Supporting preservice teachers to transition to university through a purposely structured Health and Physical Education subject

Suzanne Hudson, Roslyn Franklin, Peter Hudson and Sarah James

ABSTRACT
Transitioning to university can be challenging for many first-year students. This study focusses on a Health and Physical Education (HPE) subject delivered at an Australian regional university and designed to support first-year preservice teachers training to teach in primary schools. The aim of this mixed-methods research was to investigate if a purposely structured first-year HPE subject could support primary preservice teachers’ confidence to (1) be part of a community of learners; (2) promote success and retention at university; and (3) develop the skills for teaching HPE, specifically, Fundamental Movement Skills. Survey results indicated 90 per cent or more of the preservice teachers’ self-reported confidence across the three areas being investigated. Interview responses highlighted the importance of well-structured coursework and real-world learning experiences in developing confidence for teaching HPE.

KEYWORDS
initial teacher education, health and physical education, preservice teachers, transition, university retention

The first year of study as a university student can seem daunting as they negotiate their academic studies and attempt to make the links between what they are studying at university and how they apply that knowledge to the real world (Larkin et al. 2014; Naylor et al. 2018). This can also be the case for university students from low socio-economic backgrounds or those who are the first in their family to attend university (Kift 2015). For preservice teachers studying education degrees, the challenge for Australian universities
is to design programmes that engage with real-life experiences to make the learning more meaningful (White et al. 2018).

While primary preservice teachers in Australia undertake professional experiences during their teacher education programmes, they may not have the opportunity to teach across all learning areas. Health and Physical Education (HPE) has been mandatory and a part of the Australian Curriculum since 2015 (ACARA 2015). Hence, HPE is included in primary teacher education degrees and is recognised as beneficial to primary student development (Barnett et al. 2013; Hills et al. 2015). Students gain benefits from physical activities, the expansion of knowledge and understanding, a sense of self, physical and mental wellness, and the establishment of respectful relationships and teamwork (ACARA 2015). In most states and territories of Australia, HPE is taught by generalist primary teachers; hence, they require the skills, knowledge and practices to effectively teach HPE. Well-planned HPE subjects within teacher education programmes can assist generalist primary teachers in being well prepared to teach HPE in primary schools (Freak and Miller 2017).

This explanatory mixed-methods study aimed to investigate whether a purposely structured first-year HPE subject delivered at a regional Australian university could support preservice teachers’ confidence to (1) be part of a community of learners; (2) promote success and retention at university; and (3) develop the skills for teaching HPE, specifically, Fundamental Movement Skills (FMS). This article focusses on two aspects of initial teacher education – first, the significance of the first year of university study and second, the requirement that generalist primary preservice teachers need to be prepared to teach HPE as part of the Australian Curriculum. As the focus of this article resides in these two aspects of initial teacher education, each will be discussed as a background to the study.

First-year university experience

The Bradley Review (Bradley et al. 2008) was undertaken by the Australian government to report upon the structures of higher education. One of the emerging recommendations included the need for greater inclusion of students from diverse socio-economic backgrounds. Research (Baik et al. 2019; Henderson and Noble 2013) has indicated that as a result of the Bradley Review there is now greater diversity in university populations with more equitable opportunities for students from all backgrounds to attend. Conse-
quently, there is an increased need to ensure all students receive the guidance and assistance they require as they transition to university.

A study by Karen Nelson and colleagues (2011) revealed that many students from low socio-economic backgrounds can be the first in their family to go to university and may leave within the first few months of commencing study. Many students who leave report the transition to university as challenging as they negotiate their academic studies and try to make the links between what they are studying at university and how they apply that knowledge to the real world (Naylor et al. 2018). In addition, student confidence can be affected due to a lack of understanding about what is expected of them at university and how to be part of the university community (Kift 2015; Nelson et al. 2011). Parents and carers may provide support; however, due to their own lack of tertiary education they may only be able to offer limited understandings. Sally Kift (2015) emphasises that many first-year university students struggle with the appropriate approaches to and for academic writing while other practical studies that require less explanation can be a welcome relief. Robyn Henderson and Karen Noble argue that transitioning to university can also be challenging for those in ‘regional universities, where many students – often the first in their families to attend university – are from rural, regional and low socio-economic communities’ (2013: 65).

The Australian federal government’s funding strategy, Transforming Australia’s Higher Education System (Commonwealth Government of Australia 2018), aimed to achieve equality in educational opportunities by widening student participation, including encouraging those from low socio-economic backgrounds to attend and stay at university. There are various approaches to retention that have been suggested including advocating practical applications of theory and enlisting peer mentor programmes to support first-year students (Davis and Taylor 2019). Other actions advocated include academic skills support, first-year advisors and programmes promoting a strong sense of community (Kearney et al. 2018).

