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## In search of the expert pedagogue: How is the expert physical education teacher perceived?

Christine Albert  
*Edith Cowan University*

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**IN SEARCH OF THE EXPERT PEDAGOGUE :  
HOW IS THE EXPERT PHYSICAL EDUCATION TEACHER  
PERCEIVED?**

**BY**

**Christine Albert**

**B Ed.**

**A Thesis Submitted in Partial Fulfilment of the Requirements for the Award of**

**Bachelor of Education with Honours  
at the School of Education, Edith Cowan University**

**Date of Submission : 27.7.92**

## USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.

## Abstract

Like most professions, teaching needs to be concerned with the notions of expertise and effectiveness. This study aimed to determine how the expert physical education teacher is perceived by pupils, student teachers, and teacher educators. Perceptions were compared and contrasted to identify both areas of discrepancy and consensus with respect to subjects' views of expertise. Subject groups involved in the study consisted of 30 year 10 pupils, 30 student teachers completing a BAarts degree majoring in physical education (3rd year), and 28 teacher educators (physical education specific).

Perceptions of expertise were determined through the administration of a questionnaire which specifically addressed eleven focus areas; (i) personal qualities, (ii) interest in pupils, (iii) professionalism, (iv) knowledge, (v) classroom management and organization, (vi) questioning, (vii) feedback, (viii) planning, (ix) reflection/critical evaluation, (x) learning environment, and (xi) levels of opportunity to learn (OTL) and academic learning time in physical education (ALT-PE).

Analysis of questionnaire responses highlighted both differences and similarities between subjects' perceptions of an expert physical education teacher. Common denominators of expertise appeared to focus on the variables "classroom management and organization", "interest in pupils", and "levels of OTL and ALT-PE". One of the most important variables for defining an expert was commonly perceived as "keen interest in pupils". Alternately, "teacher professionalism" was identified as one of the least important variables.

It was concluded that it is essential that teacher education programmes be designed to ensure that meaningful content relating to conceptions of an expert physical education teacher is effectively transmitted to student teachers, and that the views of pupils be considered when formulating the constructed view of an expert physical education teacher.

## DECLARATION

I certify that this thesis does not incorporate, without acknowledgment, any material previously submitted for a degree or diploma in any institution of higher education and that, to the best of my knowledge and belief, it does not contain any material previously published or written by another person except where due reference is made in the text.

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## Introduction

The metaphor of the teacher as an "expert" is gaining saliency (Welker, 1991). This notion of an expert has emerged from the concept of the effective teacher. Effectiveness is defined as "producing the intended or expected results" (Macquarie, 1982, p. 389). Expertise is defined as "possessing expert/special skill or knowledge" (Macquarie, 1982, p. 428). Essentially expertise appears to be a difference in "degree" from effectiveness.

Past research has identified various characteristics and qualities that are indicative of an effective teacher and effective teaching. It was suggested however that expertise in teaching involves more than the traditionally advocated characteristics of effective teaching. Future research therefore needs to focus on identifying those characteristics that are associated with the expert teacher. That is, what makes teachers experts, what sets them apart from their colleagues?

To assist in identifying the elements of expertise, it is important to consider how the expert teacher is perceived. That is, what qualities and behaviours are perceived as being associated with an expert teacher? To achieve this, it seems important and most appropriate to focus on the perceptions of those involved in the reality of teaching. Consequently, school pupils, student teachers, and teacher educators were selected for participation in this study.

## Significance of the Study

The concept of the expert physical education teacher was chosen as the focus for this study. It is believed that the research community and the teaching community both have a tremendous amount to learn about how those who are perceived to be expert teachers approach and carry out their task of teaching. This study is considered significant because it directly addresses an area in which limited research has previously been conducted. Furthermore, data obtained and consequent discussions will be directly relevant to the Australian context.

Past research has often highlighted major problems and shortcomings associated with teaching. Specifically in physical education, Eldar, Siedentop, and Jones (1989) suggest that teachers and researchers have become too accustomed to low rates of academic learning time (ALT-PE), lack of specific feedback, high rates of wait time, and teachers whose primary goals are concerned only with keeping pupils "busy, happy and good" (p. 189). As a refreshing change research needs to focus on the successful and positive aspects of education, such as identifying and researching elements of expertise in teaching.

The task of identifying the characteristics of good teaching is central to the purpose of teacher education (Garnett, Taggart, Blakeway, Robertson, Gallagher & Rate, 1982). Perceptions concerning distinctive qualities and behaviours of an expert physical education teacher can be highly important in stimulating and guiding improvements in the teaching of physical education. Results from this study will represent a rich and necessary body of knowledge for the teacher educator to positively influence the design of teacher training courses.



Furthermore, identifying specific qualities of expert teachers provides a better rationale for recognizing their "specialness" and facilitates a better position to set beginning teachers on the path to expertise, to "clue them in" and concentrate on those "things" experts do so well. The performance of the expert teacher, though not necessarily perfect, provides a positive starting point for directing novice teachers.

Another significant reason for this research concerns a problem inherent in the student teaching experience. There is some consensus that it is the supervising teacher who during the student teaching experience, makes the greatest impact on the career development of the novice teacher. A fundamental problem arises when these teachers, who are supposed to be the models (experts), can not articulate the basis for their expertise. They are unable to verbally communicate their teaching expertise to others (Berliner, 1986). This study will provide a knowledge base for describing various perceived behaviours and qualities of the expert physical education teacher. Moreover, this knowledge base may be useful for university supervisors by enabling them to direct novice teachers along a path similar to that of the expert.

Focusing on the perceived qualities of expert teachers will also promote thinking about the nature of expertise in teaching and will provide an opportunity to reconceptualize the role of the expert physical education teacher. This for example, may be with regard to teaching responsibilities, professional development, and/or the teacher's role in curriculum or staff development (Caldwell, 1985; Klein, 1985).

Another significant purpose for this research addresses the notion of professional pride. It is a great boost for members of the teaching profession to know that some members of their professional organization resemble experts in other fields (Berliner, 1986). Determining the perceived criteria for expertise will also facilitate the identification of expert physical education teachers. As a result, the status of physical education in the "eyes" of the schools and the community will be enhanced.

Finally, the significance of the study may be discussed from a methodological perspective. By using school pupils, student teachers, and teacher educators as informants, the methodology makes use of important yet often neglected sources of information. Viewing teaching from the perspectives of those involved in the day-to-day reality of teaching adds an important dimension to an understanding of the expert teacher.

#### Purpose of the Study

This study aims to identify various criteria for defining and discussing expertise in physical education teaching, as perceived by school pupils, student teachers, and teacher educators. Additionally, the relationships between the perceptions will be examined. That is, what similarities and differences exist between the three sample groups' perceptions?

## Research Questions

Data will be collected to answer the following focus questions :

1. How do secondary school pupils, students teachers, and teacher educators perceive the expert physical education teacher?
2. What similarities and differences are evident when the perceptions of school pupils, student teachers, and teacher educators are compared?

### Subsidiary Questions

3. What variables (presage, process, product) do school pupils, student teachers, and teacher educators perceive as important for defining an expert physical education teacher?
4. What similarities and differences occur when school pupils, student teachers, and teacher educators indicate which variables they select for defining an expert physical education teacher?
5. What similarities and differences occur when school pupils, student teachers, and teacher educators indicate which variables are most important in their definition of an expert physical education teacher?
6. What personal and professional qualities do school pupils, student teachers, and teacher educators associate with an expert physical education teacher?

7. What are school pupils', student teachers', and teacher educators' perceptions of the learning environment fostered by an expert physical education teacher?
8. What are school pupils', student teachers', and teacher educators' perceptions concerning various teaching competencies (i.e., teacher expectations, classroom management and organization, questioning technique, feedback, planning, knowledge, evaluation/reflection) of the expert physical education teacher?

## Review of Related Literature

In order to address the research questions, the literature review will focus on the following areas :

- (i) teacher effectiveness;
- (ii) teacher expertise; and
- (iii) methodology used to obtain perceptions of teacher effectiveness and teacher expertise.

### Teacher Effectiveness

Teaching expertise has been described as a "difference in degree, not kind" from teaching effectiveness (Berliner, 1986; Siedentop & Eldar, 1989). It therefore seems important to first review research that has focused on teaching effectiveness. An historical overview of this research reveals three distinct phases.

### Phase One : Search for Presage Variables

Researchers in the first phase attempted to identify common presage variables of effective teachers, aside from their actual teaching ability. Presage variables refer to teacher characteristics and include traits such as appearance, intelligence, leadership qualities, and enthusiasm.

Ryan (cited in Perrot, 1982, p.3) suggested that effective teachers are warm and understanding. Laminack and Long (cited in Harrison & Blakemore, 1989, p. 49) surveyed pre-service teachers to gain insight into their perceptions of effective teachers. It was concluded that the effective teacher is perceived, amongst other descriptors as being loving, caring, helpful, perceptive, positive, cheerful, sensitive, honest, genuine, and open-minded. Prawat (cited in Weinstein, 1989) asked in-service teachers to describe an outstanding teacher they themselves had once had. Most recalled a "female teacher and sixty percent of their descriptors referred to personal qualities, in particular taking a warm and personal interest in pupils" (p.54).

This early research therefore revealed that various personality traits may be attributed to effective teachers. However results failed to identify any characteristics of effective teachers that had universal applicability (Graham & Heimerer, 1981).

#### Phase Two : Search for an Effective Teaching Method

The second research phase may be described as the search for the perfect method. Researchers were concerned with comparing the measured achievement of classes taught by one method with that of classes taught by another (Brophy & Good, 1986; Graham & Heimerer, 1981). However results revealed no significant differences between methods.

### Phase Three : Process-Product Research

The third and current phase of research is characterized by process-product designs which involve the systematic observation of teachers actually teaching and pupils engaging in learning activities (Brophy & Good, 1986). Researchers assumed that significant correlations existed between the teaching process and pupil products. Graham and Heimerer (1981) suggested that "it is this third phase that has begun to yield consistent data about the differences between more effective and less effective teachers" (p. 15). Three distinct subphases of process-product research are evident.

The first subphase attempted to determine the relationship between generic variables and student learning. Generic variables are those "observable variables that identify characteristic teaching performances of more effective teachers without regard to subject matter, grade level, or student characteristics" (Graham & Heimerer, 1981, p. 15). Variables that were identified as discriminators between more effective and less effective teachers included variability, task oriented and/or business-like behaviour, and questioning.

Research in the second subphase focused on the relationship between teaching behaviours and pupil learning. It was discovered that the relative effectiveness of many teaching behaviours is related to subject matter and pupil characteristics (e.g., year level, socioeconomic status). These behaviours are therefore referred to as "situation-specific" variables. It was established that the variable "pupil opportunity to learn" appeared to consistently discriminate between more effective and less effective teachers.

