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**“I know it’s important but I’d rather teach something else!”: An investigation into generalist teachers’ perceptions of physical education in the primary school curriculum**

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The benefits of regular physical education (PE) for primary school children have been reinforced in the literature over a number of years. Unfortunately, many generalist teachers feel they lack the confidence, training and time to teach PE effectively and subsequently may avoid teaching PE altogether. A key aim of this study was to examine the relationship between generalist teachers’ curriculum preferences in the primary school and the relative value they place on PE compared to other key learning areas (KLAs) of the NSW primary curriculum. Data were collected from 422 pre-service (2<sup>nd</sup>, 3<sup>rd</sup> & 4<sup>th</sup> Year) and 63 in-service generalist primary teachers. Results suggested that most cohorts considered PE to be a relatively valuable KLA but indicated they would prefer to teach other KLAs rather than PE. Insufficient time was the most commonly cited impediment to the delivery of PE programs. Significant relationships were established between PE attitudinal variables for some cohorts and interesting findings emerged from post hoc analysis of cohort differences, particularly regarding in-service teachers. These findings will be discussed with specific recommendations made for preservice education and ideas for the professional development of generalist primary teachers.

## **Introduction**

### *Primary School Physical Education (PE) in NSW Primary Schools*

The curriculum of schools in NSW comprises six key learning areas (KLAs) throughout primary school including English, Mathematics, Science and Technology (S & T), Human Society and its Environment (HSIE), Creative and Practical Arts (CAPA), and Personal Development, Health and Physical Education (PDHPE). The classroom teacher generally teaches all six KLAs and decides upon program time allocation, although sometimes within school parameters set by the principal. Primary teachers are allowed flexibility in content selection and time allocation because policies concerning curriculum implementation are decided upon at the school level (Board of Studies [BOS], 1999). Evidently, most classroom or generalist teachers have responsibility for teaching PE<sup>1</sup> in primary schools, although specialists are used in some non-state and a minimal number of state schools.

However, many concerns have been raised in discussions regarding the quality of teaching in primary PE in Australia (see for example Hardman, 2000; Hardman & Marshall, 2001; Moore, 1994; Senate Standing Committee on Environment, Recreation and the Arts [SSCERA], 1992; Smith, 1993; Thompson, 1996; Tinning, Kirk, & Evans, 1993). The quality of PE programs has been questioned despite recent evidence indicating that experiences in primary school PE have important implications for students’ education, health, and future well-being (Harrison, 1998). Research has indicated that many teachers face a number of problems trying to meet the demands of teaching PE. Some of the major barriers include inadequate facilities and equipment, feelings of inadequacy, low levels of confidence, and lack of time and interest (Curtner-Smith, 1999; Martens, 1996; Moore, Webb, & Dickson, 1997; Thompson, 1996). Aside from inadequate facilities and equipment, most of these barriers are linked to teachers’ attitudes or perceptions regarding PE teaching.

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<sup>1</sup> Although classroom teachers are required to teach K-6 PDHPE, this paper primarily focuses on the PE component. Reasons for this decision include; the strong rationale for PE in the primary school, what is seen as the poor quality and quantity of primary school PE and the unique practical nature of the PE teaching environment.

### *The Importance of Examining Teachers' Perceptions and Attitudinal Disposition*

As long as classroom teachers remain responsible for teaching PE, it seems important to consider a teacher's perceptions and attitudinal disposition. Silverman and Subramaniam (1999) noted the importance of examining attitudes, "Attitude permeates everything we do. It is an important component in all aspects of human endeavor. Attitude influences whether we begin or continue with certain activities - and whether we achieve in certain areas" (p.97). Previous research has described how teachers' beliefs and attitudes impact upon the teaching and learning process and become evident in their behaviours (Tabachnick & Zeichner, 1984). Furthermore, teachers' beliefs may differ when teaching varying subject matter (Wood, Cobb, & Yackel, 1990). Considering that classroom teachers are required to teach a variety of KLAs, beliefs specifically about different KLAs and teachers' perceptions of a KLA's value need to be assessed. A teacher's perceptions or affective disposition may have a profound affect on a student's attitude to PE (Aicinena, 1991; Carlson, 1995) and subsequently exert a significant influence on a pupil's PE experience (Lawson, 1983; Williams, 1989a). It is of particular significance that researchers have found that many classroom teachers hold negative attitudes towards PE (Andrews, 1987; Brumbaugh, 1987; Faucette & Patterson, 1989; Howarth, 1987, Lawson, Lawson & Stevens, 1982; Portman, 1996; Smith, 1993; Xiang, Lowy, & McBride, 2002), and question its value for children (Brumbaugh, 1987; Downey, 1979; Faucette & Patterson, 1989).

