and none had completed any Masters or Doctoral degree.

### **Recruitment**

A letter (from a fellow Dean) was emailed to the Dean at each of the 16 Faculties of Education in Ontario to introduce the larger study of which this research was a part. A follow-up

letter was sent to each Dean with a request to assist with recruitment by e-mailing letters of information to relevant participants. Prospective pre-service teachers participants indicated interest in an interview about their experiences following the completion of an online survey about DPA and PE. Pre-service teachers were individuals taking an eight-month elementary (primary, junior, or intermediate) program; data are reported for the pre-service teachers completing an interview at or near completion of the program (n=5; May-June, 2012). All interviews were conducted via telephone by one member of the research team. Interviewees each received \$25 gift certificate for participation. The University Research Ethics Board approved the study and participants provided informed consent for both survey and interview portions of the study.

### **Interviews**

A semi-structured interview guide was developed in line with the research objective to further explore and understand pre-service teachers' perceptions and experiences implementing DPA and teaching PE. In an attempt to avoid researcher bias from influencing participants' accounts of their lived experiences, questions were open-ended and aimed to gain insight on general experiences of DPA and PE within educational contexts. Questions pertaining to specific topics previously recognized in previous literature such as barriers and facilitators to implementation were also posed. The interview guide consisted of four main sections where participants were asked to describe: a) the program structure at their Faculty of Education, b) their experiences within the Faculty of Education, specifically, how the program's curriculum prepared participants to teach PE and implement DPA, c) their perceptions of their practical field experiences, including how the associate teachers (ATs) contributed to their preparation, d) how confident they were to independently teach PE and implement DPA and what determined this level of confidence. Sections b and c also asked participants to reflect on what was most helpful, difficult, and any suggested improvements. All interviews were audio-recorded, transcribed verbatim, and sent back to participants to ensure accuracy of content as a form of a member check. Four out of the five participants chose to review their transcript and only one added information to their document. Interview length ranged from 23 to 58 minutes.

### **Analysis**

To understand pre-service teachers' perceptions and experiences, the project employed interpretative phenomenological analysis (IPA; Smith, Flowers, & Larkin, 2009). IPA is suitable when there are few participants, sampling is purposive, and interviews are utilized to explore individuals' experiences and understandings of a phenomenon (Smith & Osborn, 2008), as in the case of the current study. Given the inductive nature of IPA and the emphasis on making sense of participants' accounts of their subjective experiences (Sparkes & Smith, 2014), the authors did not begin with a pre-determined theoretical framework to guide their interpretation of the interview results. The present study closely followed Smith and colleagues' analysis guidelines (Smith et al., 2009; Smith & Osborn, 2008) and involved the first three authors separately reviewing and reading the transcript several times. Next, initial notes were made down one column of the transcript regarding “. . . associations or connections . . . preliminary interpretations . . . use of language . . .” (Smith & Osborn, 2008, p. 67). The other column was used to denote emerging themes. Emerging themes were then examined and super-ordinate themes created. The process was repeated with all transcripts. After individually completing the analysis, the first three authors held a series of meetings to discuss super-ordinate and emerging themes, explore similarities, differences, and challenges, and refine themes and titles. Finally, the fourth author reviewed and

critiqued the presentation of themes and discussion – serving, essentially, as a devil’s advocate. This final layer of critical assessment resulted in modifications and clarifications of themes. The same process was followed separately for all pre-service interviews.

## Results

Pre-service teachers’ perspectives and experiences of PE and DPA related to three superordinate themes: foundational knowledge of DPA and PE, practical development of PE and DPA, and individual characteristics of pre-service teachers. Themes one and two respectively emphasize the juxtaposition of theory versus practice (see Smith & Lev-Ari, 2005 for distinction), while theme three captures the personal experiences and characteristics of participants.

### Foundational Knowledge of DPA and PE

This superordinate theme, foundational knowledge of DPA and PE, reflects the ‘what’ of PE and DPA by encompassing the conceptual and pedagogical information, course content, and ideas pre-service teachers were exposed to for DPA and PE, primarily in the Faculty of Education setting. This includes two emerging themes: i) provision of PE and DPA content knowledge and ii) emphasis on DPA.