### Opportunity to Learn (OTL).

Opportunity to learn (OTL) refers to the opportunity provided by the teacher to allow pupils to learn what is desired of them (Howe & Jackson, 1985). The variable of opportunity to learn was refined to distinguish between "allocated time" (time allocated for a specific subject) and "engaged time" (time pupils actually spend working with the subject matter). Additional refinement of the engaged time concept resulted in the dimension of "academic learning time" (ALT) (Graham & Heimerer, 1981). Academic learning time in physical education (ALT-PE) refers to the amount of time a pupil is engaged in relevant physical education content in such a way that he/she has an appropriate chance to be successful (Siedentop, 1983). OTL and ALT-PE are described as criterion-process variables, that is, pupil process variables that may provide direct evidence of learning (Metzler, 1989). However It is necessary to emphasize that studying time-related variables offers a "proxy" measure of pupil achievement and may therefore be used only as an indirect strategy for evaluating teacher effectiveness.

Brophy and Good (1986) suggested that effective teachers intend their pupils to learn important content and consequently allocate as much time as possible to content coverage and providing pupils with sufficient opportunities to learn.



Research focusing on the relationship between time-related variables and effective teaching in physical education is derived from four different sources :

- Teacher improvement research.
- Descriptive studies aimed at assessing effectiveness. McLeish (cited in Siedentop, 1991) suggested that "effective teaching means structuring the lesson to maximize that amount of time in direct practice by each individual at a level which at once ensures a continuing development of the skill compatible with the minimal number of mistakes" (p. 46).
- Small scale studies aimed at assessing effectiveness experimentally. Results indicated that pupils learn best when given the chance to practise tasks on which they are to be tested (Silverman, Dodd, Placeck, Shute, & Rife, 1984).
- Studies aimed at examining the work of teachers who have been identified as effective. It was apparent that effective physical education teachers provide substantial amounts of ALT-PE for pupils (Siedentop & Eldar, 1989).

In summary, McLeish (cited in Siedentop, 1991) concluded that,

It was one of the major impressions received in the use of the ALT-PE system that supplies the missing element, or indeed, the major component, for evaluating effective teaching in physical education. Time-on-task, academic learning time, opportunities to learn - call it what you will, and measure it if you can - this is the vital component of effective teaching in general. (p. 31)

The concept of "mastery teaching" is closely related to the OTL and ALT-PE dimensions. Mastery teaching is based on the premise that pupils can learn if they are given enough time and quality instruction (Brophy, 1982). Research indicates that effective teachers provide opportunities for practice and application, monitoring individual progress, and providing feedback and remedial instruction. Pupils consistently experience high success rates because the teacher ensures that new knowledge and skills taught in a hierarchically sequenced fashion are mastered. Brophy (1982) suggested that mastery teaching appears as a common denominator of effective teaching.

The third research subphase is represented by the question, "What behaviours do teachers employ who have higher engaged time or ALT?" (Graham & Heimerer, 1981, p. 16). Good (cited in Graham & Heimerer, 1981, p. 16) suggested that the answer to this question focuses on the concept of "direct instruction". Direct instruction refers to a compilation of teaching behaviours. There is no universal agreement on the dimensions related to direct instruction, however there is some consensus concerning the types of variables that combine to form this concept (Rosenshine, 1979). These include classroom environment, teacher expectations, questioning, feedback, and classroom management and organization.

#### Classroom Environment.

Classroom environment refers to the "positive, neutral, or negative affect exhibited by the teacher and the pupils" (Siedentop, 1991, p. 21). This suggests that classes may be of a warm, supportive nature, neutral (not much affect in either direction), or negative, threatening, and coercive (Brophy & Good, 1986).

Brophy (1982) and Medley (1979) suggested that effective teachers are able to maintain a strong academic focus within the context of a pleasant, friendly classroom. Results from Brophy's study also indicated that pupils perceive effective teachers as warm, enthusiastic, thorough instructors whose classes are friendly and convivial. More effective physical education teachers create and maintain a warm classroom environment by letting pupils know that help is always available, displaying affection toward and interest in students, and interacting with students in a positive, genuine manner (Graham & Heimerer, 1981; Siedentop, 1991).

#### Teacher Expectations.

Research suggests that the more effective teacher is one who communicates high yet realistic expectations for achievement together with strong, positive expectations for work involvement. Effective teachers communicate to their pupils exactly what is expected of them and why (Porter & Brophy, 1988). They firmly believe that all their pupils are capable of success and therefore communicate the following message : "I expect you to work hard because I know you can learn what is expected of you" (Graham & Heimerer, 1981, p. 19). Furthermore, Martinek (1981) suggested that effective physical education teachers develop high expectations of their pupils which take into account factors such as age, year level, ability level, and perceived pupil effort.

### Questioning.

Several studies showed that a teacher's questioning technique influences pupil achievement (Brophy, 1982). According to Perrot (1982) and Brophy (1982) the dimension of questioning may be categorized into lower and higher order questions. Lower order questions generally require simple recall or factual answers whereas higher order questions require the respondent to combine facts, form principles, compare, contrast, interpret, and evaluate. Higher order questions therefore tend to be more complex and difficult (Graham & Heimerer, 1981). Research indicates that effective teachers employ more lower order factual questions for younger disadvantaged students (Gall, 1984, Levine & Ornstein, 1989). Alternately the effective teacher directs more higher order questions to average and high ability students to encourage independent thinking (Gall, 1984). Simply speaking, more effective teachers tend to use more lower order questions (Levine & Ornstein, 1989).

The amount of time teachers wait after asking a question also influences teacher impact. Research suggests that more effective teachers wait more time before calling on another student for an answer (Brophy, 1982; Graham & Heimerer, 1981). According to Gall (1984) this facilitates improved student engagement and longer verbal responses.

Specific to physical education, Siedentop (1983) suggested that questioning is one of the most important verbal methods used by a teacher. Harrison and Blakemore (1989) stated that questions can be classified into various categories :

- Recall questions e.g., Should your eyes be on the ball when dribbling the basketball?
- Convergent questions e.g., Why should you stay between your opponent and the basket?
- Divergent questions e.g., What different ways could you pass the ball on a fast break?
- Value questions e.g., How do you react when you get fouled but the referee doesn't blow the whistle and pull up the offence?

The more effective physical education teacher selects the question type that is most appropriate for the given situation and uses a clear, concise manner to direct the question.

### Feedback.

Feedback is defined as "information about a response that is used to modify the next response" (Siedentop, 1991, p. 9). Furthermore, Evertson (1989) suggested that feedback provides information to pupils about the appropriateness or general accuracy of their answers. Feedback is necessary to facilitate learning. Brophy (1982) indicated that more effective teachers tend to provide feedback that is immediate, non-evaluative, task relevant, and includes the correct answer and how it is derived. They obtain maximal performance through praise, encouragement, expressions of appreciation for effort, and attention to evidence of genuine progress.

Effective use of feedback in physical education is regarded as essential due to the complexity of the tasks involved, together with the lack of permanent products that allow for self correction or reinforcement (Harrison & Blakemore, 1989; Siedentop, 1983). The effective physical education teacher possesses the ability to provide relevant and meaningful feedback to pupils.

#### Classroom Management and Organization.

Management refers to the "ability of the teacher to organize the learning environment and maintain appropriate behaviour" (Siedentop, Mand, & Taggart, 1986, p. 270). Effective classroom management is characterized by the ability to organize the components of the class and create a learning environment which results in pupils learning (Graham & Heimerer, 1981; Harrison & Blakemore, 1989). Siedentop (1983) suggested that the key to effective classroom management appears to be in the ability to minimize off-task and deviant behaviour. More effective teachers manage classes in ways that keep pupils appropriately engaged in the subject matter a high percentage of the time and do so without resorting to coercive, negative, or punitive classroom techniques (Brophy, 1982). Research showed that more effective teachers spend less time in overall management and consequently provide more than double the amount of time that pupils are involved with the subject matter (Phillips & Carlisle, 1983).

It is apparent that effective classroom management is strongly related to effective teaching. More effective teachers use well developed organizational structures and firmly establish classroom routines at the beginning of the school year. Furthermore, managerial tasks are conducted using a positive manner (Brophy & Good, 1986; Evertson, 1989; Rosenshine & Stevens, 1986). Once management structures and routines are developed and implemented, the effective teacher then focuses on employing techniques that are successful in preventing disruptive behaviour and in maintaining a task-oriented climate (Siedentop, 1983).

Research suggested that effective management in physical education includes : (i) preparing the learning environment, (ii) distributing and collecting equipment, (iii) planning pre-class activities, (iv) supervising class activities, (v) using student leaders, (vi) adapting to interruptions, and (vii) leading warm-up and fitness activities (Harrison & Blakemore, 1989). Concepts that are useful for preventing disruptive behaviour in physical education include with-it-ness, overlapping, group alerting, momentum, and accountability (Brophy, 1982; Siedentop, 1991).

It was suggested that more effective teachers create and maintain a strong forward pace to their lessons and prevent events from disrupting this momentum (Brophy & Good, 1986; Earls, 1981). Additionally, Brophy (1982) suggested that pupils of more effective teachers engage in meaningful tasks that provide variety and a degree of challenge. It was also suggested that pupils of more effective teachers are exposed to and progress through more material than other pupils and do so in small "brisk" steps with high levels of success.

Accountability refers to "all of the practices teachers use to establish and maintain student responsibility for task involvement and outcomes" (Siedentop, 1991, p. 181). More effective teachers not only develop procedures to hold pupils accountable, but also to help them become accountable for both their academic work and behaviour. The ultimate goal in planning and developing effective management focuses on shifting the responsibility from the teacher to the pupils for maintaining appropriate behaviour (Evertson, 1989). Strategies that more effective teachers employ to facilitate and support pupil accountability are outlined :

- Providing a clear explanation of overall work requirements.
- Developing procedures for communicating instruction to pupils.
- Monitoring pupil progress.
- Carefully supervising and providing specific feedback and general support such as monitoring the practice of a serve-and-return tennis activity, together with providing support for hard working pupils and technical feedback to pupils concerning the critical elements of the skill.
- Building accountability into the practice task such as designing a dribble-pass-and-tackle soccer activity that provides pupils with a way to keep their score.

(Emmer, Evertson, & Anderson, 1980; Siedentop, 1991)

In summary, research has shown that the skills of more effective teachers differ from those of less effective teachers, that these skills can be learned, and that pupils of teachers trained in these techniques achieve more than pupils of teachers without such training (Harrison, 1987). A variety of teaching behaviours have been identified as indicators of teaching effectiveness. However no single teaching behaviour has been shown to consistently correlate with pupil learning. Results of teacher effectiveness research



however may be combined to form a fairly conclusive portrait of what constitutes an effective teacher.