Several studies (Baik et al. 2019; Meeuwisse et al. 2010; Morrow and Ackermann 2012) indicate that developing a sense of belonging by becoming part of a university group is positively related to academic progress, academic achievement and social acceptance. It is also suggested that active engagement in activities related to the university students’ chosen profession can promote retention and work towards building a community of learners (Simonet 2008). Through these first-hand experiences, Dan Simonet argues
that first-year university students who recognise the relevance of their studies are more engaged and demonstrate greater motivation to complete their university programme. Vincent Tinto concurs that ‘students who are actively involved in learning activities and spend more time on task, especially with others, are more likely to learn and, in turn, more likely to stay’ (1998: 4). Such activities can create a seamless education where students can connect what they are learning at university with the authentic experiences provided (Naylor et al. 2018).

Many of the first-year university student engagement activities which are undertaken in real-world settings to improve retention play an important part in promoting ‘deep learning and mastery’ (Reid and Solomonides 2010: 9). For example, many Australian initial teacher education programmes advocate early visits to schools and early childhood centres where preservice teachers undertake activities such as reading books to children and young people. Such activities can make learning more meaningful when studying how to teach literacy (Hudson et al. 2009). Reading to children and discussing pictures and texts can build confidence through the practising of the task. Albert Bandura (1977) highlights that such tasks where skills are practised can build confidence towards mastery. The research of other scholars supports such activities, advocating that the integration of real-world learning experiences into the first year of university can support student retention (Naylor et al. 2018; Tinto 2009). Kift (2015) concurs that a range of innovative approaches, including the embedding of real-world learning experiences, need to be explored to support student retention in Australian tertiary institutions.

Teaching Health and Physical Education (HPE)

The Australian Curriculum Assessment and Reporting Authority (ACARA 2015) advocates the teaching of HPE in schools. Through engaging in quality HPE programmes, school students can build self-esteem and teamwork, manage respectful relations and develop a sense of well-being that supports physical and mental health. ACARA further supports the acquisition of movement skills and strategies to promote physical activity with research confirming that regular participation in physical activity during childhood can improve students’ learning, builds their understanding of collaboration, and improves their general fitness levels (Peralta et al. 2019; Zach et al. 2017).

Evidence suggests that children today are participating less in sport and incidental activities and spending a considerable proportion of their time in
sedentary leisure activities (Lynch 2017; Peralta et al. 2019). In order to enjoy the wide range of physical, sporting and recreational activities offered in local communities, students need to learn and master certain skills and schools are crucial environments for promoting such healthy lifestyles (Evans and Curry 2018). HPE is considered an essential subject in the school curriculum (Evans and Curry 2018; Graber et al. 2008). The HPE curriculum requires all young Australians to study and participate in HPE each year from Foundation (early years of schooling) to Year 10.

Louisa R. Peralta and colleagues (2019) argue that in particular the mastery of Fundamental Movement Skills (FMS) contributes significantly to primary students’ physical, cognitive and social development and is thought to provide a foundation for active lifestyles. Despite the evidence highlighting the importance of an active lifestyle, studies nationally and internationally indicate a growing concern about the prevalence of obesity among young children and an unacceptably high number of preschool children coming to school with very poor FMS (Behan et al. 2019; Hardy et al. 2012). According to a range of studies (Evans and Curry 2018; Graber et al. 2008; Zach et al. 2017), the development of students’ FMS towards developing physical competencies is vital for students in the primary years. It is therefore advocated that Australian teacher education HPE programmes designed for primary students or those in the early years of schooling include FMS to promote cognition, health, fitness and foundations for a healthy lifestyle (Barnett et al. 2013; Hardy et al. 2012; Peralta et al. 2019; Webster et al. 2010).

Given the importance of HPE in supporting the wellness of Australian children and young people, teachers need to be well versed in the teaching of HPE including FMS. Generalist primary teachers are required to teach across all curriculum learning areas in most states of Australia. They have the main responsibility for the design and delivery of HPE (Taylor et al. 2019). While many primary teachers may feel prepared for teaching the health component of the learning area, Nicole Taylor and colleagues (2019) show that a lack of physical education knowledge and skills has contributed to uncertainty about their teaching abilities and motivation to teach physical education. Therefore, primary classroom teachers who perceive themselves as lacking the personal motor skills and understandings of rules, tactics and techniques to teach the sporting activities covered in the curriculum may not feel confident or competent teaching HPE as a learning area (Gil-Gómez et al. 2015; Morgan and Hansen 2008; Naylor et al. 2018). Lack of confidence combined with previous negative experiences of physical education during their own
schooling may impact on their beliefs and attitudes towards teaching HPE (Gil-Gómez et al. 2015).