**Provision of DPA and PE content knowledge.** When asked about their preparation experiences in the Faculty of Education, participants recalled the ‘what’ of the Ontario H&PE curriculum in addition of outlining specific content and types of activities highlighted within their Faculty of Education course. Most pre-service teachers were exposed to a range of physical activity possibilities to use in PE and DPA contexts, with the H&PE course being the primary source of information:

. . . I know we did one day of DPA . . . one group did dance, a couple groups did team games, a couple groups did cooperative games, . . . I remember we did one full day of just looking at the curriculum. (Int 4)

. . . we had a phys ed class. . . which was getting us familiar with the curriculum and making sure that we knew sort of the idea of what a physical education class is all about and how we would go about organizing a phys ed class for a full year. . . (Int 1)

Across participants, there was a common experience of the H&PE course as a means of introduction to activities, the curriculum, and becoming “familiar” with PE and DPA.

Participants’ degree of experience with physical activity related curriculum varied. While some reviewed the PE curriculum and DPA policy in the H&PE course, for others, it “. . . was part of required readings. But in terms of formal discussion, very little” occurred (Int 5). The connection between the readings and the course appears to be missing for this participant. Other participants identified aspects of content (e.g., assessment and health education) that were not addressed in their experience. Another participant noted: “. . . [DPA] was touched upon briefly, but I wasn’t really sure that there was a difference between daily physical activity and the phys ed class until I got into a placement” (Int 1). These pre-service teachers bring forward gaps in their content knowledge and in some instances, reflect uncertainty about the difference between DPA and PE.

An interesting observation from the interviews was the use of curricular language. One participant explicitly discussed fundamental movement skills (FMS) along with the idea of “differentiation and different techniques of doing that” (Int 5) while others implicitly described aspects of FMS, for example:

...making sure that we don't assume that every, all our students know what we're talking about. That we have to be able to develop the physical movements and if we're teaching, if we're going to teach a baseball unit, we don't just jump out into the field. We have to go over how to properly throw a ball and breaking down the sort of kinetics of it in order to show all the kids and provide everyone in our class with a proper idea of how to do it as opposed to assuming that they know (Int 1)

Leaving "assumptions" that kids know how to play a given sport and focusing on the need to teach young people basic movement skills perhaps reflects a growing shift in philosophy to consider alternate pedagogical models other than sport-only models.

A primary delivery mechanism for physical activity related content in the H&PE course was through the use of peer teaching. One participant noted the value of "... the modeling and all content that was brought, presented and we actually physically did the activities under the leadership of those students ... it sticks with you" (Int 5). Despite the activities that 'stuck' with this participant through the peer-presentation medium, this pre-service teacher acknowledged the need for the course instructor to adopt a more prominent instructional role: "... [W]e had very little [instructor] modeling. The expectations weren't that clear, as to ... what should be presented and how to present the approach, what valid feedback sounds like ....an exemplar" (Int 5). Another participant also "enjoy[ed] the aspect of us actually teaching our peers" but thought "it would have been nice if we were actually given some tips on and suggestions on how to teach a physical education class" (Int 2). For both of these participants, there seems to be a lack of certainty regarding what content to deliver and how they would deliver it in either a PE or DPA setting. Relatedly, other pre-service teachers perceived what we might call a disconnect between peer learning in the course and practice within an elementary school classroom: "... even in the class when we, you know, ran the lessons, it was with 20-30 year olds. It wasn't with kids ... So we act completely different or react to a lesson completely different than a kid is going to" (Int 4). Underlying these participant reflections seems to be the realization that the experience of a classroom context with students was different from their experience within the H&PE course. While participants can see a parallel between the experiences, the application of the key course concepts and ideas may remain abstract, artificial, and unauthentic until given an opportunity to engage in actual practice.