It was established that the more effective teacher behaviours are situation-specific, that is, directly related to the subject matter, the environment, and the characteristics of the pupils. Medley (1979) described the effective teacher as : (i) a possessor of desirable personal traits, (ii) a user of effective methods, (iii) a creator of a positive classroom atmosphere, (iv) a master of a repertoire of competencies, and (v) a professional decision-maker. Therefore, assuming that pupil learning levels correlate with teacher effectiveness, the effective teacher may be described as one who employs the appropriate teaching behaviours, at appropriate times, and in appropriate situations, in order to facilitate high levels of pupil learning.

#### Teacher Expertise

According to Welker (1991), expertise refers to a specific type of knowledge or skill. Experts are not isolated geniuses, they are ordinary people who have simply concentrated attention on a certain domain of knowledge. Furthermore, Angus (1985) defined experts as "persons who are presumed to know something others don't, or who have stronger grounds for their assertions than ordinary practitioners" (p.17).

The concept of the expert teacher evolved from various studies concerned with expertise in fields such as chess, art, and music (Ropo, 1988). Initial research into the area of teaching expertise was led by Bloom and Berliner. In his address to the American Educational Research Association, Berliner (1986) elevated the issue of teacher expertise to the important position that it currently holds (Eldar, Siedentop, & Jones, 1989; Munn, Johnstone, & Chalmers 1989). Berliner suggested that the development of

expertise in pedagogy consists of five stages of skill development, moving from novice, to advanced beginner, to competent teacher, to proficient teacher, and finally to expert teacher status.

### Effectiveness Versus Expertise

Past research highlighted the need to distinguish between teaching effectiveness and teaching expertise. Coladarci (1986) distinguished between the two concepts by suggesting that effectiveness refers to a "teacher's ability to facilitate pupil growth; it is a liberal criterion for identifying a master teacher" (p. 5). Being identified as a master (expert) teacher however "connotes a sense of privilege and status - a title for those teachers who have demonstrated excellence in their professional roles beyond mere competence" (Coladarci, 1986, p. 5). The expert teacher concept can therefore be regarded as having two dominant conceptions. The first, a "better than" assumption suggests that the expert engages in essentially the same activities but is judged better at accomplishing these activities. Expertise is viewed as an extension of effectiveness, a "difference in degree, not kind" (Berliner, 1986; Siedentop & Eldar, 1989). The second conception, a "more than" perspective suggests that the expert teacher, in addition to engaging in conventional teaching activities performs specialized functions in the classroom and in the school. Such functions may involve new responsibilities in curriculum or staff development (Brand, 1990; Griffin, 1985).

The literature focused on teaching expertise discusses variables that are used to identify an expert teacher. In addition to those used to describe an effective teacher, variables that appear to be related to teaching expertise include teacher knowledge, teacher planning, lesson presentation, evaluation/reflection, interest in pupils, and professionalism.

### Teacher Knowledge.

A teacher's knowledge base is discussed in terms of three domains : knowledge about subject matter (declarative knowledge), knowledge about teaching strategies (procedural knowledge), and knowledge about pupils. An expert teacher possesses a large repertoire of knowledge in all three domains (Leinhardt & Smith, 1985; Porter & Brophy, 1988). Furthermore, this knowledge is more readily accessible (Leinhardt & Greeno, 1986).

Expertise appears to be related to the structure and quality of the teacher's knowledge base. Porter and Brophy (1988) suggested that expert teachers know the subject matter they intend pupils to learn, as well as the misconceptions pupils have that will interfere with the learning of the subject matter. Consequently, expert teachers are able to adapt their instruction to pupils' pre-existing knowledge and beliefs about the subject matter. Furthermore, expert teachers have much better representations (models) of a problem and can base their solutions on such models. They possess metacognitive/monitoring skills that enable them to know when and how to apply what they know to class situations. That is, experts "know better how to apply their knowledge" (Glaser, 1987; Livingston & Borko, 1989; Ropo, 1988).

With specific reference to physical education, Housner (1990) proposed that "knowledge" is one criterion for identifying an expert teacher. Additionally, the expert physical education teacher is characterized as having an extensive, well organized, domain-specific and procedural knowledge structure.

Moreover, it was suggested that lack of subject matter competence is more likely to retard the development of expertise in physical education than any other factor. That is, expertise in physical education teaching is highly specific to context and subject matter (Berliner, 1988). This suggests that is much easier to identify a content-specific expert physical education teacher (eg. dance, hockey) as opposed to an "all round" expert who is considered to possess expertise in all physical education content areas. Consequently, the identification of an expert dance or hockey teacher (content-specific) as opposed to an "all-round" expert physical education teacher, seems more likely (Eldar et al., 1989).

#### Teacher Planning.

Teacher planning "provides a teacher with a progressive, structured and well organized format that is used to guide pupils toward the accomplishment of specified goals and objectives" (Stroot & Morton, 1989, p. 213). Research suggests that expert teachers devote more time to planning than do novice teachers (Berliner, 1988; Westerman, 1990). According to Leinhardt (1989) and Livingston and Borko (1989), the plans of expert teachers are not always written but are instead mental representations of the lesson. Expert teachers also emphasize flexibility in the planning of lessons (Ropo, 1988).

It seems apparent that expert teachers emphasize pupil learning outcomes in all planning. Lesson plans are highly purposeful. The development of pupil "understanding and thinking" and pupil "learning to learn" are the primary goals reflected in the lesson plans (Leinhardt, 1989; Ropo, 1988).

Furthermore, expert teachers are able to link lesson plans to pupils' previous knowledge and work (Leinhardt, 1989; Munn et al., 1989). Expert teachers employ their knowledge of the curriculum to make planning decisions based on the related content pupils have previously been exposed to, as well as how much knowledge pupils could be expected to have retained. This is important because it enables pupils to place new learning within the context of prior knowledge and enables them to see where the present lesson fits in with what they already know (Westerman, 1990).

Mustain (1990) suggested that the planning of an expert physical education teacher is based on well thought out goals and objectives that are related to pupil learning and reflect the teacher's understanding of progressions, sequencing, and task-ability matching.

In addition, Siedentop and Eldar (1989) described the expert physical education teacher as "plan independent". This implies that even though the expert does plan carefully at some stage, the execution of the plan is more under the direct control of events during class. The expert physical education teacher also designs innovative lessons on a more regular basis. Furthermore, experts were described as "routine planners" because of their ability to retrieve pre-planned strategies from memory when planning and implementing lessons (Sherman, 1983).

#### Lesson Presentation.

Research focusing on lesson presentation suggested that as their lessons progress, expert teachers carefully integrate the present learning with pupils' prior knowledge. That is, they contextualize the subject matter (Westerman, 1990).

Expert teachers were described as plan independent and flexible. They are more under the direct control of events that occur throughout the lesson. Because of their ability to "go with the flow", experts demonstrate fluid teaching performances throughout lessons (Berliner, 1988; Leinhardt, 1986; Siedentop, 1987). As the lessons of expert teachers progress they are constantly aware of behavioural cues from pupils which indicate when a change of approach is necessary (Livingston & Borko, 1989; Westerman, 1990). Siedentop (1987) suggested that expert physical education teachers are guided through the lesson by pupils' questions and by the progress they make in relation to skill practices.

The expert's ability to go with the flow is facilitated by the development of "routines". Routines are small, co-operative scripts of behaviour that are used to support several activity structures, such as taking the roll. Efficient routines are the benchmark of expert teachers. They permit instruction to occur in a focused, predictable, and fluid manner (Berliner, 1988; Rink & Siedentop, 1989; Leinhardt, 1983). Expert physical education teachers possess a great repertoire of routines that allow them to deal with the many complexities of teaching. They are able to attend to the performance of pupils as well maintaining a smooth, rapid pace of instruction (Jeans, 1990; Sherman, 1983).

A flexible lesson presentation is facilitated by the expert's ability to interpret "classroom phenomena". Expert teachers are better able to interpret classroom phenomena and are able to make more, and more accurate inferences about predicting phenomena. These inferences are based on past experiences. The expert teacher relies on the knowledge of previous pupils who behaved similarly to interpret what is currently occurring and the most appropriate way to react (Berliner, 1988; Stader, Colyar, & Berliner, 1990).

In addition, expert teachers show a greater capability to more efficiently manage teaching time (Leinhardt, 1986; Ropo, 1988). The expert physical education teacher spends very little time managing and organizing pupils and activities. Transition time is also minimal (Housner, 1990; Siedentop, 1983). Furthermore, the expert is able to cover a greater amount of subject matter because the information provided to pupils is more selective. This information is exposed to pupils using concise explanations and instructions (Livingston & Borko, 1989). Expert physical education teachers also provide good demonstrations and ask frequent questions to ensure pupil understanding (Housner, 1990).

#### Evaluation/Reflection.

The skills of evaluation and reflection may distinguish between expert and non-expert teachers. Expert teachers are thoughtful about their practice; they take time for reflection and self evaluation, monitor their instruction to ensure worthwhile and relevant content is being taught, and accept responsibility for guiding pupils' learning and behaviour (Porter & Brophy, 1988).

Westerman (1990) suggested that expert teachers reflect and evaluate their lessons according to how well their achieved goals relate to pupils' needs. Post-lesson reflection is concise and primarily focuses on pupil understanding as opposed to pupil behaviour. That is, expert teachers focus more on the process of learning rather than on the learning outcomes. Evaluation of the learning process is a primary concern (Livingston & Borko, 1989; Ropo, 1988).

Additionally, expert teachers highlight the importance of using information about pupils' performances to improve the instructional process rather than to modify pupils' behaviour (Gordon, 1987). Expert teachers appear to possess a self-correcting mechanism; good teachers reflect on the feedback concerning the effects of their instruction. This reflection in turn enhances their professional knowledge and affects future instructional planning (Porter & Brophy, 1988).

#### Interest in Pupils.

Pieron (cited in Earls, 1981) suggested that the "key difference between expert and non-expert teachers may be in their intention and commitment to helping pupils learn" (p. 60). An expert teacher aims to develop pupils to their full potential. Each pupil is therefore regarded as special and activities are structured to provide opportunities for each pupil to achieve and progress (Hedges & Papritan, 1987).

According to Earls (1981), distinctive (expert) teachers love children, all of whom are held in the same esteem. The expert teacher is characterized by qualities of authenticity, empathy, impartiality, individuality, and openness. Furthermore, the expert teacher earns the respect and co-operation of pupils by adopting a non-authoritarian manner together with displaying a willingness to listen to pupils and incorporate their ideas into the lesson and/or the curriculum.



### Professionalism.

Professionalism refers to the degree to which a person possesses professional skills or qualities (Harber & Payton, 1978). Expert teachers are believed to possess a high standard of professionalism. They are highly enthusiastic about their teaching (intrinsically motivated) and consequently display a strong, unselfish service commitment to the teaching profession (Earls, 1981; Porter & Brophy, 1988). Furthermore, because of their belief that education is an exciting and dynamic field, expert teachers feel a strong obligation to remain current and up-to-date. In doing so, expert teachers have a lot to offer their pupils and also experience a great deal of personal satisfaction (Hedges & Papritan, 1987).