Research indicates that a significant number of primary teachers are insufficiently prepared by their teacher education programmes to teach HPE (Tsangaridou 2012; Zach et al. 2017). Researchers Niki Tsangaridou (2012) and Robyne Garrett and Alison Wrench (2008) argue that the nature and quality of field experiences play a key role in the process of learning to teach HPE. Part of this process is to ensure that generalist primary preservice teachers’ initial experiences are practical and beneficial, which may lead to a positive belief in the importance of teaching HPE as well as developing preservice teachers’ skills and knowledge for teaching (Daly et al. 2011; Xiang et al. 2002).

In 2018, the World Health Organization (WHO) released the Global Action Plan to promote physical activity. The Australian government recognises the WHO initiative nationally. The adoption of the action plan raises the profile of physical activity as a major health initiative and priority for school students, especially those who may not have equitable opportunities to access physical activities (Australian Government 2019). Consequently, primary teachers need to be well-versed in understanding the importance of physical activity and how to successfully teach HPE. It is therefore essential that careful consideration be given to the design and delivery of HPE subjects in initial teacher education courses so as to build the capacity of primary preservice teachers towards effective teaching of this vital learning area (Booth and Okely 2010).

Context for this study

This research focusses on the first-year experience of preservice teachers and the outcomes of an HPE subject purposely designed to assist them to be successful in their first year at university and teach FMS to primary students. In the design of the subject, the literature pertaining to creating a positive first-year university experience was considered alongside the literature relating to the teaching of HPE. Also considered was the work of Bandura (1977, 1995) and the experiences he advocated to support self-efficacy or confidence to undertake tasks.

This research was undertaken at an Australian regional university comprising three campuses. The campuses are diverse in location but offer opportunities to regional students to attend university without moving to city
Supporting preservice teachers to transition to university

locations. Approximately 60 per cent of the students who attend this regional university are from low socio-economic backgrounds with over 50 per cent identifying as the first in their family to enter higher education.

First-year preservice teachers undertake an HPE subject in the four-year Bachelor of Education Primary and Primary/Early Childhood degree. The subject, accredited by the state regulatory authority and underpinned by the Australian Curriculum, included seven weeks of one-and-a-half hours per week where the preservice teachers studied the policies, theories, frameworks and approaches for teaching health to primary students. Concurrently, the preservice teachers completed one-and-a-half hours per week for four weeks of on-campus learning that incorporated the modelling of physical education teaching by experienced staff, preservice teachers planning for teaching HPE activities, developing and teaching FMS to peers, group activities, peer tutoring and the scaffolding of assessment. Following the on-campus learning activities, preservice teachers were allocated to schools identified as ‘low socio-economic’ that were nearest to their regional campus. Low socio-economic schools were selected, as it was hoped that the development of FMS would be of most benefit to primary students whose families may not be able to resource additional extra-curricular physical education activities. The in-school activities were entitled U Kids on the Move. Table 1 presents a summary of activities delivered in the HPE subject.

The preservice teachers attended a different school each week for three weeks, delivering the U Kids on the Move programme. U Kids on the Move was specifically designed by staff in the School of Education to provide authentic teaching experiences for first-year primary / early childhood preservice teachers, specifically the teaching of FMS in primary school contexts. As part of U Kids on the Move, each preservice teacher selected a fundamental movement skill to teach and prepared the activity prior to arriving at their allocated school, so any equipment could be arranged and organised. Once at the school, preservice teachers gathered into their prearranged groups of four and each group of preservice teachers were allocated eight primary students. The preservice teachers taught the same prepared FMS to the students in rotational activities. The activities commenced with Kindergarten (5–6-year-old students) in the morning and throughout the day the grade level of the students increased to include all primary grades to Year 6 (11–12-year-old students). It was envisaged that through the rotational activities the preservice teachers would teach the same FMS several times, allowing them to reflect and refine their teaching approaches towards developing mastery
The preservice teachers presented the FMS at a different school each week (three in total), so they could experience varied school and teaching contexts.