**Emphasis on DPA content.** This second emerging theme relates to the importance, integration of, and exposure to the DPA concept. As noted above, the majority of pre-service teachers became aware of DPA through the H&PE course but the way in which this occurred varied from one participant noting that in the H&PE course DPA was "... a background discussion ... it was on people's conscience but it wasn't a formal discussion or component of the course" (Int 5) to another feeling prepared "...because of that two-hour class that we had on it..." (Int 4). Further, the latter participant went on to say that "[o]ther than that, no other course really mentioned it" (Int 4).

These two experiences highlight a difference in perceptions of DPA being in the "background" versus the foreground of course content. If DPA is not at the forefront in the H&PE course, exposure to DPA may not occur for pre-service teachers in other Faculty of Education courses. One participant highlighted DPA "was addressed directly in the arts classes, for dance" (Int 3), while this same participant and others suggested that for other classes, DPA was "peripherally addressed", "not formally" or "not explicitly" addressed, or happened "incidentally", at times through discussions of "integration" activities. These perhaps best reflect participants' efforts to draw their own links to where a DPA game or activity might be reasonable to include

and ‘count’ as the provision of DPA over explicit content, ideas, and strategies for cross-curricular integration. One participant proposed the use of DPA in other Faculty courses: “Like come up with some sort of a math game maybe that has them being active . . . ways to implement it into your actual lessons instead of feeling like you always have to take a break to do it” (Int 4). Implied in this suggestion is the value of tying of DPA to curriculum instead of breaking away from the curriculum to engage in DPA as an aside.

A final piece offered follows an underlying message received by one participant that DPA should, but did not occur in schools:

. . . there seems to be a widespread confusion about . . . whether or not it can be effectively implemented and sometimes knowing that it isn’t implemented . . . everyone in the Faculty seemed to say . . . it’s the intent of the Board to have it occur but it may not . . . and that without that kind of confidence there, we’re not instilled with any more confidence ourselves in being able to implement it (Int 3).

For this pre-service teacher, a mixed message is apparent and tied to perceptions of one’s own ability to implement DPA in the real world. This participant may be considering whether s/he can implement DPA or not; confidence may be shaped by perceptions of what is actually happening in practice.

### **Practical development of DPA and PE**

This superordinate theme reflects pre-service teachers’ perceptions of their practical preparation, or the ‘how’ of teaching PE and implementing DPA. Two emerging themes were identified as forms of practical means of preparation: i) placement context and culture and ii) AT mentorship.

**Placement context and culture.** One element of the placement context or culture pertains to the school environment. Variation was again apparent in perceptions of PE and DPA within the broader school context for pre-service teachers. One participant saw an initiative for healthy living (Int 1) and commented on the provision of equipment to support PE, but did not identify support for DPA. Another observed that “. . . [DPA is] not strongly encouraged or enforced. . . I think I may have been the only person in the whole school who was actually doing it” (Int 4). Another participant noted “the inconsistency” in DPA implementation in the school (compared to what this participant understood the expectations to be) and “that discrepancy was frustrating” (Int 5). These narratives, respectively, indicated a sense of being “alone” in efforts to implement DPA at the school and a frustration with not being able to bridge content and practice.

Accountability of the school leadership to implement DPA was also raised:

You can’t just say this has to be done . . . You have to make sure your whole school is implementing. So if the school itself is ensuring either by the principal or the vice-principal making sure that they’re talking with their teachers and reminding them that this has to be done on a daily basis, that would be a really important thing to do . . . it feels like it’s just in the teacher’s hands . . . So if they choose to implement it or not, it never gets followed-up on. (Int 1)

This participant perceived DPA as something that was a choice for each teacher to make, without consequence. Without broader support for DPA, including recognition that it is a mandated curriculum expectation, and a sense of the way in which this can be implemented, it is unclear if or how these particular pre-service teachers will reconcile such challenges within their own future teaching practice.