Siedentop (1983) suggested that the expert physical education teachers hold themselves specifically and overtly accountable for good teaching. This quality was described as the "essence of professionalism". The expert constantly strives to become a better teacher. To facilitate professional development and thus improve their teaching, expert physical education teachers may be involved in : (i) reading professional books or journals, e.g., Journal of Teaching in Physical Education (JTPE), (ii) professional organizations, e.g., ACHPER, (iii) researching and writing books and/or articles, (iv) pursuing a graduate degree, or (v) speaking at professional meetings and participating on professional committees (Harrison & Blakemore, 1989, p. 57).

In summary, with specific reference to physical education teaching, Siedentop and Eldar (1989) concluded that :

- Expertise is highly specific to context and subject matter. Expertise evident in one subject at one level may not generalize to other subjects and levels. That is, an expert gymnastics teacher is not necessarily an expert basketball teacher.
- Expertise is performance-oriented. The expertise is in the "doing" rather than the explaining.
- Experience is a necessary yet not sufficient condition for teaching expertise.
- Expertise lies at the nexus of highly skilled teaching and mastery of a particular subject matter.

Research has clearly established that expert teachers possess various distinctive qualities. Teacher expertise was discussed with respect to knowledge, planning, lesson presentation, evaluation/reflection, interest in pupils, and professionalism. It is important to emphasize that many of these "expert qualities" are able to be learned and consequently should be incorporated into teacher training programmes in order to facilitate the development of teaching expertise.

### Methodology Used to Obtain Perceptions of Teacher Effectiveness and Teacher Expertise

Serious consideration needs to be given to how the nature of teacher expertise is defined. The criteria for identification need to be openly communicated and considered within teacher training programmes. Haigh and Katterns (1984) suggested that these criteria may stem from philosophical beliefs about the nature of teaching, beliefs about subject matter that requires certain teaching skills (curriculum sources), empirical evidence on relationships between teacher behaviour and pupil achievement (research sources), and beliefs about what makes a "good" teacher. Because this study employs the use of personal and professional sources to determine beliefs about what makes a good teacher, previous research using similar methodology shall be reviewed.

### Perceptions of Teaching Effectiveness

Arrighi and Young (1987) examined perceptions of successful and effective teaching. By completing a questionnaire, two samples of pre-service and in-service teachers responded to open-ended questions concerning their perceptions of teaching effectiveness. Responses focused on teaching activities (e.g., planning, feedback, learning time), management and organization (e.g., safety, equipment, student control), content (e.g., sport knowledge, skill knowledge), and personal characteristics (e.g., fitness) as key elements of teaching effectiveness in physical education.

Perry's (1990) research also focused on pre-service teachers and in-service teachers' beliefs about effective teaching. Elementary education students, secondary education students, and in-service teachers were asked to complete an open-ended questionnaire which required them to respond to the question, "What characteristics and/or behaviours make an effective teacher?" Weinstein's (1989) thirty descriptors of effective teachers were used to categorize the responses. Various images of an effective teacher emerged from Perry's study. Pre-student teachers most frequently cited the qualities of "caring", "knowledge of subject matter", and "creativity" as key elements of teaching effectiveness. The qualities of "caring", "knowledge of subject matter", and "discipline" were mentioned most frequently by the post-student teachers. Most frequent responses of the experienced teachers focused on the qualities of "organization", "caring", and "understanding of children". It was therefore concluded that the capacity to be "caring" was perceived as a key element of effective teachers.

#### Perceptions of Teaching Expertise

There is little agreement on what constitutes a satisfactory definition of teaching expertise. In order to recognize expert teachers, more needs to be learned about their distinctive qualities.

Vincent (1987) focused on in-service teachers' perceptions of Maine's locally developed criteria for identifying outstanding (expert) teachers. Responses to the question, "What criteria content and characteristics will a random sample of Maine's teachers accept or reject for inclusion in a definition of an outstanding teacher?" were collected through the design and administration of a questionnaire. Content from the "delivery of instruction", "classroom management", and "evaluation of student progress" categories was most acceptable. The least acceptable content was from the "professional leadership", "planning for instruction", and "basic communication skills" categories. It was concluded that it is extremely difficult to devise a list of criteria which completely defines an expert teacher. Many qualities were perceived as characteristic of an expert teacher, all of which were regarded as equally important. It was evident however that most clearly favoured items related to subject matter, students, and/or classroom processes, thus indicating that expert teachers should be judged by what they actually "do" in the classroom (Vincent, 1987). Furthermore, it was suggested that the essence of expertise lies in the teaching performance itself (Siedentop & Eldar, 1989).

According to Hedges and Papritan (1987), "it seems logical that in starting where we are and moving to where we wish to be, we must determine where we wish to be or what a master teacher is, in order to set goals and to begin to progress in preparing teachers to be master teachers" (p. 2). As a result, Hedges and Papritan aimed to determine the common ingredients of excellence (expertise) in teaching.

Nominated master (expert) teachers were sent an opinionnaire which asked them to complete the statement, "I believe excellence in teaching involves .....". Data were analyzed to determine statistically significant ingredients, which included being motivated, being interested in pupils, setting directions (for both the teacher and their pupils), keeping technically up-to-date, evaluating performance, and utilizing community resources. Subsequently, it was concluded that excellence in teaching involves a combination of ingredients all blended together in proper proportions.

There are only a few studies that have touched upon pre-service teachers' perceptions of teaching expertise. Weinstein's (1989) study directly addressed this issue. Teacher education students were asked to complete a questionnaire which consisted of both open-ended and fixed-responses questions. The first question required the respondents to describe what they had in mind when they heard the phrase a "really good teacher". Subjects were next required to rate given items (e.g., commitment to teaching), according to how important they felt each was for describing teaching expertise.

Results indicated that the student teachers primarily perceived teaching expertise in terms of the development of positive interpersonal relationships with pupils. Furthermore, in their descriptions student teachers tended to emphasize social and affective variables, such as "caring and concern for pupils" and the ability to "relate well to pupils". Respondents minimized the academic aspects of teaching.

The latter part of Weinstein's (1987) study involved a comparison of the student teachers' conceptions of teaching expertise with those of in-service teachers. It was established that in-service teachers less frequently mentioned "patience", "ability to relate well to pupils", and "willingness to give extra time and help"; they more frequently cited "organizational skills" and "creativity". Both the student teachers and the in-service teachers most frequently mentioned the qualities of "caring and warmth". Both groups also stressed the importance of "understanding and motivating pupils" and the ability to exhibit "enthusiasm and enjoyment". Moreover, except for an emphasis on the importance of "subject matter knowledge", in-service teachers also rarely referred to the academic or cognitive dimensions of teaching.

Siedentop and Eldar (1989) believed that the "conceptual and operational" distinctions between teaching effectiveness and teaching expertise were intriguing and deserved to be explored. Pre-service teachers, principals, and presumed "experts" from other fields were asked to share their views concerning the distinction. Effectiveness was primarily discussed in terms of teacher performance and pupil outcomes. Expertise was described as an "extension of effectiveness". It was also established that if expertise in teaching exists, effectiveness and experience are necessary yet not sufficient conditions for demonstrating it.

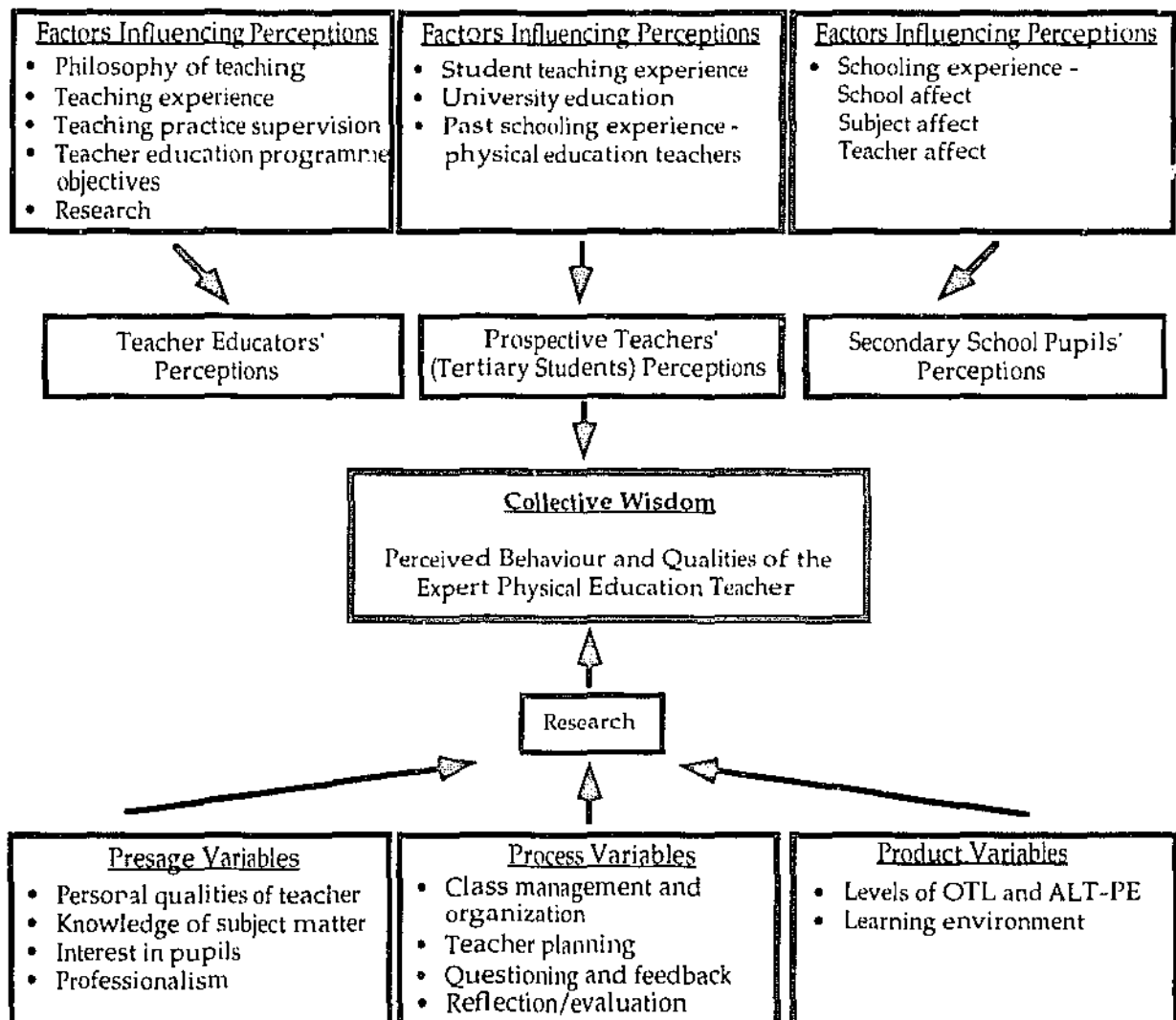
Additionally, Siedentop and Eldar (1989) provided a behavioural interpretation of teaching expertise in physical education. Expert teachers were perceived as being able to "see things" that non-experts don't, together with being able to respond more quickly (automaticity) to changes in context. Furthermore, expert teachers were perceived as possessing larger response repertoires that allow them to see things differently and which also provide more ways to respond. It was concluded that the expert physical education teacher appears able to combine high levels of teaching skill with high levels of subject matter competence and applies both, through experience to a particular context.

