

Theoretical insights applied to learning to teach primary school physical education

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Abstract

This paper presents a précis of the theoretical perspective to an investigation of pre-service teacher preparedness across a pathway of learning within an initial teacher education program. The pathway is a suite of curriculum units that enable interested Education students at The University of New England to specialise in the teaching of primary school Physical Education (PE). In New South Wales, PE is a marginalised subject in the primary school curriculum situated within the Key Learning Area known as Personal Development, Health and Physical Education. The specialisation pathway at UNE ensures that PE is not further marginalised within the curriculum of teacher education. In an attempt to investigate the efficacy of this pathway, the descriptive and explanatory potential of Transformative Learning Theory (TLT) has been explored. Application of TLT to the research program has been detailed with implications for the major study outlined.

Introduction

The context of the research reported in this paper is an investigation of the efficacy of a learning pathway at The University of New England (UNE) known as the Health, Physical Education and Sports Studies (HPSS) specialisation. This pathway has been accessible to pre-service teachers enrolled in the Bachelor of Education (Primary) and Bachelor of General Studies/Bachelor of Teaching degrees since 1999. As shown in Figure 1, the HPSS specialisation consists of ten, six credit point curriculum units all of which have a focus on elements underpinning and addressing the teaching of Physical Education (PE). These units are identifiable by the university code EDPE.

EDPE CORE UNITS	EDPE ELECTIVE UNITS			
INTERNAL or ON-CAMPUS MODE				
EDPE214 Teaching Primary PDHPE	EDPE201 Advanced PDHPE Curriculum Studies (Primary)	EDPE245 Human Physical Performance	EDPE243 Movement & Skill 1	SPECIALIST PRACTICUM Internship (4 week)
EXTERNAL or OFF-CAMPUS MODE				
EDPE941 Health & Physical Education In the Primary School	EDPE245 Human Physical Performance	EDPE243 Movement & Skill 1	EDPE341 Sports Coaching School-aged children	EDPE 342 Motor Skill Acquisition
	EDPE343 Health Promotion In the Schools & Community	EDPE344 Special Issues In Health & PE	EDPE441 Advanced Sports Coaching	

Figure 1: Unit offerings creating the HPSS Pathway

Students may exit the pathway at several points. Typically, exits follow successful completion of the mandatory core EDPE unit, a minor suite of two to three EDPE units, a major suite of six units or following the PE generalist-specialist internship. The internship is accessible only to internal students who have completed four or more EDPE units. It involves placement at a primary school that has demonstrated a strong commitment to PE in the curriculum. The ten-week internship involves generalist teaching for 6 weeks and specialist PE teaching across all school stages for four weeks. Consequently, at graduation variation in the preparedness of pre-service teachers to teach primary school PE may be anticipated.

The HPESS specialisation has a transformative goal (Mezirow 1990). At the time of inception, major concerns were being expressed about an apparent lack of willingness and confidence of graduating generalist teachers to deliver safe and effective programs of PE for the primary school-aged child. As a curriculum innovation the HPESS specialisation intends to enhance primary school PE delivery in schools so as to improve skill levels of primary school-aged children. To achieve this, teacher educators responsible for the PDHPE KLA need to ensure that at least some graduates possess the willingness, confidence, knowledge and skills to advocate for and implement quality PE programs in primary schools. Since the inception of this innovation, anecdotal evidence largely based on testimonies from students, supervising teachers and school principals suggests that the HPESS specialisation was addressing these concerns.

In an effort to generate research-based evidence, a cross sectional research design has been adopted to investigate the efficacy of the HPESS pathway. At this stage of the study, survey and interview data are being collected from two of the five Research Groups (RG). A RG comprises students with the same number and codes of completed EDPE units. The two groups presently under study are RG1 and RG5. That is students who have completed one mandatory EDPE unit and those completing the specialist internship. Data collected will be analysed and findings used to address three research questions:

- a) What are pre-service teachers perceptions of preparedness to teach PE at different points along the HPESS specialisation pathway?
- b) How effective is this curriculum innovation in progressing pre-service teacher's perception of preparedness to teach primary school PE?
- c) What is the potential of specialised pathways of learning during initial teacher education to prepare teachers to teach marginalised school subjects?

Answers to these questions will ultimately establish the efficacy of the HPESS specialisation.

Theoretical Considerations

The challenge has been to identify one theory that can potentially describe, explain and/or predict (Cohen, Manion & Morrison 2007) the phenomena of learning to teach primary school PE. Whilst this theory would be expected to frame the research questions and guide the collection of data, its primary purpose is to help explain the findings and predict the future learning of pre-service teachers in this context. To this end, Transformative Learning Theory (TLT) (Mezirow & Associates 2000) was chosen. Jack Mezirow initiated the transformative learning movement in adult education in 1991 in his book *Transformative Dimensions of Adult Learning* when he invited others to join him "to formulate a theory of adult learning that will be useful to professionals engaged in helping adults learn" (Mezirow 1991:xviii). When this theory was published in 2000 in *Learning as Transformation*, fifteen associates co-authored the book. This was the origin of the term 'Mezirow and Associates'.