Elementary pre-service teachers also varied in their observational and hands on experiences with PE and DPA within the school placement context. Some participants noted opportunities to observe or lead PE and/or DPA arose on placement, while others' experiences were limited. When responding to a question about what made preparation to teach PE difficult, one participant responded, "That I didn't get to do it. That I didn't actually have the hands on of "Ok. I'm gonna try this and is it gonna work or not?" (Int 4). This participant is struggling with what was 'missed' in the placement; not having had a hands on experience to see what works, for trial and error. When discussing the difficulty of teaching PE, one participant suggested:

. . . going into the placement, I think it would have been great if it was kind of mandatory for us to all teach at least one physical education class because . . . throughout my three practic[a], I never once taught gym. (Int 2)

This participant's hindsight reflection and desire that teaching PE be required sits in contrast to another participant's placement experience where

. . . in my second placement, I felt very prepared. The best way that I can learn is for you to tell me, an example of what you would do as a teacher.....and then put me in a situation and give me all the sort of power and control to try my own, ideas...which is exactly what happened. So my experience went very well. I was informed of examples of what they'd done in the past for, uh, phys ed and, and given a few ideas and guidelines and then allowed to try my own hand at it. (Int 1)

The importance of hands on experimenting and learning with elementary students is captured by another participant who was able to connect the dots between the experience within the Faculty of Education and the placement as closing the loop or bridging the content to practice gap:

. . . the most helpful thing is just seeing how the kids took to it, what group dynamics are, control of the group, setting up a lesson, the interaction . . . So, that's the complement to what we did on campus . . . We got all the ideas but . . . we didn't know how it would fly and here you know right away if it's working or not. (Int 5)

The nature of each placement and characteristics of the AT can no doubt influence whether PE and DPA will be part of the practical experience. For example, several participants had an AT who was not the PE teacher. One such pre-service teacher suggested that ". . . perhaps the associates or the faculty should be asking whether or not they've had, they've seen every subject being taught" (Int 3); later adding for DPA that:

. . . it would . . . be helpful if, even if the associate teachers aren't comfortable with DPA or they don't regularly do it, if they'd at least attempt it while the student teachers are there because then the student teachers would get the opportunity to see how it could [be done] . . . (Int 3)

Furthermore, simply because a pre-service teacher did not see DPA happening on a particular placement does not mean that little or no DPA occurs in that school, with that teacher, or for those students. It may however influence pre-service teachers' interpretations about the policy and implementation, which can shape their perceptions and beliefs about DPA, its value, and/or occurrence. For example, not seeing DPA on placement made the above participant ". . . dubious about whether or not DPA is happening in some schools" (Int 3) while another described DPA as ". . . left as an optional like kind of bait throughout the day, 'Well, you have to earn it'" noting that at times ". . . there would be claims 'Yeah. There just isn't time for it' . . . or the kids weren't behaving so it was revoked" (Int 5). These pre-service teachers seem to question the implementation of DPA given what they personally observed was not in line with the intended DPA policy.

**AT mentorship.** A key relationship for pre-service teachers was with the AT. Participants appreciated informational support (e.g., resources, strategies, instruction on lesson planning) and noted encouragement as an essential aspect of the teacher-mentor relationship that provided an indication of their progress and competence:

[The DPA lesson] was something that I kinda talked to [the AT] about before just because I noticed that it wasn't the way [the AT] taught and I wanted to make sure it was ok. And [the AT] actually really liked it . . . really enjoyed it and really encouraged me to continue teaching that way. (Int 4)

This particular quote highlights the importance of the feedback and encouragement from the AT on teaching practice as this pre-service teacher worked to find a personal style and lesson delivery that went beyond copying what the AT did.

Several pre-service teachers reflected that their experience with the delivery of physical activity content was largely dependent upon their AT's schedule and responsibilities. For example, if the AT was not the PE teacher, the pre-service teacher did not necessarily see or engage in the PE class as they remained instead with the AT. One participant also offered that “. . . if [DPA is] not part of your associate teacher's plan . . . then you're not doing it . . . it's out of our hands as student teachers sometimes” (Int 1). This statement reflects an important and underlying sense of a lack of control over DPA being “out of their hands” as pre-service teachers when this participant had previously noted DPA being “just in the teachers' hands”.

### **Individual Characteristics of Pre-service Teachers**

Individual factors is the third superordinate theme and reflects the personal qualities (e.g., values, background experiences, personal characteristics) of pre-service teachers, which influence motivation and self-initiated behaviors to implement PE and DPA. Two themes emerged relative to individual factors: i) personal background and ii) self-initiated behavior. Both themes are associated with the degree to which pre-service teachers utilized (or were left to utilize) their own resourcefulness, skills, and, and motivations to expand their knowledge and applied experiences.