In summary, a review of the research identified the use of the questionnaire as a frequently used research method for determining perceptions of teaching effectiveness and teaching expertise. In-service teachers, pre-service teachers, and identified experts from other fields have revealed and discussed their perceptions by completing questionnaires comprised of both open-ended and/or fixed-response question types, depending on the desired type of response. It should be acknowledged that questionnaires seem most appropriate for research involving larger subject group sizes. Alternately research methods such as case study interviews are considered more favourable and more effective for research involving a limited number of subjects.



## Conceptual Framework

A conceptual framework is useful for explaining, either graphically or in narrative form, the major dimensions to be studied. The developmental process involves identifying the primary research variables, labelling each with a descriptive or inferential name, and then clarifying the relationships existing between the variables. Consequently, the development of a conceptual framework assists in focusing and bounding the research (see Figure 1).



**Figure 1.** Variables contributing to a collective wisdom of how the expert physical education teacher is perceived.

The conceptual framework identifies pupils' perceptions, student teachers' perceptions, teacher educators' perceptions, and past research as the key variables contributing to the "collective wisdom" of how the expert physical education teacher is perceived (see Figure 1).

Factors that may influence each groups' perceptions are also identified (see Figure 1). As shown, schooling experience appears to be the primary influence on pupils' perceptions. Student teaching practices, university education, and past physical education teachers from school are identified as key influences on student teachers' perceptions. Furthermore, a personal philosophy of teaching, teaching experience, student teacher supervision, teacher education course objectives, and research appear as key influences on teacher educators' perceptions.

Additionally, the framework classifies the "research" dimension into three different categories (presage, process, product) and highlights the key areas upon which this research is focused (see Figure 1). Research concerned with presage variables is focused on teacher characteristics and includes subject matter knowledge and interest in pupils. Research concerned with process variables is concentrated on teacher skills such as planning, questioning, and feedback. Finally, process-product related research is focused on variables such as reflection/critical evaluation and the quality of the learning environment.

In conclusion, the conceptual framework highlights the importance of establishing pupils', student teachers', and teacher educators' perceptions in order to determine the perceived behaviours and qualities of the expert physical education teacher.

## Method

This study employs a qualitative-descriptive research methodology. It has been suggested (Darst, Zakrajsek, & Mancini, 1989) that the most valuable contribution qualitative research can make to physical education is to provide multiple and varied rich descriptions of what is going on in the gymnasium, in teacher education programmes, and in the minds of pupils, teachers, and teacher educators involved in these programmes. This research also aims to provide a detailed description of what pupils, student teachers, and teacher educators think, feel, and say, to form the basis for developing an in-depth understanding of how the expert physical education teacher is perceived.

### Subjects

The first group of subjects who participated in this study consisted of 30 year 10 pupils (male and female) attending the same country senior high school. Prior to the study, subjects had experienced three years of high school physical education (2 X 64 minute periods per week) taught by a variety of both male and female physical education teachers.

The second subject group consisted of 30 student teachers (male and female) who were completing a three year Bachelor of Arts degree, majoring in physical education. At the time of the study, subjects were enrolled in the second semester of the third year of the course and had recently completed the final ten week teaching practice (Assistant Teacher Programme - ATP).

Teacher educators from various tertiary institutions throughout Australia comprised the third group of 28 subjects (male and female). Subjects were selected on the basis of their attendance at the "Physical Education in Crisis" conference held at Deakin University at the time of this study.

### Instruments

The descriptive research method involves soliciting information from individuals. The subject group sizes were quite large and the subjects were located Australia-wide, therefore a questionnaire was considered to be the most appropriate and viable data collection instrument. The questionnaire is a widely used method for obtaining information in educational research and is used for a variety of purposes, including obtaining facts, ascertaining individuals' perceptions, and discovering reasons for these beliefs (Hook, 1981). The questionnaire was used in this study to obtain information concerning how pupils', student teachers', and teacher educators' perceived the expert physical education teacher.

Two separate instruments were used in this research :

1. Questionnaire A was designed to record student teachers' and teacher educators' perceptions of the expert physical education teacher (see Appendix A).
2. Questionnaire B, a modified/simplified version of the first, was designed to record pupils' perceptions of the expert physical education teacher (see Appendix B).

### Development of the Questionnaires.

Because so little research has focused on perceptions of teaching expertise in an Australian context, it was necessary to develop relevant and appropriate questionnaires specifically for use in this study.

The content base for the questionnaires was derived from an extensive review of the literature focused on teacher effectiveness and teacher expertise in physical education. A variety of teacher characteristics, behaviours, and skills were identified. Of these, key qualities were selected as focus areas for the questionnaires. Furthermore, to complement the literature review, pupils, student teachers, and persons from other fields were informally questioned about their perceptions of an expert physical education teacher. Feedback outlined various "images" of such a teacher. Qualities that were considered most important were highlighted as additional focus areas for the questionnaires.

As a result of both the literature review and the informal questioning, eleven focus areas were selected as the content base from which to develop the questionnaires. These were :

- Management and organization.
- Planning.
- Levels of OTL and ALT-PE.
- Learning environment.
- Questioning technique.
- Personal qualities.
- Feedback.
- Professionalism.
- Interest in pupils.
- Reflection/critical evaluation.
- Teacher knowledge.

The questionnaires consisted of both structured and unstructured items that directly addressed the selected content areas. However, because the nature of the study focused on subjects' perceptions, it was most appropriate for the instruments to consist primarily of unstructured (open-ended) items. Such a format provided the advantages of permitting more descriptive responses and facilitated increased insight into the reasons behind the responses. Once the initial questionnaire (A) was developed, it was then modified and adapted. This resulted in the second questionnaire (B) which was specifically appropriate for the level of the year 10 subjects.

Since the questionnaires for the teacher educators were to be distributed by mail, the preparation of an accompanying cover letter was necessary (see Appendix C). This one page letter briefly explained to respondents exactly what was expected of them and why. In an attempt to motivate respondents' co-operation, both the purpose of the study and its' importance were outlined. Additionally, a commitment to share the results from the study was made. Furthermore, the letter assured complete confidentiality of all responses together with providing the option for anonymity.

#### Pretesting the Questionnaires.

It was necessary to pilot both questionnaire forms to determine whether they collected desired information. Pretesting the instruments achieved several important goals, including the assessment of item relevance and acceptability, clarity of directions, adequacy of response formats, and the general organization and presentation of the questionnaires.

Questionnaire A was reviewed by a representative from each of the targetted subject groups i.e., student teachers and teacher educators. Questionnaire B was reviewed by a school pupil. Resulting feedback was carefully examined and considered. Where necessary, questions were amended and the format revised.

#### Questionnaire Validity.

Validity refers to the degree to which a test measures what it is supposed to measure (Gay, 1990). To produce valid results it was important that the questionnaires developed for this study possessed a high degree of content validity. That is, were questionnaire items designed to measure perceptions that directly related to teaching expertise in physical education? The validity of the questionnaire content base was enhanced by adequately sampling the appropriate content. To facilitate this, an extensive review of literature focused on effective teachers, expert teachers, and perceptions of such teachers was undertaken. Important elements were highlighted as focus areas for the content base.

To complement the literature review, researchers in physical education, teacher educators, student teachers, and pupils were informally questioned about their perceptions of teaching expertise. Similarly, key elements were highlighted as focus content areas. Because the resulting content base thoroughly represented relevant and important aspects of teaching expertise in physical education, it was considered that a high degree of content validity was inherent in the questionnaires.

### Questionnaire Reliability.

Reliability refers to the degree to which a test consistently measures whatever it measures (Gay, 1990). Because errors of measurement affect results it was necessary to establish a high degree of reliability, thus indicating that sources of error were eliminated as much as possible.

Since questionnaire B (pupils) was a modified version of questionnaire A (student teachers, teacher educators), it was important that "equivalent-forms reliability" was established. Doing so enabled a valid comparison to be made between all results from both questionnaires. Equivalent forms of a test are two tests that are identical in every way, except for the actual items included (Gay, 1990). Questionnaires A and B were considered equivalent in terms of measurement of the same variable, structure, instructions, scoring, and interpretation. The varying comprehension levels of the subjects however demanded a variation in both the number of items and the language level of the questionnaires. Consequently, questionnaire B, the modified version, consisted of fewer items and was designed at a level appropriate for year 10 pupils. For example, throughout questionnaire B pupils were asked to describe and discuss their perceptions concerning the "best" physical education teacher as opposed to an expert physical education teacher, a concept considered more difficult for them to comprehend.

To establish the degree of equivalent-forms reliability, the two different questionnaire versions were administered to the same subjects. Responses from both forms were then correlated. Because both sets of results were similar (highly correlated), it was considered that a satisfactory degree of equivalent-forms reliability had been established.



## Procedure

### School Pupils.

Prior to administering the questionnaire to pupils, it was necessary to obtain permission to undertake research in the selected school. On approval from the school principal and the appropriate classroom teacher, the questionnaires were distributed to one class of 30 year 10 pupils. The purpose and relevance of the study were briefly explained and confidentiality of all responses was assured. The researcher remained available throughout the completion of the questionnaire to tend to any problems or queries that arose.

### Student Teachers.

The tertiary students were required to complete the questionnaire within lecture time. The purpose and relevance of the questionnaire were again briefly explained and confidentiality of all responses was assured. Again the researcher remained available to respond to any queries that arose.

### Teacher Educators.

Because the teacher educators were located throughout Australia, it was necessary to mail the questionnaires to them. A stamped, addressed envelope was included to facilitate prompt returns.

The initial questionnaire responses represented approximately 40% of the sample. Using such a low percentage of returns may have affected the generalizability of any conclusions. Consequently, a follow-up measure was necessary.

To facilitate the identification of non-respondents the teacher educators were asked to provide their names on the questionnaire, based on the understanding and assurance that all responses would remain confidential. To encourage further responses, a follow-up letter was sent to the identified non-respondents requesting the completion and prompt return of the questionnaire (see Appendix D).

Following the initial and follow-up efforts, a reasonable return rate of 62% resulted. It is acknowledged however that problems concerning the generalizability of results may have occurred.