### Theoretical framework

This research investigated the confidence of the preservice teachers and was underpinned by Bandura’s work in self-efficacy, which is the confidence or self-belief to undertake a task. Bandura (1977, 1995) noted that people are not born with self-efficacy, but it develops as part of experience. Bandura high-

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**Table 1. Weekly HPE subject activities**

<table>
<thead>
<tr>
<th>Week</th>
<th>Health 1.5 hours</th>
<th>Practical 1.5 hours</th>
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</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Introduction/assessment overview&lt;br&gt;Understanding health and well-being</td>
<td>Introduction/assessment overview&lt;br&gt;FMS practical&lt;br&gt;• Introductory activities using locomotor movements&lt;br&gt;• Warm-up/FMS activities/tabloids/circuits</td>
</tr>
<tr>
<td>Week 2</td>
<td>A picture of students’ health&lt;br&gt;Key frameworks</td>
<td>FMS practical&lt;br&gt;• Introductory activities for non-locomotor skills&lt;br&gt;• Partner and small group activities&lt;br&gt;• Yoga&lt;br&gt;• Learning Connections activities</td>
</tr>
<tr>
<td>Week 3</td>
<td>Determinants of health&lt;br&gt;Protective factors</td>
<td>FMS Practical&lt;br&gt;• Manipulative skills (object control) – overarm throw, catch, two-handed strike.</td>
</tr>
<tr>
<td>Week 4</td>
<td>Analysis of key policies&lt;br&gt;Statistics and key health Issues in Australia</td>
<td>FMS practical&lt;br&gt;• FMS and minor games&lt;br&gt;• Parachute games / progressive lead-ups</td>
</tr>
<tr>
<td>Week 5</td>
<td>Settings-based approaches to health</td>
<td><em>U Kids on the Move</em>&lt;br&gt;• School 1</td>
</tr>
<tr>
<td>Week 6</td>
<td>Settings-based approaches (continued)</td>
<td><em>U Kids on the Move</em>&lt;br&gt;• School 2</td>
</tr>
<tr>
<td>Week 7</td>
<td>Health Promoting Schools Framework (HPSF)</td>
<td><em>U Kids on the Move</em>&lt;br&gt;• School 3</td>
</tr>
</tbody>
</table>

(see Bandura 1977, 1995).
lighted four sources of confidence, namely, (1) mastery experiences where there is an opportunity to practice the skill or activity; (2) vicarious experiences where the skills and activities are modelled for the learner; (3) verbal persuasions where feedback is provided about the learning progress; and (4) physiological state, which considers the learner’s feelings and well-being. In the design of the HPE subject, all four sources were considered to provide the preservice teachers with the experiences required to promote confidence. While previous studies have recognised that mastery experiences are possibly the most influential, all four are recognised as being significant in self-belief and confidence development (Pfitzner-Eden 2016), hence all four were considered in the first year HPE subject design.

This study is supported by pragmatism. Pragmatism is a philosophy that purports that beliefs are linked to experiences and are shaped by actions (Kaushik and Walsh 2019). It was deemed that pragmatism was suitable as an overarching philosophy for this study, as the investigation focussed on the preservice teachers’ self-reported beliefs about their HPE first-year experiences as shaped by their actions and involvement in the HPE subject. As pragmatism supports approaches where the selection of research design is determined by that which is most practical, the researchers could decide on the design of the instruments and methods of data collection deemed most suitable to meeting the research aim (Biesta 2020).

Research design

A pragmatic paradigm that embraces ‘what works’ as opposed to what is objectively the truth (Frey 2018) influenced the research design of this investigation. The explanatory study aimed to explore and describe if a purposely structured first-year HPE subject could support preservice teachers’ confidence to (1) be part of a community of learners; (2) promote success and retention at university; and (3) develop the skills for teaching HPE, specifically, FMS. As this research was exploring multiple viewpoints of the preservice teachers, a mixed-methods approach was selected, as it supported the investigation of the research aims using varied data. Mixed-methods approaches align with pragmatism, as the philosophy allows for suitable methods of data collection to be selected that suit the study including the use of both qualitative and quantitative approaches (Khoo-Lattimore et al. 2019).

Prior to data collection, we sought and gained ethical approval to undertake the study and consent to be involved was gained from the participants.
The preservice teachers in this mixed-methods study responded to a survey, self-reporting their confidence at the conclusion of the in-school teaching experience (i.e. *U Kids on the Move*). The surveys were administered by a research assistant at each of the sites to ensure the preservice teachers could respond without feeling influenced by the presence of the university teaching staff. Once completed, the surveys were reviewed by the researchers and any surveys left blank or incomplete were removed from the research. David Creswell and John Creswell (2018) support the deletion of incomplete or blank surveys where the participants may not have engaged entirely or accurately hence impacting the validity of the self-reported responses. After the deletion process, there were 178 surveys for analysis.

Following survey analysis, interview questions were designed to probe for reasons behind the quantitative results. The interviews were conducted within two weeks of the preservice teachers’ completion of the school experiences to ensure that they could recall their on-campus and in-school teaching (see King et al. 2018). While interviews can be used for different purposes, the interview responses in this study were used to provide further explanation about the preservice teachers’ confidence as reported in the quantitative data and to present the experiences that influenced their confidence for teaching HPE.