**Personal background and values.** This first emerging theme captures what pre-service teachers bring to their learning to teach experience and includes previous histories with activity, schooling, and values. Background experiences, either with personally being physically active or teaching/coaching, impacted confidence and self-perceptions of pre-service teachers. For example, one pre-service teacher felt confident to lead DPA based on experiences in camp settings: “. . . I had quite a repertoire already because of work with day camps and things. So that wasn't too much of a stretch for me . . .” (Int 5). This narrative suggests that knowledge and skills gained from other physically activity settings are seen as an advantage. Interestingly, participants did not comment on their own past school experiences as a student in PE classes (either negative or positive), which has been identified in the literature as shaping teachers' PE practice. This could be indicative of the importance of more recent personal experiences on participants' learning to teach and the need to offer mastery experiences within formal teacher education programs.

Of interest are the perceptions the pre-service teachers had of other pre-service or practicing teachers in terms of how personal attributes such as physical activity involvement and educational background in physical education impacted the learning experience. For example, one pre-service teacher reflected on the “struggles” that classmates who “. . . didn't have as good experiences with phys ed or are not as physically active themselves” had in the H&PE course and noted that those in “. . . Human Kinetics programs, or [who] had undergrad courses that directly applied . . . had a lot to share” (Int 5). We observe that these comments could reflect a possible

perception that being active is a requirement or sufficient indicator of competence to teach PE or lead DPA. Furthermore, even those with a post-secondary background related to physical activity may need additional training to hone and refine the necessary skills to implement PE or DPA in schools. A pre-service teacher with a Kinesiology background offered that “. . . I think that it could be a full year course . . . because I did feel a bit rushed” (Int 4).

Participants’ background reflections also emphasize the impact of personal identity and confidence on teaching. In a discussion of classroom teaching, one pre-service teacher acknowledged “. . . I think that’s a lot easier than having them . . . in the gym doing something physical that you might not feel comfortable doing yourself” (Int 2). This response is contrasted with the Kinesiology graduate who stated being “very confident [to implement DPA with students tomorrow] . . . just because it’s so important to me and I think it’s a lot easier than other people let on” (Int 4). Although not explicitly stated, these quotations suggest the future quantity and quality of PE/DPA in classrooms may reflect pre-service teachers’ own values, beliefs and interests, which are inextricably tied to a sense of identity and confidence within physical activity contexts. We also note that it is not clear how formal or informal personal experiences in physical activity actually translate into effective teaching practice once pre-service teachers are responsible implementing PE/DPA in their own classes.

**Role of self-initiated behaviour.** Participants’ discussion of self-initiated behavior (or personal motivation) was viewed as evidence that the pre-service teacher may be an active agent in the process of becoming prepared to teach PE and implement DPA. While some participants were able to find a role and voice in their placement experiences, others did not. One pre-service teacher explained: “I did try to incorporate some DPA. . . . it wasn’t asked of me or anything. I did it on my own” (Int 2). This same participant offered that pre-service teachers perhaps need to take the initiative to further their own learning experience:

. . . I know that it’s usually left up to the teacher and the principal and it’s kind of out of the Faculty’s hands at that time, but I think if teacher candidates were more . . . assertive and actually [say] to their associate teacher ‘you know, I’d really like to watch you teach gym class or implement DPA and then I would also like an opportunity to do it as well’”.  
(Int 2)

As previously illustrated, however, we identified what appears to be tension between self-initiated behavior and the structured (or perceived) expectations present in the placement context. The focus on lesson development and not DPA provides an example in which expectations to fulfill other more fundamental responsibilities in placement (perceived or actual) take precedence over gaining exposure and/or experience with DPA. One pre-service teacher admitted “I think I might have tried [to implement DPA] once, I was very focused on trying to get my lessons themselves up to par and teaching that I didn’t even get around to the DPA” (Int 3). It is unclear whether pre-service teachers should be encouraged to take on a more active role and take the initiative to acquire the knowledge and skills to be able to confidently and effectively implement PE/DPA or whether the focus should be on the responsibility of key individuals in both Faculty and placement settings to ensure such opportunities are provided. Enhanced communication efforts between all key players seems needed.