A recent study in America by Xiang et al. (2002) examined the attitudinal disposition and beliefs of preservice classroom teachers before and after a fields-based course using two open-ended questions. While the course impacted on beliefs, it had no impact on attitudinal disposition. After this course, half of the preservice classroom teachers indicated that they were not willing to teach PE. In fact, the number of students willing to teach PE decreased from pre-test to post-test. The students reported that they were more interested in academic subjects, they did not feel equipped to teach PE effectively, and the 'PE teaching environment' had a number of undesirable qualities (for example, noise, discipline problems, large classes). Additionally, some researchers have found that classroom teachers do not believe participation in PE leads to any benefits for students. In a review of research comparing specialists and non-specialists, Faucette and Hillidge (1989) outlined that many classroom teachers believed that PE possesses little value when compared to other subject areas. Downey (1979) asserted that many generalists teach PE poorly because they do not consider it to be of any value to children. Similarly, in her study of five classroom teachers, Brumbaugh (1987) found them to be uncertain of the purpose of PE and reported that they generally placed a low priority on PE in relation to other subjects.

As the teacher has a considerable influence on the attainment of favourable outcomes for students, this study focused on preservice and practising teachers of primary school PE. It has been proposed that the quality of PE is associated with a teacher's commitment to PE and the way it is perceived and valued by the teacher. Therefore, a key aim of the current study was to examine the relationship between a number of important variables relating to teaching PE for generalist teachers; curriculum preferences in the primary school, general feelings about physical education, and the relative value placed on PE compared to other KLAs of the NSW primary curriculum. Relationships between these variables would also be explored. A subsidiary aim of this study was to ascertain respondents' perceptions regarding the employment of PE specialists in the primary school and to investigate the PE teaching programs of practising teachers. Specifically, the research questions that this study sought to investigate included:

1. What are generalists' feelings towards PE?
2. What are the perceptions of generalists with regard to the importance of PE in the primary school setting relative to other KLAs?
3. What are the perceptions of generalists with regard to their teaching preferences concerning PE and other KLAs?
- 4a. How frequently are PE lessons taught and what type of programs are offered by inservice teachers?
- 4b. What do teachers perceive are the major inhibitors to successful implementation of K-6 PE programs?
5. Do respondents favour the employment of PE specialists in primary schools?
6. What is the relationship between all attitudinal variables relating to PE, preferences for PE teaching responsibility and types of PE programs delivered (for inservice teachers)?

## Method

The following section outlines the methods/instruments used to investigate the core research questions:

### *Participants*

Data were collected from 485 preservice and inservice teachers in NSW. The preservice teacher sample consisted of students studying a double degree (Bachelor of Arts/Bachelor of Teaching), majoring in primary education in the second (n = 156), third (n = 143), or fourth year (n = 123) of their higher education at a NSW tertiary institution. The four-year integrated degree prepares students for teaching in the primary school. Primary education students enrol in two PE courses as part of their primary KLA curriculum method strand. In 2<sup>nd</sup> Year, contact time involves a one-hour mass lecture and a one-hour tutorial per week for seven weeks. In 3<sup>rd</sup> Year, a one-hour mass lecture and a two-hour tutorial is undertaken each week over nine weeks. Practical content for both courses includes activities from the four PE content strands of the K-6 Personal Development, Health, and PE (PDHPE) syllabus; Games and Sports, Gymnastics, Dance, and Active Lifestyle. All preservice teachers from each year group (2<sup>nd</sup>, 3<sup>rd</sup>, & 4<sup>th</sup>) were asked to be respondents and response rates for all cohorts were over 80 percent. The respondent categories for the inservice teachers included a random sample of classroom teachers in NSW primary schools from both the state school system and non-state school system. In total, 63 inservice teachers were included from 37 different schools. Of the total sample, approximately 86 percent (n = 415) were female and 14 percent (n = 70) were male. This ratio reflects the composition of the primary teaching force and is consistent with the findings of Smith (1999) who revealed that only 22.5 percent of teachers in Australian primary schools were male.

### *Data Collection Procedures*

The principal method of inquiry involved the collection of largely quantitative data from all respondents via the administration of a questionnaire. Second Year students completed the questionnaire before they had undertaken any PE teacher education and before they had completed any practicum teaching experience. Third year students completed the questionnaire immediately following completion of their compulsory PE teacher education and had experienced at least a two-week block practicum. The 4<sup>th</sup> Year students completed their questionnaire at the end of their last practicum experience at University. The 4<sup>th</sup> Year students had completed three different length practicums (2 weeks, 4 weeks, & 8 weeks of a 10-week internship). All selected inservice teachers were asked to respond to a mailed questionnaire.

### *Instrumentation*

The questionnaire utilised both select-response and open-ended questions. The following constructs were developed and examined and will be described in turn; *Feelings towards PE*; *Key Learning Area Importance*; *Curriculum Teaching Preferences*; *Current PE Teaching Program of Inservice Teachers*; *Preference for PE Teaching Responsibility*.