There were two phases of the research. Phase 1 of the research included gaining ethical approval, developing the survey, administering the survey, gathering quantitative data and analysing the quantitative data. The survey was developed from the literature pertaining to the areas under investigation, which included first-year university experience and (1) being part of an educational community; (2) success and retention at university; and (3) knowledge for teaching HPE, specifically FMS. The survey took about thirty minutes to complete. The preservice teachers responded to statements on a 1 to 5 Likert scale (e.g. 1 = strongly disagree to 5 = strongly agree). The survey provided a header and twenty statements, for instance: ‘As a result of completing the HPE subject, I am confident in my ability to succeed in my first year at university and develop a plan for teaching FMS’. SPSS (a statistical analysis software package) generated descriptive statistics such as mean scores, standard deviations and percentages (by combining agreed and strongly agreed responses). The data were analysed and organised into tables representing the preservice teachers’ responses to statements aligned to the three aforementioned areas.
Phase 2 of the research involved developing interview questions in response to the quantitative results gathered in Phase 1. The interviews were semi-structured to allow for further probing (Creswell and Creswell 2018). On the final day of the in-school teaching experiences, preservice teachers were invited to be part of the one-to-one interviews. Five preservice teachers volunteered to be involved. While it was hoped more would volunteer, the demographics of the five participants were representative of the preservice teachers involved, hence satisfying the requirements of the research (Creswell and Creswell 2018). The five preservice teachers were interviewed by phone within two weeks of completing their teaching activities. The interviews were conducted by a research assistant to allow anonymity so the preservice teachers could freely respond. The questions were designed to elicit further information about the HPE experiences and provide explanation for the quantitative results (e.g. ‘Why do you think 97 per cent of the preservice teachers responded they felt confident to be part of an HPE community?’ and ‘What experiences impacted on your confidence to be part of the HPE education community?’). The interview responses were hand-coded within the three areas nominated for the investigation. The three females and two males interviewed represented the three age groups indicated in the quantitative data. Each of the campuses was represented with two participants from campuses 1 and 3 and one from campus 2. To meet ethical requirements, the names of the participants were de-identified during the transcription with pseudonyms applied. A summary of the age and gender of each of the participants is noted in Table 2.

Table 2. Summary of the participants in the study

<table>
<thead>
<tr>
<th>Preservice teacher</th>
<th>Gender</th>
<th>Age</th>
<th>Campus</th>
</tr>
</thead>
<tbody>
<tr>
<td>John</td>
<td>M</td>
<td>17–21 years</td>
<td>2</td>
</tr>
<tr>
<td>Angus</td>
<td>M</td>
<td>17–21 years</td>
<td>3</td>
</tr>
<tr>
<td>Molly</td>
<td>F</td>
<td>22–29 years</td>
<td>1</td>
</tr>
<tr>
<td>Harriet</td>
<td>F</td>
<td>17–21 years</td>
<td>3</td>
</tr>
<tr>
<td>Tessa</td>
<td>F</td>
<td>30–49 years</td>
<td>1</td>
</tr>
</tbody>
</table>
Results and discussion

The quantitative data set of 178 preservice teachers (males 26 per cent, females 74 per cent) included 79 per cent aged between 17 and 21 years, 15 per cent aged between 22 and 29 years and 6 per cent aged between 30 and 49 years. No-one was older than 50 years of age; however, 51 per cent of the participants identified they were first to attend university in their family. The following tables present the preservice teachers’ self-reported confidence for the three areas identified in this study. The interview responses are included as part of the discussion, as they provide insight and further explanation into some of the quantitative results.

Table 3 shows that 90 per cent or more of the preservice teachers self-reported they felt confident to be part of a community, participated successfully with peers, worked well as a team member, contributed to the group, and approached staff if they had difficulties. This high percentage rate was explained by the interviewees. To illustrate, John noted that ‘we felt part of a team because during the on-campus activities we were placed in groups with peers and taught FMS to our peers’.