#### Limitations of the Research

The major limitations of the research focused upon the research instrument. Because questionnaires typically possess a reasonable degree of structure, flexibility of the technique was somewhat restricted. It was therefore quite difficult to investigate the in-depth issue of subjects' perceptions. The inclusion of open-ended questions did however permit in-depth investigation to a satisfactory degree. Obviously the use of interviews would have permitted much greater depth, however this technique was not practical for this study given the large sample sizes and the distribution of the subject groups.

Additionally, when using questionnaires the problem of "control" must be acknowledged. Once questionnaires were distributed, the researcher had little or no control over what the respondents did with them. Questions may have been misinterpreted, not answered, or the questionnaire forms may not have been returned.

An additional limitation of the research arose from the difficulty in distinguishing between teaching effectiveness and teaching expertise. An "expert" is defined as someone who has "special skill or knowledge in some particular field" (Macquarie, 1982, p. 427). This concept was considered to be difficult for the year 10 subjects to comprehend. Consequently "expert" was equated with "best" and "really good". However, it is acknowledged that respondents may have actually been describing an effective physical education teacher in their responses as a result of their inability to make the distinction between "effectiveness" and "expertise".

#### Ethical Considerations

It was important that any ethical concerns associated with the study be identified. To address these concerns several ethical considerations were established. Firstly, the privacy of all participants was protected in every possible way. All participants were treated with respect and dignity at all times. Additionally, participation in the study was on a voluntary basis. Participants also reserved the right to refuse to answer any questionnaire items. Finally, information collected from the questionnaires was not manipulated or influenced by researcher bias in any way.

## Data Analysis

The raw information gathered from the questionnaires initially had little meaning until it was translated into useful information. The purpose of the data analysis was therefore to summarize all responses in such a way that displayed their combined message.

Due to the nature of the study and the use of questionnaires, the entire analysis procedure consisted solely of calculating and interpreting descriptive statistics. Analysis techniques were employed to reduce the information to a manageable size, thus making many of the data characteristics more obvious. It was important that all information be appropriately and systematically analyzed to facilitate supportable interpretations. Therefore, two types of analytical techniques were necessary, namely analysis of quantitative information and analysis of qualitative information.

### Analysis of Quantitative Information

Quantitative information consists of facts and claims that are represented by numbers. The process of quantitative analysis involved compiling, organizing, and validating information in such a way that certain questions could be answered.

Questionnaire items one and three required respondents to rank given variables and consequently yielded quantitative information. To reduce this information to a manageable size, a frequency score for each variable at every ranking was calculated. This process was applied to all responses from each of the three subject groups. Resulting scores together with their percentage conversions were then presented in tabulated form.

The second questionnaire item which required respondents to either agree or disagree with given variables, also yielded quantitative information. Similarly, frequency counts of agree responses and disagree responses for each subject group were calculated and converted into percentages. Both sets of values were then presented in tabulated form. In addition, graphs were constructed to provide a visual display of the data and thus facilitate ease of interpretation.

#### Analysis of Qualitative Information

Qualitative information consists of facts and interpretations that are in narrative rather than numerical form. The process of qualitative analysis involved compiling, analyzing, and interpreting, and ultimately assisted in providing depth and perspective to the qualitative data.

To facilitate interpretation of the open-ended responses, it was necessary to condense the large bulk of information to a form that was both manageable and understandable. This was achieved using a "reduction process". The categories used to analyze responses were derived from the data themselves. Responses were listed, examined, and grouped according to similar themes. Examination of the groups suggested category descriptors. The number of written statements in each category was then converted to a numerical index and together with the percentage conversion displayed in tabular form. Additionally, typical examples were noted. This process was undertaken to separately analyze responses to each open-ended questionnaire item.

To enhance the credibility of any comparisons made between perceptions, an attempt was made to utilize similar category descriptors for corresponding questions and their responses from each subject group.

The reliability of the coding system was measured using two trained coders. Following a brief outline of the coding system, the coders independently practised categorizing responses according to similar themes/concepts and then assigning an appropriate category descriptor for each group. Any coding discrepancies were discussed and sources of confusion clarified. Inter-rater reliability was defined as the total number of agreements divided by the total number of codes allocated and was calculated to be an acceptable 81%.

## Results

### School Pupils

The questionnaire administered to the school pupils comprised eleven items (see Appendix B). As previously mentioned, it was necessary to modify questions in the original questionnaire version (student teacher, teacher educators), using language appropriate for the level of the year 10 subjects. Despite these changes, where possible, similar response category descriptors were used for all three subject groups thus enhancing the credibility of any comparisons. The school pupils' results are presented question-by-question.

#### *Question 1 : Importance of Presage, Process, and Product Variables.*

This question aimed to determine school pupils' perceptions concerning the importance of presage variables (i.e., teacher characteristics), process variables (i.e., teaching and learning activities), and product variables (i.e., pupil learning) with respect to defining an expert physical education teacher. Results are presented in Table 1.

Table 1

#### Pupils' Rankings of Presage, Process, and Product Variables

Rank		Presage	Process	Product
1	No.	12	11	7
	%	40	37	23
2	No.	10	6	14
	%	33	20	47
3	No.	8	13	9
	%	27	43	30

Number of subjects = 30

Of the responses, 40% ranked presage variables first (most important), 37% ranked process variables first, while 23% ranked product variables first. For the second ranking, product variables received the greatest response frequency with 47%, followed by presage variables with 33% and process variables with only 20%. Finally, 43% of responses ranked process variables third (least important), 30% ranked product variables third, and 27% ranked presage variables third (see Figure 2).

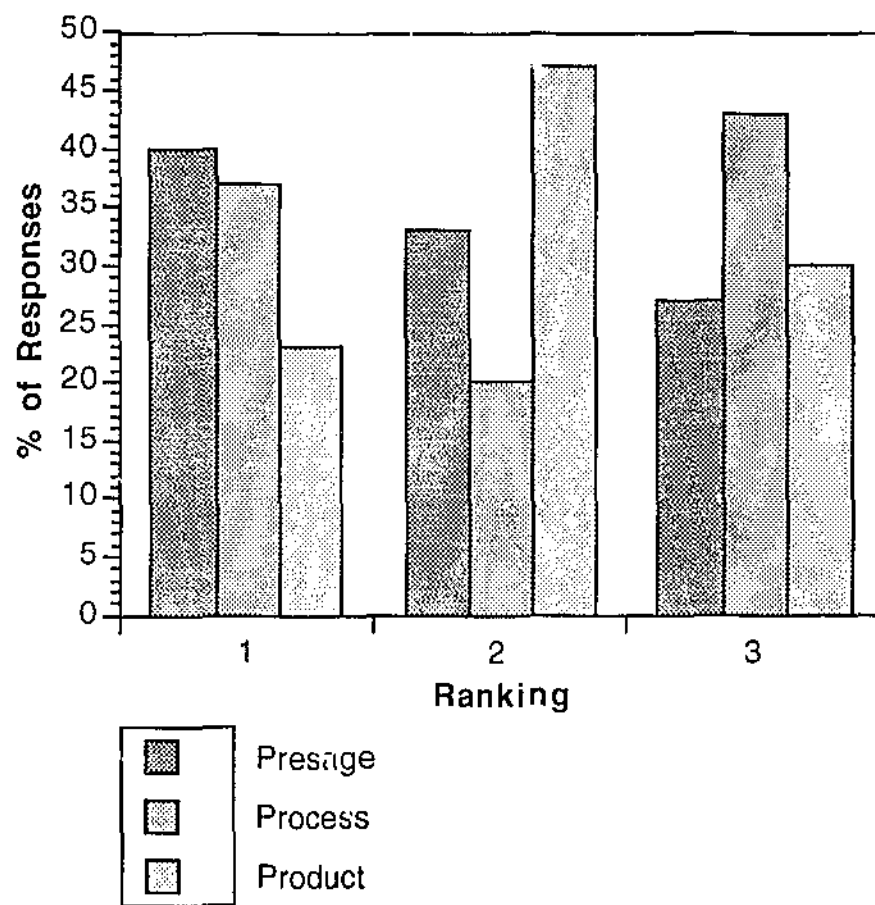


Figure 2. Pupils' rankings of presage, process, and product variables.



*Question 2: Variables Describing an Expert Physical Education Teacher.*

The second question required pupils to consider a set of variables and indicate those which should be used for describing the best (expert) physical education teacher. The inclusion of an "other" category allowed respondents to identify additional variables. Responses are displayed in Table 2.

Table 2

Pupils' Perceptions of Variables Describing an Expert Physical Education Teacher

Variable	Agree		Disagree	
	No.	%	No.	%
a	30	100	-	-
b	30	100	-	-
c	29	97	1	3
d	29	97	1	3
e	30	100	-	-
f	28	93	2	7
g	24	80	6	20
h	27	90	3	10
i	25	83	5	17
j	30	100	-	-
k	3	10	-	-
	1	3	-	-

Number of subjects = 30

- a Teacher personal qualities
- b Classroom management and organization
- c Lesson planning and preparation
- d Teacher knowledge of subject matter/performance
- e Interest in pupils
- f Positive classroom environment
- g Reflection/critical evaluation
- h Teaching competencies
- i Professionalism
- j Levels of OTL and ALT-PE
- k Other
  - Teacher is involved in activities
  - More game activities are provided

Each listed variable was generally perceived as important for describing an expert physical education teacher. The variables "teacher personal qualities", "lesson planning and preparation", "interest in pupils", and "levels of OTL and ALT-PE", each receiving 100% acceptance appeared as dominant variables. The only variables (two) receiving a high "disagree" frequency were "reflection/critical evaluation" (20%) and "professionalism" (17%). The necessity for teacher involvement in class activities and the provision of more game activities were two variables mentioned within the other category.

*Question 3: Ranking of Variables Describing an Expert Physical Education Teacher.*

Question 3 required respondents to rank a given set of variables (as per question 2) in order of importance for describing an expert physical education teacher. A ranking of 1 signified greatest importance. Results are presented in Table 3.