### *Feelings towards PE*

In general, feelings or attitudes can be indicated on a continuum from negative to positive, reflecting the direction and intensity of the attribute (Ajzen, 1988: 4). The *Toulmin Elementary Physical Education Attitude Scale (TEPEAS)* (Toulmin, 1973) was specifically designed to measure students' feelings and attitudes about PE. Items selected in this scale related to a number of key areas; program content, outcomes of program content, self-concept and level of aspiration, teacher scheduling and time, and peer group relations. The original scale was considered to have high construct validity and internal consistency and was specifically used to evaluate changes in attitudes about a particular program. The reliability coefficient for this scale was estimated to be 0.91. The *TEPEAS* instrument was modified for this study to measure teachers' feelings about PE and included 17 items, comprising a six-point Likert scale with response options from strongly disagree to strongly agree. Five items were worded negatively and were subsequently recoded before being included in scales so that higher scores for each item would indicate more positive feelings towards PE. Respondents were instructed to answer each statement thinking only about PE lessons and not school sport or after-school sport.

### *Key Learning Area Importance*

The primary school curriculum ranking scale was designed to determine respondents' perceptions of importance for all KLAs of the primary curriculum. Respondents ranked each KLA from 'most important', to 'least important'. For the purpose of this study, the position of PE on the ranking scale was examined and reflected respondents' perceptions regarding the value of PE relative to other KLAs. A score between one and six was specified for each respondent depending on where they ranked PE. For example, if a respondent believed PE was the most important KLA for a child to study, they would receive a score of six. This pattern continued until a score of one would be obtained for a respondent perceiving PE as the least important KLA for children to study.

### *Curriculum Teaching Preferences*

Respondents' teaching preferences within the K-6 curriculum were assessed. The *Subject Preference Inventory* (SPI) (Markle, 1978) was modified to focus specifically on PE and required a forced selection. It was considered useful because classroom teachers may develop preferences for the subjects they teach. Markle stated that teachers' preferences for various subjects may affect the quantity and quality of instruction they provide and ultimately, student learning and attitudes. As such the SPI was used to determine teaching preference. Markle noted that teaching preference may become an "important component in the evaluation of teacher training programs" (p.519), and reported that SPI was a valid and reliable measure of teaching preference. In the current study, respondents were asked to indicate whether they preferred to teach PE to the five other KLAs in the primary curriculum. For example, respondents were asked to circle either PE or English, PE or Creative and Practical Arts, and so on, for all KLAs in the primary curriculum. Respondents preferring to teach PE rather than another KLA were given one point. If a respondent preferred to teach PE over all other KLAs they would receive a score of five. If a respondent preferred to teach all other KLAs over PE they would receive a score of zero.

### *Current Teaching*

Inservice teachers were asked to indicate the quality and quantity of their current PE program. They were also asked to describe the range of activities offered in their program. Some questions were adapted from the *Pre-Service Teacher Education and Physical Education in NSW Primary Schools Survey* developed by O'Connell (1984).

### *Preference for PE Teaching Responsibility*

The last category of questions asked respondents to indicate their preference for the teaching responsibility of primary school PE. That is, they were asked to indicate (i) whether they thought specialists should be employed and why and (ii) what role a specialist should have, if any, in the implementation of the PE curriculum.

### *Data Analysis*

Simple univariate analyses were used to screen the data. A normality check was undertaken for discrete variables to ensure distributions were not seriously skewed. *LISREL8* was used to establish one-factor congeneric measurement models to assess item reliability, determine scale reliability and to develop factor score regression values for computing constructs. Frequency distributions and other descriptive statistics were also examined. Pearson Product Moment correlation coefficients were generated to establish bivariate relationships between variables. Several statistical tests were used to analyse the relationships among selected variables including t-tests and analysis of variance. Independent sample t-tests were utilised to contrast mean scores for variables between males and females. A one-way analysis of variance with post-hoc comparisons was used to examine significant differences between and within cohorts. Scheffe's t-test for multiple comparisons was utilised in this investigation, helping to reduce Type I error. Themes and patterns for open-ended responses were identified and responses were matched that were conceptually consistent with one of the themes. Themes were revised through continual comparison of responses. All responses were coded, including those from respondents who offered multiple responses.

## Results

### *Attitudinal Constructs Relating to PE*

Factor analysis of the *TEPEAS* instrument produced two separate factors: *Beliefs in the Benefits of PE* (example item - 'PE encourages lifelong exercise habits') and *Attitude to Teaching PE* (example item - 'I am generally enthusiastic about teaching PE'). Construct reliability was calculated as 0.869 and 0.917 respectively.