Transformative Learning Theory

TLT (Mezirow and Associates 2000) is based on the constructivist assumption that meaning exists within the individual rather than in external forms (Cranton 2006) and the basic tenet that we construct personal meaning from our experiences and validate

that meaning through discussion with others (Mezirow 2000; Cranton & Tisdell 2008). In essence, TLT is a theory of learning that explicates the meaning-making process (Baumgartner 2001) and in so doing offers theoretical insight to both a description of learning and an explanation of the mechanisms for learning. Whilst it is beyond the scope of this paper to provide a detailed account of this theory, it is important to present the features of the theory that were seen to advance the investigation of pre-service teacher learning on the HPSS specialisation. Two features are identified in this paper. The first is Mezirow and Associates (2000) general description of learning. The second is the ten-phase description of transformational learning.

General description of learning and transformative learning

Mezirow and Associates (2000) description of learning is "elegant in its simplicity" (Cranton & King 2003:32). The salient features of this description are:

1. We make meaning of the world through our experiences.
2. What happens once we expect to happen again.
3. We develop **habits of mind** or a **frame of reference** for understanding the world much of which is absorbed without much thought.
4. When something happens differently we either reject the new information or begin to question our way of seeing the world.
5. We engage in discourse with others to assess our beliefs, feelings and values (Mezirow 2003) and to obtain consensual validation (Mezirow 2000).

According to TLT, frames of reference are webs of assumptions and expectations through which we filter the way we see the world (Mezirow 2000). These frames are made up of habits of mind and resulting points of view. Habits of mind are the broad but unexamined predispositions that we use to interpret experience (Mezirow 2000) worked out from our experiences, background, cultural beliefs and personality preferences (Cranton & Tisdell 2008). Habits of mind are expressed as a point of view that is understood to be a cluster of meaning schemes, or habitual, implicit rules we use to interpret experience (Mezirow 2000). In the context of this research these elements of TLT would infer that through their experience of life in their communities, societies, institutions and from family, friends and colleagues (Cranton & King 2003) pre-service generalist primary school teachers have absorbed sets of meanings or rules for interpreting experiences of physical education. These predispositions that underlie these points of view have yet to be examined or critically assimilated. When pre-service teachers become aware of different points of view there is a need to either reject these views or look at primary school physical education from different perspectives.

Within this description of learning, transformative learning is said to take place if the individual is led to:

1. Open up their frames of reference, discard a habit of mind and see new alternatives.
2. Act differently in the world (Mezirow & Associates 2000).
3. Acquire new knowledge and skills to support new courses of action (Cranton 2005)
4. Experiment with new roles and relationships (Cranton 2005).
5. Integrate the new perspective into their lives.

In the context of this research, pre-service teachers may arrive to initial teacher education with a point of view and set of meanings for primary school physical education. Experiences of ITE such as EDPE units may cause the pre-service teacher to reflect critically to realise that their existing frame of reference may be problematic. The frame may be too narrow, closed and restrictive to be able to include the new or different perspectives presented to them in the course of their studies. "Learning that

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transforms problematic frames of reference - sets of fixed assumptions and expectations (habits of mind, meaning perspectives, mindsets) - to make them more inclusive, discriminating, open, reflective, and emotionally able to change" (Mezirow 2003:58-59). These new frames of reference may be seen to be better than the old because they are more open, inclusive, discriminating or reflective. In their future roles, these new frames of reference may offer new alternatives, different ways to act and new courses of action that may promise better outcomes for the primary school-aged child.

Ten-phase description of transformational learning

According to Mezirow (2000:22) transformational learning follows some variation of the following ten phases:

1. Disorienting dilemma
2. Self-examination with feelings of fear, anger, guilt, or shame
3. A critical assessment of assumptions
4. Recognition that one's discontent and the process of transformation are shared
5. Exploration of options for new roles, relationships, and actions
6. Planning a course of action
7. Acquiring knowledge and skills for implementing one's plans
8. Provisional trying of new roles
9. Building competence and self-confidence in new roles and relationships
10. A reintegration into one's life on the basis of conditions dictated by one's new perspective.

Knowledge of these phases is particularly useful given the cross-sectional design of this research. Irrespective of the sequencing of the phases, the researcher is able to look for evidence of a phase or phases at different points along the specialisation pathway. The predictive potential of this description allows investigation of whether transformational learning may be a cumulative process across the specialisation.