## Discussion

The goal of this study was to examine the experiences of a group of Ontario pre-service teachers with DPA situated within the context of the PE curriculum. Exploring pre-service teachers' experiences with DPA in this way adds a novel contribution to the existing literature examining pre-service teachers' PE experiences (e.g., Fletcher, 2012; Fletcher, Mandigo, & Kosnik, 2013). We have endeavoured to draw out the meaning of participants' experiences with a focus on their language and perceptions in order to add a piece to the puzzle in terms of how DPA is experienced within Ontario's H&PE curriculum. With recognition that the experiences of our participants are not generalizable to other pre-service teachers, our findings (centred on the themes of foundational knowledge of PE and DPA, practical development of PE and DPA, and individual characteristics) reveal the experiences of participating pre-service teachers with both DPA and PE are varied and as such, raises questions about the consistency of early career preparation across placements and Faculties of Education.

One interesting finding was the experience of DPA within the H&PE course. For some pre-service teachers, DPA was a key part of this course, while for others it was not experienced as such. For the majority of pre-service teachers, DPA was also not experienced as "cross curricular". The H&PE curriculum documents identify that "[p]hysical activity can be integrated into other curriculum areas" (OME, 2015, p. 53). Furthermore, in other places, a focus has been on having classroom curricular lessons be active lessons (as recommended by UDHHS/CDC, 2009). A review of these physically active lessons highlights a positive impact upon physical activity (Norris, Shelton, Dunsmuir, Duke-Williams, & Stamatakis, 2015). For instance, Goh and colleagues' (2013) evaluation of pre-service teachers' experiences with a movement integration component of a science course showed positive changes in personal behaviour but also highlighted barriers similar to those reported for DPA.

Our findings also yield further insight into current training of pre-service teachers who reported variation in the degree of DPA and/or PE content knowledge in their teacher education program. The literature offers few evidence-based recommendations regarding the priority of content to be introduced in core H&PE university classes and as such these decisions may be challenging for instructors (Fletcher et al., 2013). In addition to content knowledge, for some participants, it remained unclear how this information would translate into developing teaching practice either within an H&PE course or while on placement. For example, in our study, peer-to-peer methods were often used to deliver content in the H&PE course but not all pre-service teachers understood how this would apply in practice. Parr and colleagues (2004) investigated pre-service teachers' experiences using peer-peer teaching and found students offered ambivalent assessments of the value of the peer-teaching model. Other options exist aside from peer-teaching models for developing mastery experience. Gurvitch and Metzler (2009) found a "field-based" practicum (in schools teaching students prior to actual placement) to be a more "authentic experience" (p. 439). Further investigation is warranted into the role of the "authentic experience" and the nature of PE and DPA content that would best prepare pre-service teachers for the teaching profession.

On practicum placement, our findings that some, but not all pre-service teachers receive hands on or observational experience with PE and/or DPA mirror those found for pre-service teachers within PE. For example, in Australia, Nathan and colleagues (2013) reported over three-quarters of pre-service teachers saw PE being taught, yet only 59% reported being offered an occasion to teach PE with even fewer actually following through and teaching. In Canada, neither teacher in Fletcher's (2012) case study "experienced what could be described as exemplary

practice teaching experiences in regards to physical education” with “exemplary practice teaching experiences consist[ing] of extensive opportunities to engage in observing and practicing teaching under close supervision by an expert teacher” (p. 392). While PE specialists and classroom generalists are both responsible for PE instruction, depending upon the school (CFLRI, 2018), generalists may have more limited exposure to PE courses during their teacher education programs (Graber, Locke, Lambdin, & Solomon, 2008; Lu & Lodewyk, 2012). Further, practice in the field has been linked with pre-service teacher’s PE confidence (Fletcher, et al., 2013). As such, we would offer (based on the experiences of several participants in our study) that “exemplary practice” opportunities for pre-service teachers may need further consideration not only for PE, but also for DPA.