Overall, respondents generally agreed that PE is beneficial for students in physical health, social, and mental health domains. No gender differences emerged. The 3<sup>rd</sup> Year and 4<sup>th</sup> Year preservice teachers and inservice teachers possessed significantly stronger beliefs than the 2<sup>nd</sup> Year preservice teachers about the benefits of PE (see Table 1). Similarly, respondents generally slightly agreed or agreed with positively worded statements regarding attitudes to PE. There were significant gender and cohort differences for the *Attitude to Teaching PE* construct. Males scored significantly higher than females while examination of cohort differences revealed a pattern of progressively higher scores through preservice education. Inservice teachers recording significantly lower scores than 4<sup>th</sup> Year preservice teachers (refer to Table 1).

**Table 1** Results for the *Belief in the Benefits of PE and Attitude to Teaching PE* Constructs

| Range: 1 - 6  | <i>Belief in the Benefits of PE</i>   | <i>Attitude to Teaching PE</i>   |
|---------------|---|--|
| <b>Gender</b> | $t(483)=0.039, p = 0.969$<br>Male (n=70) = 4.83 (0.70)<br>Female (n=415) = 4.84 (0.72)  | $t(483)= 3.01, p = 0.003$<br>Male (n=70) = 5.24 (0.86)<br>Female (n=415) = 4.86 (0.98)   |
| <b>Cohort</b> | $F(3, 481)=10.84, p =0.000$<br>2 <sup>nd</sup> (n=156) = 4.58 (0.67)<br>3 <sup>rd</sup> (n=143) = 4.90 (0.71)<br>4 <sup>th</sup> (n=123) = 5.01 (0.72)<br>Ins. (n=63) = 4.96 (0.63) | $F(3, 481)= 7.28 p= 0.000$<br>2 <sup>nd</sup> (n=156) = 4.72 (0.98)<br>3 <sup>rd</sup> (n=143) = 4.92 (0.98)<br>4 <sup>th</sup> (n=123) = 5.24 (0.81)<br>Ins. (n=63) = 4.80 (1.11) |
|               | <b>Scheffe</b><br>2 <sup>nd</sup> ↔ 3 <sup>rd</sup> , 4 <sup>th</sup> , Ins.  | <b>Scheffe</b><br>2 <sup>nd</sup> ↔ 4 <sup>th</sup> 4 <sup>th</sup> ↔ Ins.   |

\* Note: ↔ indicates groups that were significantly different.

### *Perceptions about the Importance of PE (Relative to Other KLAs) and Teaching Preferences and PE*

In the current study, mean scores indicated that PE was ranked fourth overall behind English, Maths and HSIE and above S & T and CAPA. Table 2 reveals group differences for the PE ranking score. No significant differences were apparent for gender. The 3<sup>rd</sup> Year preservice teachers ranked PE significantly higher than the 2<sup>nd</sup> Year preservice teachers.

Respondents were also asked to indicate whether they would prefer to teach PE compared with each of the other KLAs and a teaching preference score was calculated. In general, respondents would prefer to teach other KLAs to PE. Males scored significantly higher on the teaching preference measure than females. It is evident that the 3<sup>rd</sup> Year cohort had a higher preference for teaching PE than both the 2<sup>nd</sup> Year and 4<sup>th</sup> Year groups (refer Table 2).

**Table 2 Results for the PE Importance Ranking and PE Teaching Preference Variable**

|               | PE Importance Ranking Variable<br>(Range: 1 – 6)   | PE Teaching Preference Variable<br>(Range: 1 – 5)  |
|---------------|--|--|
| <b>Gender</b> | $t(87) = 1.72, p = 0.088$<br>Male (n=70) = 3.01 (1.30)<br>Female (n=415) = 2.73 (1.11)   | $t(483) = 6.85, p = 0.000$<br>Ma (n=70) = 2.64 (1.52)<br>Fe (n=415) = 1.47 (1.29)  |
| <b>Cohort</b> | $F(3, 481) = 3.93, p = 0.009$<br>2 <sup>nd</sup> (n=156) = 2.60 (1.25)<br>3 <sup>rd</sup> (n=143) = 3.00 (1.13)<br>4 <sup>th</sup> (n=123) = 2.67 (0.96)<br>5 <sup>th</sup> (n=63) = 2.90 (1.13) | $F(3, 481) = 7.20, p = 0.000$<br>2 <sup>nd</sup> (n=156) = 1.35 (1.27)<br>3 <sup>rd</sup> (n=143) = 2.03 (1.54)<br>4 <sup>th</sup> (n=123) = 1.46 (1.25)<br>5 <sup>th</sup> (n=63) = 1.81 (1.35) |
|               | <b>Scheffe</b><br>2 <sup>nd</sup> ↔ 3 <sup>rd</sup>  | <b>Scheffe</b><br>2 <sup>nd</sup> ↔ 3 <sup>rd</sup> 3 <sup>rd</sup> ↔ 4 <sup>th</sup>  |

\* Note: ↔ indicates groups that were significantly different.