Molly and Angus’s comments were similar to John’s, saying that the HPE subject ‘allowed the groups of peers to get to know each other because we were involved in activities requiring teamwork’ and ‘because we did so much group work we got to know the other students, which made me feel part of that community’. However, Harriet noted that when they attended the school visits ‘some of the team members just didn’t pull their weight’. She continued that the reason for this may have been that they ‘felt comfortable at university but not so sure when we went to the school and they had to teach the kids’. Bandura (1995) highlights that a person’s physiological state can affect confidence to undertake a task. Perhaps the preservice teachers Harriet referred to did not feel as confident during the in-school experience because the activities had been practised on campus and they had not taught school students before. Conversely, John praised the *U Kids on the Move* experience as contributing to his sense of being part of a school community and providing an opportunity to practise his teaching. He stated:

I loved *U Kids on the Move* as we were all in it together so there was certainly a sense of community. I also thought *U Kids* was a great opportunity to try out teaching within the safety of a group, which was reassuring.
John acknowledged that the real-world learning experiences supported preservice teachers to be enthusiastic about their future career, inspiring them to remain at university and complete their degree. Embedding these types of activities into first-year subjects can promote university student retention, as they gain experience in the career they are wishing to attain (Simonet 2008; White et al. 2018).

While 90 per cent of the preservice teachers agreed or strongly agreed that they were confident to approach staff when having trouble, it meant that 10 per cent were unsure or disagreed that they could. Tessa shed light on these results when she stated that ‘the teaching staff were lovely in this HPE subject, but I didn’t want to admit I could not do some of the activities’. Tessa, who represented an older age demographic, continued that she had ‘really negative experiences doing physical education at school’ and did not want to tell the tutor ‘in case it impacted on my results’. Research suggests that generalist primary teachers may lack the confidence to teach HPE to school students because of their own experiences at school where they did not achieve success (Gil-Gómez et al. 2015). As teaching all aspects of HPE is a mandatory requirement, gathering information about preservice teachers’ background and about how they feel about HPE, including their own assumptions about their personal physical fitness, could inform the inclusion of strategies to support preservice teachers who have had previous negative HPE experiences or feel physically unfit.

Table 4 presents the preservice teachers’ self-reported confidence for success and retention at university. There were 90 per cent or more preservice teachers who agreed or strongly agreed that they were confident in the associated items. In terms of confidence to complete assessment, 99 per cent

Table 3. Preservice teachers’ self-reported confidence for being part of a community (N = 178)

<table>
<thead>
<tr>
<th>Being part of an education community</th>
<th>M</th>
<th>SD</th>
<th>%*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Be a part of the HPE education community</td>
<td>4.44</td>
<td>0.56</td>
<td>97</td>
</tr>
<tr>
<td>Participate successfully with my peers</td>
<td>4.46</td>
<td>0.55</td>
<td>97</td>
</tr>
<tr>
<td>Work well as a team member</td>
<td>4.53</td>
<td>0.52</td>
<td>99</td>
</tr>
<tr>
<td>Play a role in contributing ideas to the group</td>
<td>4.42</td>
<td>0.52</td>
<td>99</td>
</tr>
<tr>
<td>Approach staff when having difficulties</td>
<td>4.22</td>
<td>0.65</td>
<td>90</td>
</tr>
</tbody>
</table>

* Total of strongly agree and agree responses
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self-reported they agreed or strongly agreed that they could complete the assessment. When asked in the interviews about this response rate, Angus highlighted that ‘because the subject was so well-structured and the assessments linked so well to what you were learning, I felt confident I could complete and do well in the assessment’. Tessa concurred with Angus when she highlighted, ‘the assessment was really practical, and we had opportunities to practice them in class and during the U Kids on the Move experience so I would say that’s why we were confident’.

Bandura (1995) notes that mastery experiences where opportunities are afforded to practise and undertake tasks can impact positively on confidence levels to undertake similar tasks. While the preservice teachers self-reported confidence to achieve success at university, 10 per cent of preservice teachers were unsure or disagreed that they were confident they could stay positive about university. Molly commented that while this subject supported the preservice teachers to be successful, university overall felt like a ‘challenge’. She stated that her ‘finances and the need to support her children as a single mum’ made her feel she may not remain at university. Molly further stated that ‘while she loved learning and the university environment, trying to juggle study, kids and work made it difficult’. For many university students, finances can impact on retention at university. For those who have additional family commitments like Molly, staying at university can be a difficult decision (Naylor et al. 2018).

The preservice teachers had strong agreement (97 per cent) that they could be independent learners at university, because of the HPE subject. When asked about the self-reported confidence levels in this item, John indicated that preservice teachers ‘were provided with all the materials they