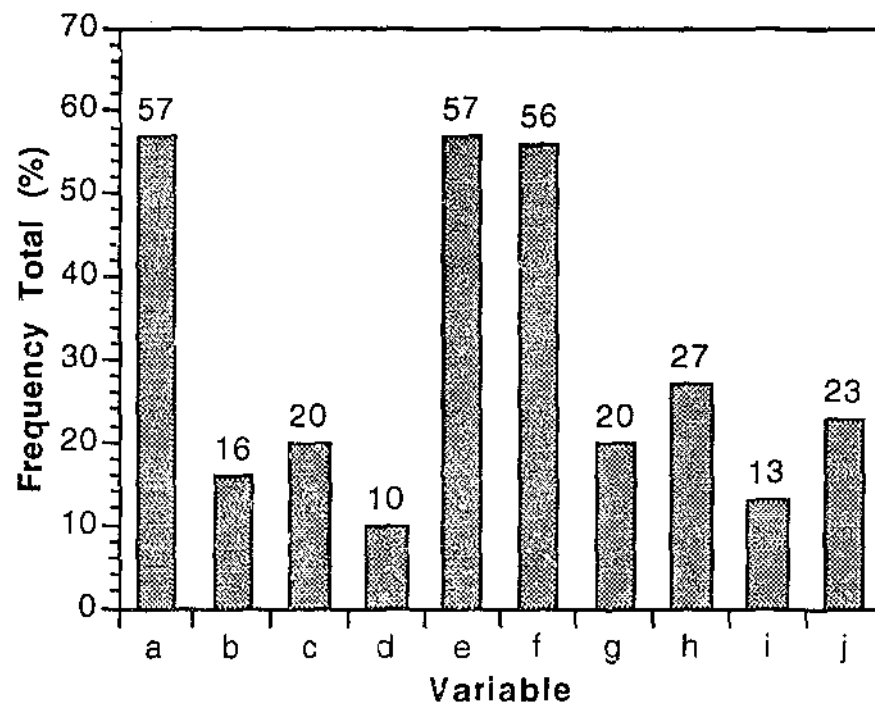
**Table 3****Pupils' Ranked Responses of Variables Describing an Expert Physical Education Teacher**

	Ranking (%)									
	1	2	3	4	5	6	7	8	9	10
a	27	23	7	17	10	10	-	7	-	-
b	3	3	10	7	27	17	13	7	3	10
c	10	7	3	13	13	17	3	10	20	3
d	-	7	3	7	7	3	17	17	17	23
e	17	13	27	13	7	10	7	7	-	-
f	23	20	13	13	13	3	7	3	-	3
g	3	7	10	3	7	3	10	20	17	20
h	-	7	20	10	10	7	17	13	10	7
i	7	3	3	13	3	10	13	10	10	27
j	10	10	3	3	3	20	13	7	23	7

Number of subjects = 30

- a Teacher personal qualities
- b Classes well managed and organized
- c Well planned and prepared lessons
- d Sound knowledge of subject matter/performance
- e Keen interest in pupils
- f Positive learning environment
- g Effective reflection/critical evaluation
- h Expert teaching competencies
- i High degree of professionalism
- j High levels of OTL and ALT-PE

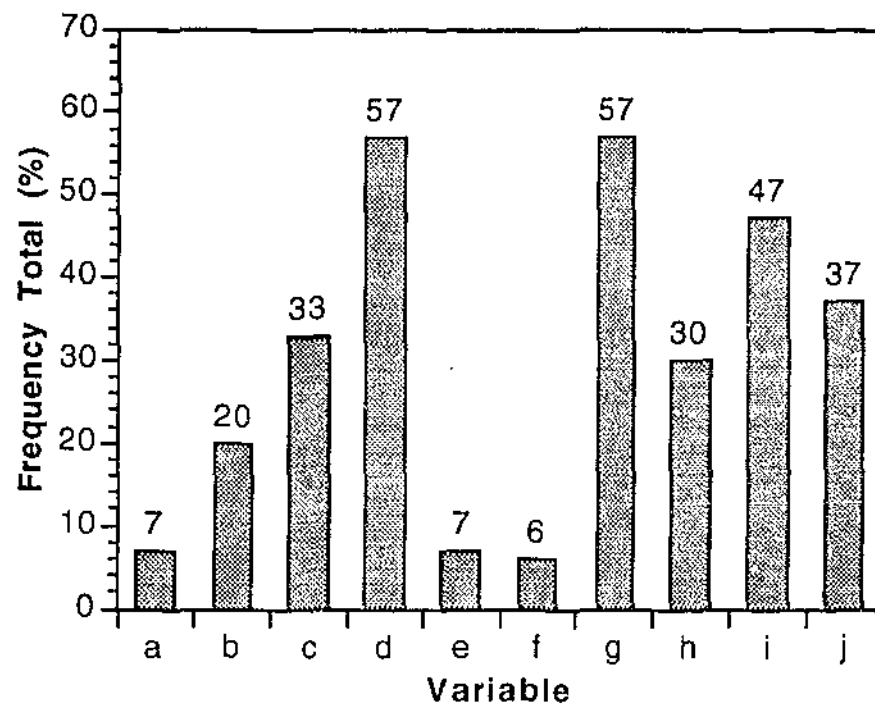
Variables perceived as most important for describing an expert physical education teacher were identified by combining the response frequencies for rankings 1, 2, and 3, for each variable. Those receiving the greatest frequency totals were considered by pupils as most important. These were "teacher personal qualities" (57%), "keen interest in pupils" (57%), and "positive classroom environment" (56%) (see Figure 3).



- a Teacher personal qualities
- b Classes well managed and organized
- c Well planned and prepared lessons
- d Sound knowledge of subject matter/performance
- e Keen interest in pupils
- f Positive learning environment
- g Effective reflection/critical evaluation
- h Expert teaching competencies
- i High degree of professionalism
- j High levels of OTL and ALT-PE

**Figure 3.** Pupils' variable frequency totals for rankings 1, 2, and 3 (most important).

Alternately, variables receiving the greatest combined frequency total for rankings 8, 9, and 10 were perceived by pupils as least important for describing an expert physical education teacher. These were "sound knowledge of subject matter" (57%), "effective reflection/critical evaluation" (57%), and "high degree of professionalism" (47%) (see Figure 4).



- a Teacher personal qualities
- b Classes well managed and organized
- c Well planned and prepared lessons
- d Sound knowledge of subject matter
- e Keen interest in pupils
- f Positive learning environment
- g Effective reflection/critical evaluation
- h Expert teaching competencies
- i High degree of professionalism
- j High levels of OTL and ALT-PE

**Figure 4.** Pupils' variable frequency totals for rankings 8, 9, and 10 (least important).

*Question 4: Open-ended Perceptions of an Expert Physical Education Teacher.*

The fourth question involved respondents providing their definition of an expert physical education teacher. Responses were categorized by keyword identification and arranged in descending order of frequency. The data are presented in Table 4.

Table 4

Pupils' Perceptions of an Expert Physical Education Teacher

Responses		No.	%
i	Personal qualities	20	27
ii	Quality of relationships with students	11	15
iii	Teacher participation	7	9
iv	Positive classroom environment	7	9
v	Meeting students' needs	7	9
vi	Classroom management	6	8
vii	Appearance	6	8
viii	Willingness to give extra time/effort	5	7
ix	Professional qualities	3	4
x	Physical performance	3	4
Total		75	100

Number of subjects = 30

Most frequently cited responses focused on "personal qualities" (presage variables) of the teacher. Typical comments mentioned the importance of the teacher being "fun", "easy going", and "fair". Next most frequent responses discussed the quality of the relationship between the teacher and students. A common response was "the teacher gets along well with students". Other response categories focused on the teacher's ability to foster a "positive classroom environment" and the teacher's "physical performance". The "teacher is good at sport" was a typical comment in the performance category.

*Question 5 : Perceptions of Personal Qualities.*

The fifth question required respondents to discuss their perceptions concerning the personal qualities of an expert physical education teacher. Results are presented in Table 5. Categories are arranged in descending order of frequency.

Table 5

Pupils' Perceptions of the Personal Qualities of an Expert Physical Education Teacher

<b>Responses</b>		<b>No.</b>	<b>%</b>
i	Outgoing, easy going, approachable	28	53
ii	Authoritative yet pleasant	19	36
iii	Sense of humour	5	9
iv	Charismatic	1	2
<b>Total</b>		53	100

Number of subjects = 30

Over half (i.e., 53%) of the responses cited the capacity to be "outgoing, easy going, approachable" as the key element in the personality of an expert physical education teacher. The second most frequent responses (i.e., 36%) focused on the teacher's ability to maintain authority using a pleasant manner. The teacher is "easy to get along with and can also control the class" was a typical comment in this category.

*Question 6: Perceptions of Expectations.*

In response to question 6, subjects discussed their perceptions concerning the expectations an expert physical education teacher communicates to pupils. Respondents identified ways that such a teacher gets pupils to do as he/she asks. Categorized responses are presented in Table 6, arranged in descending order of frequency.

Table 6

Pupils' Perceptions of Expectations Communicated by an Expert Physical Education Teacher

<b>Responses</b>		<b>No.</b>	<b>%</b>
i	Enjoyment and enthusiasm	13	34
ii	Positive teacher-student interaction	11	29
iii	High levels of student involvement	6	16
iv	Teacher participation	3	8
v	Authoritative yet fair	3	8
vi	Establishing a behaviour code	2	5
<b>Total</b>		<b>38</b>	<b>100</b>

Number of subjects = 30

Most frequent responses (i.e., 34%) focused on the teacher's ability to foster an enjoyable class atmosphere in order to have students do as they have been instructed. Typical comments included, "by making the activities fun" and "by making tasks more enjoyable, not just like a chore". The second most frequent responses discussed the importance of developing "positive teacher-student interaction". The "expert phys-ed teacher gets students to do what he/she asks by getting to know all of the students without having favourites" was a comment mentioned in this category.

*Question 7: Perceptions of the Classroom Environment.*

In response to question 7, respondents were required to discuss reasons why students enjoy participating in classes taken by an expert physical education teacher. Response categories are presented in Table 7, arranged in descending order of frequency.



Table 7

Pupils' Perceptions of the Classroom Environment Fostered by an Expert Physical Education Teacher

Responses		No.	%
i	Enjoyable activities	17	45
ii	Positive teacher-student interaction	7	18
iii	Student achievement, learning outcomes	6	16
iv	Teacher is authoritative yet fun	4	11
v	Teacher as role model	2	5
vi	Teacher participation	2	5
Total		38	100

Number of subjects = 30

As shown, 45% of responses identified the provision of "enjoyable activities" as the primary reason for student enjoyment. Next most frequent responses focused on the development of "positive teacher-student interaction" (18%) and the facilitation of "student achievement, learning outcomes" (16%), as additional reasons for student enjoyment.

*Question 8 : Perceptions of Management and Organizational Qualities.*

Question 8 first asked respondents whether they regarded an expert physical education teacher as having many discipline problems. All pupils (i.e., 100%) associated the incidence of minimal discipline problems with such a teacher (see Table 8).

The latter part of question 8 required respondents to explain ways that the expert minimizes discipline problems. Response categories, arranged in descending order of frequency are also displayed in Table 8.