Numbers and percentages for all groups and KLAs are included in Table 3. Table 3 illustrates that for nearly all cohorts and KLAs, respondents preferred to teach other KLAs than PE. Only the results for the inservice group revealed a higher teaching preference percentage for PE over another KLA, preferring to teach PE over S & T.

**Table 3 Primary Curriculum KLA Teaching Preference Relating to PE - Cohort Comparison**

| Cohort | 2 <sup>nd</sup><br>(n=156) |       | 3 <sup>rd</sup><br>(n=143) |       | 4 <sup>th</sup><br>(n=123) |       | Inservice<br>(n=63) |       | n = 485   |       |
|--------|----------------------------|-------|----------------------------|-------|----------------------------|-------|---------------------|-------|-----------|-------|
|        | Other KLA                  | PE    | Other KLA                  | PE    | Other KLA                  | PE    | Other KLA           | PE    | Other KLA | PE    |
| S & T  | 62.2%                      | 37.8% | 51.7%                      | 48.3% | 55.3%                      | 44.7% | 47.6%               | 52.4% | 55.5%     | 44.5% |
| ENG    | 75.6%                      | 24.4% | 69.9%                      | 30.1% | 87.0%                      | 13.0% | 79.4%               | 20.6% | 77.3%     | 22.7% |
| MATHS  | 69.2%                      | 30.8% | 61.5%                      | 38.5% | 74.8%                      | 25.2% | 77.8%               | 22.7% | 69.5%     | 30.5% |
| HSIE   | 78.8%                      | 21.2% | 56.6%                      | 43.4% | 74.8%                      | 25.2% | 55.6%               | 44.7% | 68.2%     | 31.8% |
| CAPA   | 78.8%                      | 21.2% | 57.3%                      | 42.7% | 61.8%                      | 38.2% | 58.7%               | 41.3% | 65.6%     | 34.4% |

*Current PE Teaching Program of Inservice Teachers*

Results indicated that approximately 32 percent of classroom teachers taught PE more than three times a week, 54 percent taught PE once a week and 14 percent did not teaching PE on a regular basis. Table 4 displays information regarding the teaching programs of inservice teachers (n=63). It is evident that most inservice teachers (approximately 70%) had limited variety in their programs.

**Table 4 Description of Teaching Programs for Inservice Teachers**

|  |              |
|--|--------------|
| <i>Wide range of activities in areas of games, gymnastics and dance</i>            | <b>30.2%</b> |
| <i>Limited variety but includes activities in more than one area</i>               | <b>44.4%</b> |
| <i>Includes only activities in which you are reasonably familiar and confident</i> | <b>19%</b>   |
| <i>Limited variety for any other reason</i>  | <b>6.3%</b>  |

Inservice teachers were also asked to indicate the major factors inhibiting the delivery of their PE program. Results indicated that 76.0 percent of the inservice sample believed insufficient time was the major barrier for teaching PE regularly. As identified in the literature, a common reason that many non-specialist teachers provide for not teaching PE is a lack of time. As the classroom teacher is hindered by a crowded curriculum, it was suggested that a specialist may facilitate the implementation of regular PE:

*Classroom teachers do not have the time to teach effectively all the KLAs. Unfortunately PE is the first KLA to suffer because of the time involved. (Female, Inservice)*

Other reasons provided included insufficient training (13%), lack of personal experience (7%), and inadequate facilities (4%).

*Preference for PE Teaching Responsibility*

In the present study, almost all inservice teachers (91.5%) indicated that they would support the introduction of specialist PE teachers. As a group, the preservice teachers were not as supportive. The 4<sup>th</sup> Years were the most undecided cohort with 53.0 percent supporting the employment of a specialist compared to 75.7 percent of 3<sup>rd</sup> Year students and 58.9 percent of 2<sup>nd</sup> Year students. Overall, 66.7% of respondents would support the employment of a specialist PE teacher in the primary school. Respondents were also asked to indicate the level of PE specialist appointment they would prefer. Nearly all respondents (98%) agreed that specialists should be involved in some capacity. Responses indicated employment on a ‘part-time basis’ to be the preferred level of appointment (43.8%), followed by full-time basis support (28.8%) and occasional consultative basis support (24.9%). Only 2.5 percent suggested that specialists were not necessary. Overall, 72.6 percent of the sample believed that specialists should be employed on at least a part-time basis.

Additionally, respondents were asked to provide reasons for and against the introduction of specialist PE teachers in the primary school. A representative selection of the substantial amount of open-ended responses to this question will now be reviewed.