<table>
<thead>
<tr>
<th>Success and retention at university</th>
<th>M</th>
<th>SD</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Succeed in my first year at university</td>
<td>4.45</td>
<td>0.59</td>
<td>95</td>
</tr>
<tr>
<td>Complete my university degree</td>
<td>4.42</td>
<td>0.62</td>
<td>96</td>
</tr>
<tr>
<td>Succeed in this subject</td>
<td>4.35</td>
<td>0.55</td>
<td>96</td>
</tr>
<tr>
<td>Be an independent learner at university</td>
<td>4.53</td>
<td>0.55</td>
<td>97</td>
</tr>
<tr>
<td>Complete the assessment tasks</td>
<td>4.46</td>
<td>0.51</td>
<td>99</td>
</tr>
<tr>
<td>Pass all aspects of this subject</td>
<td>4.37</td>
<td>0.59</td>
<td>96</td>
</tr>
<tr>
<td>Remain positive about university</td>
<td>4.23</td>
<td>0.69</td>
<td>90</td>
</tr>
</tbody>
</table>

* Total of strongly agree and agree responses
needed on the Blackboard (online learning) site. He noted that it was ‘easy to become an independent learner because we were provided with everything, so the classes supported us, but we also knew we had everything we needed such as readings and assessment details’. Molly confirmed this perspective, stating that the tutors ‘went through everything so well that we could be independent’. She further explained that ‘if you set up everything clearly and it is explained, it allows you to be independent’. Designing subjects to promote independent learning is recognised as an important feature for first-year subject design. Well-designed first-year subjects can support students to remain at university (Booth and Okely 2010). For many students this may be the first time they have been asked to be an independent learner hence, providing scaffolding for these first-year preservice teachers supported their development towards successful continued learning.

Table 5 presents quantitative data on the final aspect in this study, which focussed on knowledge for teaching HPE, specifically FMS. At the conclusion of the seven weeks of the first year HPE subject, a significant majority of preservice teachers agreed or strongly agreed they could develop teaching plans (98 per cent) and were enthusiastic for teaching HPE (99 per cent). Additionally, they agreed or strongly agreed that they had confidence to develop a rapport with students (99 per cent), motivate students in FMS (96 per cent), apply a range of teaching strategies (97 per cent), demonstrate knowledge to students (98 per cent), and reflect on teaching to improve HPE practice (98 per cent; SD range 0.51–0.60).

### Table 5. Knowledge for teaching HPE, specifically FMS (N = 178)

<table>
<thead>
<tr>
<th>Knowledge for teaching HPE specifically FMS</th>
<th>M</th>
<th>SD</th>
<th>% *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop teaching plans</td>
<td>4.37</td>
<td>0.53</td>
<td>98</td>
</tr>
<tr>
<td>Motivate students in FMS</td>
<td>4.35</td>
<td>0.57</td>
<td>96</td>
</tr>
<tr>
<td>Develop a good rapport with students</td>
<td>4.39</td>
<td>0.51</td>
<td>99</td>
</tr>
<tr>
<td>Apply teaching strategies in planning</td>
<td>4.34</td>
<td>0.53</td>
<td>97</td>
</tr>
<tr>
<td>Be enthusiastic about teaching FMS</td>
<td>4.51</td>
<td>0.60</td>
<td>99</td>
</tr>
<tr>
<td>Use effective strategies to support student learning</td>
<td>4.34</td>
<td>0.51</td>
<td>98</td>
</tr>
<tr>
<td>Demonstrate FMS knowledge to teach students</td>
<td>4.35</td>
<td>0.54</td>
<td>98</td>
</tr>
<tr>
<td>Reflect on my teaching to improve practice</td>
<td>4.39</td>
<td>0.52</td>
<td>98</td>
</tr>
</tbody>
</table>

* Total of strongly agree and agree responses
When asked in the interviews about the high percentages indicative in these response rates, Harriet noted that the ‘structure of the subject helped her to feel confident for teaching HPE’. She claimed that the tutor ‘modelled effective HPE teaching strategies and showed what effective teaching of FMS looked like’. Bandura (1995) outlines that a vicarious experience where someone models a practice for you can impact on your own confidence to undertake the same or similar task in the future. The modelling of practices was confirmed by Angus as impacting on his confidence for teaching when he commented that the subject was ‘well structured’ and the modelling by the tutors ‘helped us to understand how to approach the teaching of FMS’. He said that ‘having the opportunity to then practise the skills after they were modelled confirmed that we could do it’. Molly believed the high percentage rates of self-reported confidence were because of the activities being practised. Molly commented that ‘we had opportunities to practise planning and using teaching strategies in class and then we had more opportunities to teach primary students. These activities were invaluable’. Molly’s thoughts were supported by the other interviewees, particularly Tessa, who stated:

This subject gave us an opportunity to actually put into practice what we were learning. We were provided with ongoing feedback, so we knew how we were going. The way the subject was delivered combined with the experiences in schools supported my learning for teaching HPE and in particular FMS.