ATs are in the best position to model instruction and provide specific feedback related to teaching practices (Ronfeldt & Reininger, 2012) on placement. Previous research has indicated that pre-service teachers interact very little with principals or other members of the school staff (Smith & Lev-Ari, 2005), which was consistent with the participant experiences in our study. The task of preparing pre-service teachers within the school setting is typically the primary responsibility of the AT (Smith & Lev-Ari, 2005). Essentially, ATs become gatekeepers of placement experiences. Tensions were evident for some participants as pre-service teachers’ perceived control over their own behavior and ability to act independently (agency) are influenced by the structure of the school (e.g., rules and resources) and relative social position (MacPhail & Tannehill, 2012). Similar to Fletcher’s (2012) assertion, best or content-consistent practice may not always be demonstrated by ATs. However, in our study, several participants were able to navigate the formal structure of the placement and take initiative in cases of DPA or PE to broaden their learning experiences. There seems to be a delicate balance between ATs desire for “enthusiastic”, communicative pre-service teachers who demonstrate positive initiative and less enthusiastic pre-service teachers who were viewed as “arrogant” and focused on their own priorities (Welch, Willis, & Beutel, 2013, p. 4). If pre-service teachers’ self-initiative is indeed desirable then we draw on MacPhail and Tannehill (2012) who suggested: “...it is imperative that if PETE programs are to promote and engage with the preparation of change agents, that a culture where activities and interactions develop pre-service teachers’ ability to become change agents is created” (p. 303).

Pre-service teacher’s confidence in PE and DPA was tied to perceptions of their own background experiences and abilities related to physical activity. Our findings align with previous work that has acknowledged that “biographical experiences” shape pre-service teachers’ beliefs (Fletcher & Temertzoglou, 2010, p.23), identity, and developing practice teaching PE (Fletcher, 2012; Fletcher et al., 2013). Interestingly, in the current study, pre-service teachers did not comment on their own past experiences in PE as students, something that has received attention as being important in shaping current practice in the literature (e.g., Elliot, Atencio, Campbell, & Jess, 2013; Fletcher & Temertzoglou, 2010). Although we did not specifically ask if or how pre-service teachers’ own PE experiences influenced their preparation, their background nonetheless played a role in their preparation.

Our inquiry supports and recognizes the important roles played by the pre-service teacher, the ATs, and the faculty of education personnel for both DPA and PE. Pre-service teachers’ experiences with both DPA and PE appear to be shaped by not only themselves, but also the placement school and Faculty of Education structures and personnel. As such, aligning our findings within the social ecological model (McLeroy, Bibeau, Steckler, & Glanz, 1988) as previous studies have done (e.g., Allison et al., 2016; Brown & Elliot, 2015; Goh et al., 2013), is

deemed useful. Pre-service teachers' experiences linked with the individual level (our main theme of individual factors), interpersonal level (sub-theme of AT mentorship of theme two), and organizational level (main theme of the theory of DPA/PE and sub-theme of placement context and culture of theme two) of the social ecological model. Allison et al. (2016), for instance, found individual and organizational predictors were present when considering teacher and administrator DPA implementation, while Goh et al. (2013) noted that possible barriers to movement integration in the classroom identified by students applied to the organizational level of the social ecological model.

Overall findings from this qualitative study yield a number of additional questions and future avenues of research inquiry. Given the established literature highlighting challenges with pre-service teachers' PE experiences, additional investigation is warranted to quantify and qualify into the degree to which DPA is along for the ride with PE. This is particularly important given that in Ontario pre-service teachers engage in a two-year or "four semester teacher education program" Bachelor of Education program (Ontario College of Teachers, n.d.). It remains unclear at present if and how this change will impact pre-service teachers' preparation experiences relate to DPA and PE. Finally, Fletcher (2012) acknowledged the need for longitudinal research with pre-service teachers, research that would extend from pre-service to practicing teacher phase. Such research should include both DPA and PE and would align well with Fessler's career cycle (1992) and the importance of recognizing the long-term implication of early career preparation.

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