*Reasons Given FOR Specialist Employment*

The most common reason given for the employment of specialists in the primary school was that specialists had completed more extensive training and possessed greater levels of expertise than non-specialists:

*I feel that they would be much more knowledgeable and would be able to teach it much better (Female, 3<sup>rd</sup> Year)*

Others recognised a lack of experience and competence in sports as a sign of poor levels of expertise:

*For me, I cannot swim and have never played sports - I cannot provide to students what they need from PE - I'm sure there are a lot of teachers like me. (Female, 3<sup>rd</sup> Year)*

The third most substantial reason provided for the introduction of specialist teachers was that specialists would be more interested and gain more enjoyment from teaching PE than non-specialists. It was evident

that a number of respondents believed some non-specialist teachers lacked enthusiasm and ability in PE teaching:

*Too many primary teachers have no idea of the importance of PE because they are lazy or don't like PE, they do not teach it adequately. (Female, 2<sup>nd</sup> Year)*

And:

*PE is often a tack on soft subject and it shouldn't be. PE is a waste of time when you have untrained, unmotivated, unenthusiastic teachers who hate PE. (Male, Inservice)*

#### *Reasons Given AGAINST Specialist Employment*

A number of respondents, particularly preservice, were against the notion of introducing specialist PE teachers into primary schools. Commonly, respondents indicated they felt confident and capable enough to teach PE:

*We can do the job as K-6 teachers. I love the stability of 1 teacher in the class setting. (Male, 4<sup>th</sup> Year)*

The second most common reason given was that some generalist teachers are personally interested and would enjoy teaching PE:

*I really enjoy teaching sport - it is a stress release for me, I am good at teaching skills/games. (Female, 4<sup>th</sup> Year)*

Some respondents referred to the holistic and integrated nature of the primary school learning environment as a significant consideration that is difficult to account for when PE teachers are employed in the primary school:

*Would prefer more training to help improve my own teaching of PE as I don't see it as something isolated from other KLAs, but an integrated part of the curriculum, eg// co-ordination improves reading, fitness improves concentration. (Female, Inservice)*

This holistic delivery is based on a model of one teacher per class where often the teacher is more familiar with individual students and vice versa:

*The class teacher knows the children better and will be able to individually assist the children better with each activity (and getting involved myself would be great). (Female, 2<sup>nd</sup> Year)*

Additionally, a number of respondents recognised the need for a specialist to instruct in the 'more difficult' content areas, that is, most notably gymnastics and aquatics:

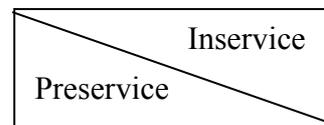
*A teacher and a specialist should teach both. I believe the teacher and specialist should work co-operatively so that the specialist knowledge and skills are used beneficially, but also the teacher's role should be active in all aspects of students' education (Female, 3<sup>rd</sup> Year)*

#### *Relationship between Key Variables*

Table 5 displays the correlation matrix for a number of key variables measured in the study. The matrix is split between preservice and inservice teachers, given the differences in results expected. Significant and positive correlations were established between many key variables. For preservice teachers, it is reasonable to suggest that those respondents who possessed more positive feelings towards PE were also more likely to believe PE was an important KLA and have a preference for teaching PE to other KLAs. Those preservice teachers who possessed a more positive attitude to teaching PE and greater preference for the teaching of PE

were less inclined to believe a PE specialist was needed. Results were similar for inservice teachers, however, no significant relationships were found between the *PE importance ranking* variable and either the *Attitude to Teaching Physical Education* or the *Preference for Teaching PE* variable. Notably, the current *PE Teaching Program* variable was significantly correlated with the *Attitude to Teaching Physical Education* and *Preference for Teaching PE* variables.

**Table 5 Correlation Matrix - Split for Preservice and Inservice Teachers**



|                              |       | Belief in Benefits of PE | Attitude to Teaching PE | Importance ranking - PE | Preference for teaching PE | Preference for PE specialist | PE Program |
|------------------------------|-------|--------------------------|-------------------------|-------------------------|----------------------------|------------------------------|------------|
| Belief in Benefits of PE     |       |                          | 58**                    | 26*                     | 32*                        | 06                           | 00         |
| Attitude to Teaching PE      |       | 60**                     |                         | 23                      | 58**                       | -04                          | 34**       |
| Importance ranking for PE    |       | 29**                     | 42**                    |                         | 24                         | -07                          | 03         |
| Preference for teaching PE   |       | 31**                     | 47**                    | 48**                    |                            | 00                           | 27*        |
| Preference for PE specialist |       | -02                      | -23**                   | -05                     | -11*                       |                              | 33*        |
| Pre-service                  | Mean  | 4.95                     | 4.69                    | 2.75                    | 1.61                       | 1.37                         | NA         |
|                              | SD    | 0.64                     | 0.88                    | 1.14                    | 1.39                       | 0.48                         |            |
|                              | n     | 422                      | 422                     | 422                     | 422                        | 394                          |            |
|                              | Range | 1-6                      | 1-6                     | 1-6                     | 1-5                        | 1-2                          |            |
| In-service                   | Mean  | 5.08                     | 4.54                    | 2.90                    | 1.81                       | 1.08                         | 6.70       |
|                              | SD    | 0.56                     | 0.96                    | 1.13                    | 1.35                       | 0.28                         | 2.99       |
|                              | n     | 63                       | 63                      | 63                      | 63                         | 59                           | 63         |
|                              | Range | 1-6                      | 1-6                     | 1-6                     | 1-5                        | 1-2                          | 1-12       |