Bandura (1977, 1995) suggests that belief in one’s ability to undertake a task can be influenced by social persuasions and opportunities for mastery experiences where activities are practised. The ongoing feedback provided by the HPE tutors combined with the opportunities to practise teaching the skills in class and during the U Kids on the Move activities impacted on the preservice teachers’ self-reported confidence for teaching HPE, specifically FMS.

Conclusion

The first year of university can be overwhelming for many students as they make the transition to an unknown learning context (Kift 2015). For the first-year preservice teachers in this Australian study, 51 per cent were the first in their family to attend university. This could mean that over half of the preservice teachers in this investigation may not have had high levels
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of support at home from those who had tertiary education experience and understood the transition period. From this research, it was evident that the purposeful planning that went into the first-year Health and Physical Education subject may have been warranted and that the preservice teachers appreciated the support provided. It was evident from the interview responses that the subject provided a scaffolded approach in the presentation of information both in class and for the online learning materials (i.e. Blackboard). The tutors also walked the preservice teachers through these materials and did not assume that they had the knowledge to become independent learners. Instead, the preservice teachers were guided to develop the skills for independent learning. Group work activities provided opportunities for the preservice teachers to become familiar with their peers and created a sense of community. Additionally, teaching the FMS activities to their peers and then taking the activities to the school context for U Kids on the Move allowed them to apply their learning in readiness for teaching. The embedding of real-world learning is recognised as valuable in assisting first-year university students to have experiences in their selected profession, thereby aiding retention (Simonet 2008; Naylor et al. 2018; Tinto 2009).

Consideration of Bandura’s (1977, 1995) theory of self-efficacy meant the design of the HPE subject included approaches and strategies to support the development of the preservice teachers’ confidence for teaching. Specifically, the subject offered opportunities to promote mastery experiences through the peer teaching activities and teaching in the primary schools and through vicarious experiences via the modelling of teaching by tutors and their peers. Additionally, the preservice teachers received social persuasions in the way of encouragement and feedback from peers and tutors. One preservice teacher did note that she felt uneasy to approach a staff member about her concerns for her own abilities in HPE, while another felt challenged by her financial situation, indicating in this study that Bandura’s ‘physiological state’ was influential in confidence development for teaching HPE. Hence, Bandura’s (1977, 1995) four influences on self-efficacy may be useful to consider in first-year subject design and for other subjects such as music, visual arts and science where research has indicated primary preservice teachers may lack confidence (Burak 2019; Morris et al. 2017; Webb-Williams 2018). The results indicated that university teaching staff designing and delivering HPE should further consider investigating preservice teachers’ backgrounds and their attitude to HPE, including their experience and feelings about their own physical fitness. The inclusion of a preservice teacher survey prior to
the commencement of teaching HPE can provide additional information to guide the design of the subject so delivery can be responsive to the needs of the participants.

There were study limitations such as completing the survey on the last day of the *U Kids on the Move* school activities; hence, high levels of confidence recorded may have been a result of the excitement at the conclusion of the HPE subject. While the survey was underpinned by the associated literature for the three areas under investigation, perhaps the research may have been more rigorous if focussed on one area or if more survey items were added to each of the three areas. These preservice teachers were undertaking other studies at the same time as the HPE subject; therefore, confidence levels may have been boosted because of other subjects. Nevertheless, the preservice teachers were asked specifically to self-report confidence as a result of the HPE subject. Finally, there were five interviewees only, and so more participants may provide a deeper analysis as an explanatory research design.

The first year of university can be challenging for preservice teachers, and it can be particularly difficult for those identified as being from a low socio-economic background or first in their family to attend university. This research highlighted the need to construct first-year university subjects that not only present knowledge for teaching but also consider how supportive approaches can be embedded as part of subject delivery to promote success and retention. HPE is central to young people’s health and well-being, and contributes to cognitive function. Designing HPE subjects with consideration of Bandura’s (1977, 1995) theory may contribute to building preservice teachers’ self-efficacy to teach HPE successfully in primary schools.

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Peter Hudson died in 2022 after the completion of this article. He was an Adjunct Professor at Southern Cross University and had also worked at Queensland University of Technology. Peter had close to 200 refereed publications and designed science education programmes in both Australia and Malaysia. Peter received the prestigious Australian Office of Learning and Teaching (OLT) for programmes that enhance student learning.

Sarah James has a PhD in mentoring and literacy education from Southern Cross University and is an early career researcher who was a highly accomplished teacher before making the transition to university teaching. Her research includes the completion of a PhD that was a substantial study into the mentoring of preservice teachers in the area of literacy teaching. Sarah has a number of publications from this research as well as successful grant applications. She is currently the Academic Lead for Professional Experience and lecturing in literacy at Queensland University of Technology. Email: s35.james@qut.edu.au

References