Implications For Study

A major implications arising from the researcher's consideration of Transformative Learning Theory for this investigation has been that a more systematic approach to the inquiry has been adopted. An understanding of key elements of the theory has enabled the researcher to frame a set of sub-questions from the broader research questions. For example:

1. What meanings have pre-service teachers attached to personal experience of Physical Education (family based, community based, school based and tertiary based) that constitute their frame of reference for primary school PE? Are these 'problematic frames of reference' when studying an EDPE unit at UNE?
2. Have pre-service teacher's meaning perspectives changed since they began their initial teacher education? e.g. Have pre-service teachers elaborated existing frames of reference, learned new frames of reference, transformed points of view and /or transform habits of mind?
3. Have pre-service teachers examined, questioned, validated and revised their perspectives at any point during the HPSS specialisation? If so, what phases and sequence of phases of perspective transformation are identifiable? Has transformational learning occurred?
4. Are perceptions of preparedness to teach primary school PE linked to transforming meaning perspectives, frames of reference and/or transformational learning?

These sub-questions are important to the research process because they have informed methodological decisions related to how to answer the research questions. In particular, decisions related to what information the researcher could collect, how this information could be collected, how resulting data sets could be analysed and how findings can be reported.

To support the claim that TLT has advanced the nature of the investigation, two applications of TLT to methodology follow. These are items from two researcher-developed instruments namely a survey questionnaire and a research interview guide (Freak, Miller & Haynes in press).

Example 1: Item from the HPESS Survey Instrument

In this item, students are asked to respond to the following statements using a six point scale from 'Strongly Agree' to 'Strongly Disagree' with an 'N/A' option. These statements are:

Item 20: The learning experiences in my most recent EDPE unit required me to:

- question my existing views of PE or Sport
- critique assumptions I held about PE or Sport
- discuss different points of view
- plan a course of action that was different to my previously held plans
- acquire new skills that would be needed to enact new or different plans of action
- try new roles in teaching sport or coaching sport that I had not previously envisaged
- integrate new perspectives into my teaching.

The purpose of the item was to assess if the experience of the most recent EDPE unit involved any of Mezirow's (2000) ten-phases of transformation learning. In conjunction with other data sources this was deemed to be important because it had the potential to predict if the frame of reference brought to the unit was relevant or problematic. If survey data suggests this possibility, participants may be invited to interview so the researcher can explore participants' frames of reference further.

Example 2: Item from the HPESS Interview Instrument

Question 1: From your point of view, what is primary school physical education?

The purpose of this question is to access the schemes that the participant uses to interpret the meaning of primary school PE. Since habits of mind are expressed as points of view, this question should also give access to what the participant has absorbed from his/her life experiences. Since frames of reference are made up of habits of mind and points of view, this question may also give access to information that can be used to describe each participant's frame of reference.

A trial of the interview instrument including this question was conducted with five participants who had studied only the mandatory EDPE unit. Three excerpts from interview transcripts follow. Each excerpt is limited to the respondents opening sentence.

Nina: "I think it is children being active and learning how to stay active throughout their lives and the health that is around being active"

Simon: "In my eyes it is kind of preparing kids. Like building a kind of base for expanding skills later on" "Like umm the fundamental skills like kicking and throwing and moving and all that kind of stuff"

Jessica: From my point of view I think physical education is just not the exercise or sport aspect of PE is umm it is like the whole encompassing thing - its got to look at exercise, its got to look at health but its also got to look at personal development.

These examples illustrate how three pre-service teachers with the same degree of specialisation on the HPESS pathway presently hold three different points of view. Primary school PE has been interpreted through different meaning schemes namely learning of active lifestyle, fundamental movement skills (FMS) and PDHPE. Early

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findings such as these contribute to an understanding of the complexity of asking a research question related to pre-service teacher's preparedness to teach primary school PE. Presumably if Nina's frame of reference is about teaching active lifestyle her perceptions of preparedness will be referenced against her conceptions of this role. On the other hand, Simon's perception of preparedness will be referenced against his perceptions of preparedness to teach FMS and Jessica's against her holistic view of personal development, health and physical education.

Whilst these early findings illustrate how theoretical reflections on TLT have advanced the investigation, it is too early in the data collection and reduction process to publish any findings. At this stage, items within the researcher-developed instruments informed by TLT are providing a method to scaffold the learning of pre-service teachers on the HPES specialisation pathway and increased the potential of the researcher to collect data that may describe, explain and predict (Cohen et al. 2007) that learning.

Conclusion

In conclusion, Transformative Learning Theory (Mezirow & Associates 2000) has provided the researcher with useful theoretical insights to apply to an investigation of pre-service teacher preparation and preparedness to teach primary school PE. As a constructivist theory of learning formulated for professionals engaged in helping adults learn, TLT aligns well with the intent of this research. That is to investigate the efficacy of a curriculum innovation during initial teacher education as pre-service teachers learn to teach PE. Exploration of the potential of the theory to advance this investigation has given rise to new questions, new ideas, new ways to conceptualise the research and new methods to conduct the research. Of greatest importance is the potential of TLT to describe, explain and predict the phenomena of learning to teach PE as a pre-service primary school teacher.

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