- a Pearson correlation coefficients and 2-tailed significance were used for tests (x 100)
- b \* (Correlation is significant at the 0.05 level; 2-tailed) \*\* (Correlation is significant at the 0.01 level; 2-tailed)
- c Preference for PE Specialist Variable: Would you prefer PE Specialists to be employed? 1 = No; 2 = Yes
- d PE Program Composite Variable: Multiplication of scores for teaching frequency and scores for program variety. Higher scores represent the delivery of more frequent and varied PE programs.

### Answers to Research Questions

#### 1. What are generalists' feelings towards PE?

In general, most respondents scored highly on this measure, indicating they believed the teaching of PE may lead to favourable short and long-term benefits for students in physical health, social, lifestyle, and mental health domains. The results support findings of Xiang et al. (2002), Thompson (1996), and Hickey (1992) and suggest that while non-specialists may not feel particularly confident about teaching PE they still recognise its potential value. However, these results contrast with the assertions of others (Brumbaugh, 1987; Downey, 1979; Faucette & Hillidge, 1989) who indicated that non-specialists do not consider PE to be of any value for children. The influence of teacher education in PE for respondents was again a plausible explanation for 3<sup>rd</sup> Year, 4<sup>th</sup> Year, and inservice cohorts scoring significantly higher than 2<sup>nd</sup> Year preservice teachers. Some more recent studies have suggested the positive influence of fields-based PE experiences in preservice education for non-specialists (Ashy & Humphries, 2000; Xiang et al., 2002).

On average, respondents held moderately positive attitudes towards the teaching of PE. Males generally held more positive attitudes to PE than females. Results indicated higher scores for the more advanced cohorts in preservice education. This again suggests that the PE teacher education of generalists was perhaps having some success in improving attitudes about teaching PE. Scores were lower for this construct for practising classroom teachers.

2. *What are the perceptions of generalists with regard to the importance of PE in the primary school setting relative to other KLAs?*

Respondents were asked to rank the six KLAs of the NSW primary curriculum in order of perceived importance for children to study. Overall, PE was considered a generally important component of the curriculum. Mean scores indicated PE was generally ranked fourth behind English, Maths and HSIE in terms of relative importance. These findings are consistent with Williams (1983), cited in Williams (1989b). It is important to note that Williams (1989b) found that non-specialists justified their higher ranking of PE based on a cathartic rationale, rather than a more educationally derived rationale. Hickey (1992) found that 40 percent of classroom teachers value PE as a catharsis, rationalising PE as “a break from formal curriculum” (p.20). Males ranked PE significantly higher than females, suggesting that males value the contribution of PE to the curriculum more than females.

The possible influence of preservice education in PE may offer some explanation for the preservice teachers' results. The 3<sup>rd</sup> Year cohort ranked PE significantly higher than the 2<sup>nd</sup> Year cohort. It is possible that 3<sup>rd</sup> Year students held higher perceptions of the importance of PE because they had just finished the last of their two courses in PE at university. The rationale, aims, and importance of PE had recently been presented to 3<sup>rd</sup> Year students, whereas 2<sup>nd</sup> Year students had not completed any courses in PE at the time of questionnaire administration.

3. *What are the perceptions of generalists with regard to their teaching preferences concerning PE and other KLAs?*

Respondents were asked to indicate their preference for teaching PE against the five other KLAs of the NSW primary curriculum. In general, respondents would prefer not to teach PE if given the choice between teaching PE and another KLA. This was confirmed for all cohorts. As with the PE ranking score, males scored significantly higher on the teaching of PE preference measure than females. Third Year students scored higher than both 2<sup>nd</sup> Year and 4<sup>th</sup> Year students. Fourth Year students had just completed a teaching internship, where it is possible that PE was infrequently taught and lacked variety, impacting on their teaching preferences. Overall, PE teacher education may have assisted the development of higher opinions concerning the value of PE in the primary curriculum.

4. a. *How frequently were PE lessons taught and what type of programs were offered by inservice teachers?*  
b. *What are the major inhibitors to successful implementation of K-6 PE programs?*

It was found that the majority of inservice teachers teach PE once a week or less and that their programs offer little variety in activities for students. The two greatest inhibiting factors to the effective implementation of frequent PE lessons were insufficient time and insufficient training. Previously, Cundiff (1990) reported that classroom teachers cited other teaching responsibilities and perceptions of lack of expertise as inhibiting factors.

5. *Do respondents favour the employment of PE specialists in primary schools?*

In the present study, inservice teachers overwhelmingly indicated they would support the introduction of specialist PE teachers in primary schools. The majority of respondents supported the notion that PE specialists should be employed in primary schools, at least on a part-time basis. The level of adequacy of teacher training in PE was a substantial factor in many reasons provided both for and against the employment of specialists. Most of reasons supplied for specialist employment were in some way related to teacher training in PE; greater expertise, increased attainment of student outcomes, longer or more intensive training, qualified instruction. Furthermore, a number of responses against specialist employment noted that if training were increased they would feel more capable.

Overall, it is evident that the provision of PE lessons in primary schools requires either specialist teachers or an increase in training for non-specialist teachers. This appears to be the consensus shared by preservice and inservice teachers. Non-specialists seem to be well aware of their personal limitations and weaknesses in PE teaching. Thompson (1996) and Kerr and Rodgers (1981) reported similarly high support from non-

specialists for the introduction of PE specialists in primary schools. However, non-specialist preservice teachers were not as supportive of the full-time employment of PE specialists. This may be because preservice teachers are more optimistic and enthusiastic about their abilities to teach PE, being less aware of the challenges inherent with the implementation of the K-6 syllabus. Potential inhibiting factors for inservice teachers may include the crowded curriculum, inadequate facilities and resources, and lack of expertise.

6. *What is the relationship between all attitudinal variables relating to PE, preferences for PE teaching responsibility and type of PE programs delivered (for inservice teachers)?*

Some significant relationships emerged when key variables were examined for preservice and inservice teachers. For preservice teachers, respondents who held more positive attitudes to teaching PE and preferred to teach PE to other KLAs also believed it was an important KLA and that PE was beneficial for students. However, despite similar findings for inservice teachers, the much smaller numbers meant that no significant relationships were established between the importance ranking variable and attitude to teaching PE or the preference to teach PE variable. Teachers who held more positive attitudes to teaching PE were also more likely to deliver frequent and varied programs. Interestingly, no significant relationships were found between the PE Program variable and the *Beliefs in the Benefits of PE* or the *PE Importance Ranking Variable*.

## Conclusion

A range of implications for professional development (for inservice teachers) and PE teacher education (for preservice teachers) arose from the findings. The role of ongoing professional development was magnified considering the pattern of lower scores for inservice teachers on a range of important variables relating to PE teaching. The interpretation of these results is that inservice teachers' perceptions of the value of PE remain stable, however, their attitudes regarding PE teaching appears to diminish upon experiences in schools. Previous research may provide some explanation for these tendencies. Zeichner and Tabachnick (1981) suggested that many of the effects of teacher education on an individual's attitudes and beliefs are only temporary. They described the 'wash out' effect that occurs during the first years of employment in schools. The importance of early successful teaching experiences is again highlighted to reinforce any favourable improvements in attitudes and perceptions developed during preservice education. Additionally, inservice courses and further support for classroom teachers need to be provided to nullify the 'wash out' effect that has been confirmed, to some extent, in this study. The success and provision of appropriate professional development courses for this purpose should be more extensively researched, as some writers have questioned the influence of these courses on the attitudes and teaching quality of non-specialists (Carney & Chedzoy, 1998; Secker, 1988; Williams, 1979).

Overall, generalist teachers in this study believe that physical education is beneficial for students and that PE is an important KLA in the primary curriculum. However, most would prefer to teach other KLAs than PE, if given the choice, and would prefer specialist teacher involvement in the implementation of PE programs in the primary school. As found in the Senate Inquiry in 1992, it seems there is support for PE in primary schools as a valuable component of the curriculum, but teachers would generally prefer to teach other KLAs for a range of reasons including lack of time, training and expertise. The results of this study indicate that PE specialists would be accepted by most non-specialists as an asset in primary schools. Recommendations for the full-time employment of specialist teachers, as a potential solution to the problems facing primary school PE, must be weighed up against the reality that governments seem largely reluctant to finance such a position. Perhaps it is futile to continue to promote the position of the full-time specialist physical educator in primary schools, particularly considering the lack of success of recent recommendations supporting the introduction of specialists. Unless the employment of specialist teachers on a part-time basis (or at least in an assistant or supervisory role to classroom teachers) is a more economically viable solution, it appears that attention must focus on the preservice and inservice education of the generalist classroom teacher who is currently responsible for the delivery of PE programs in most Australian primary schools.

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