**Table 8**

**Pupils' Perceptions of the Management and Organizational Qualities of an Expert Physical Education Teacher**

<b>Responses</b>		<b>No.</b>	<b>%</b>
•	Minimal discipline problems (agree)	30	100
i	Positive teacher-student interaction	12	38
ii	Authoritative yet pleasant	8	25
iii	Enjoyable atmosphere	6	19
iv	High participation levels	2	6
v	Alternatives to participation	1	3
vi	Established behaviour code	1	3
vii	Teacher flexibility, adaptability, variety	1	3
viii	Teacher participation	1	3
<b>Total</b>		<b>32</b>	<b>100</b>

Number of subjects = 30

The development of "positive teacher-student interaction (rapport)" was cited most often (i.e., 38%) as the primary management and organizational strategy. Typical comments were "he/she has the respect of the students so most students would probably try to impress him/her" and "the class would listen if they like the teacher". The second and third most frequent responses were similar, both focusing on the teacher's ability to foster a pleasant, enjoyable atmosphere in order to minimize discipline problems.

***Question 9: Perceptions of Questioning Technique.***

Question 9 aimed to determine pupils' perceptions concerning the questioning technique of an expert physical education teacher. Results are presented in Table 9. Categories are arranged in descending order of frequency.

Table 9

Pupils' Perceptions of the Questioning Technique of an Expert Physical Education Teacher

Responses		No.	%
i	Establish knowledge, understanding, learning	21	53
ii	Determine students' thoughts and opinions	8	20
iii	Maintain on-task behaviour	6	15
iv	Ongoing assessment	4	10
v	Expert phys-ed teacher doesn't ask questions	1	2
<b>Total</b>		40	100

Number of subjects = 30

Most frequent responses (i.e., 53%) cited the use of questions for the purpose of establishing the degree of student knowledge, understanding and learning. The comment "to make sure students are learning and clearly understand the sport" was a typical response in this category. The second most frequent responses (i.e., 20%) focused on the use of questions as a means of determining students' thoughts and opinions. A typical comment in this category was "to be sure students like what they're doing". One response suggested that the expert physical education teacher doesn't ask questions because "it puts students under the hammer".

*Question 10 : Perceptions of Feedback.*

Question 10 aimed to ascertain perceptions concerning the feedback given by an expert physical education teacher. Respondents were asked to discuss ways in which the expert assists those students who experience difficulty in learning new skills. Categorized responses, arranged in descending order of frequency are presented in Table 10.

Table 10

Pupils' Perceptions of Feedback Given by an Expert Physical Education Teacher

<b>Responses</b>		<b>No.</b>	<b>%</b>
i	Individual assistance (teacher and/or student coaching)	22	65
ii	Encouragement/feedback	6	17
iii	Relevant practice activities	3	9
iv	Skill simplification	2	6
v	Additional coaching (lunch, after school)	1	3
<b>Total</b>		<b>34</b>	<b>100</b>

Number of subjects = 30

The most frequently mentioned responses (i.e., 65%) focused on the provision of "individual assistance". Typical comments were "teacher could concentrate on that person until they have learnt that skill" and "put kids with someone who knows the skill so the teacher can help other people". The second most frequent responses cited the teacher's ability to provide "encouragement/feedback" in order to facilitate students learning new and difficult skills.

*Question 11 : Perceptions of the Importance of Mastery of Subject Matter.*

In response to question 11, respondents were required to indicate whether an expert physical education teacher must be an accomplished performer in all sports. Results are presented in Table 11.

Table 11

Pupils' Perceptions of the Importance of Subject Matter Mastery in Relation to Expertise in Physical Education Teaching

<b>Responses</b>		<b>No.</b>	<b>%</b>
i	No responses (disagree) <ul style="list-style-type: none"><li>• An expert facilitates learning</li><li>• Can consult a skilled student</li><li>• Can still teach knowledge (theory and rules)</li><li>• If they give it their best shot</li><li>• Sport ability alone doesn't imply expert status</li></ul>	28	93
ii	Yes responses (agree) <ul style="list-style-type: none"><li>• Must be knowledgeable &amp; skilled at all sports</li></ul>	2	7
<b>Total</b>		30	100

Number of subjects = 30

As shown, 93% of responses indicated that an physical education teacher who is not an accomplished performer in all sports can still be described as an expert. That is, expert physical performance was not perceived as a necessary condition for expert physical education teaching. Comments in this category mentioned that an expert should instead be discussed in relation to the facilitation of student learning. Additional comments suggested that sporting ability alone does not and should not imply expert status. Only 7% of responses indicated that an expert physical education teacher must be an expert performer in all sports.

### Summary of Pupils' Perceptions

A "multi-faceted image" of an expert physical education teacher has emerged, based on the analysis of pupils' perceptions. The expert was perceived as possessing a variety of desirable qualities. Most important qualities, as perceived by pupils are related to teacher personal characteristics (presage), classroom management and organization (process), interest in students (process), levels of OTL and ALT-PE (process), and classroom environment (product). When defining an expert physical education teacher, pupils least favoured qualities related to reflection/critical evaluation (product), teacher professionalism (presage), teaching competencies (process), and knowledge of subject matter (presage).

A description based on a general consensus of pupils' perceptions describes an expert physical education teacher as fun and easy going, together with being able to foster a positive classroom environment in which high levels of student achievement and learning occur. Additionally, the expert experiences minimal disciplinary problems, frequently resulting from the ability to create a positive atmosphere. According to pupils, the expert directs questions primarily to establish student knowledge and understanding and to determine students' thoughts and opinions. Furthermore, the feedback given by an expert physical education teacher is encouraging and is most often issued on an individual basis. Finally, pupils perceived "all round" physical sporting expertise as an unnecessary and insufficient quality for earning "expert" status in physical education teaching.

### Student Teachers

The questionnaire administered to the student teachers comprised fifteen items (see Appendix A). Results are presented question-by-question.

#### *Question 1 : Importance of Presage, Process, and Product Variables.*

Question 1 aimed to determine student teachers' perceptions concerning the importance of presage, process, and product variables with respect to defining an expert physical education teacher. Results are presented in Table 12.

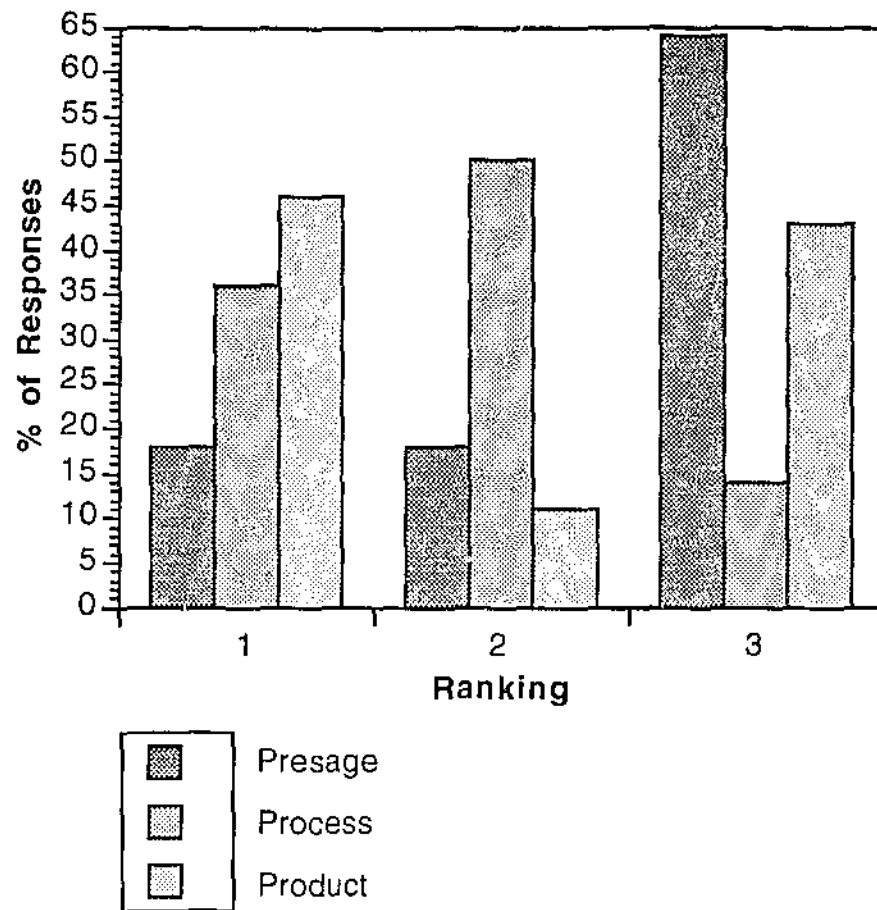
Table 12

#### Student Teachers' Rankings of Presage, Process, and Product Variables

<b>Rank</b>		<b>Presage</b>	<b>Process</b>	<b>Product</b>
1	No.	5	10	13
	%	18	36	46
2	No.	5	14	3
	%	18	50	11
3	No.	18	4	12
	%	64	14	43

Number of subjects = 28

The results indicate that 46% of response ranked product variables first (most important), 36% ranked process variables first, while only 18% ranked presage variables first. For the second ranking, process variables received the greatest response frequency with 50%, followed by presage variables and product variables with 18% and 11% respectively. Lastly, 64% of responses ranked presage variables third (least important), 43% ranked product variables third, and only 14% ranked process variables third (see Figure 5).



**Figure 5.** Student teachers' rankings of presage, process, and product variables.

*Question 2: Variables Describing an Expert Physical Education Teacher.*

The second question required respondents to consider a set of variables and indicate those which should be used for describing an expert physical education teacher. An "other" category was incorporated to enable respondents to identify any additional variables, if appropriate. Responses are presented in Table 13.



**Table 13**

**Student Teachers' Perceptions of Variables Describing an Expert Physical Education Teacher**

Variable	Agree		Disagree	
	No.	%	No.	%
a	26	93	2	7
b	28	100	-	-
c	27	96	1	4
d	28	100	-	-
e	28	100	-	-
f	28	100	-	-
g	28	100	-	-
h	28	100	-	-
i	28	100	-	-
j	28	100	-	-
k	1	4	-	-
	2	7	-	-

Number of subjects = 28

- a Teacher personal qualities
- b Classroom management and organization
- c Lesson planning and preparation
- d Teacher knowledge of subject matter
- e Interest in pupils
- f Positive classroom environment
- g Reflection/critical evaluation
- h Teaching competencies
- i Professionalism
- j Levels of OTL and ALT-PE
- k Other
  - Flexibility to teach other subjects
  - Extension of gifted students

Results show that "teacher personal qualities" and "lesson planning and preparation" were the only two variables receiving minor "disagree" response frequencies, with 7% and 4% respectively. All other variables received 100% acceptance. Several comments were mentioned within the "other" category. These focused on the need for "flexibility to teach other subjects" together with the needs for teacher concern and involvement in the "extension of gifted students".

*Question 3: Ranking of Variables Describing an Expert Physical Education Teacher.*

The third question required respondents to rank a given set of variables (as per question 2) according to their importance for describing an expert physical education teacher. A ranking of 1 signified greatest importance. Results are presented in Table 14.

**Table 14**

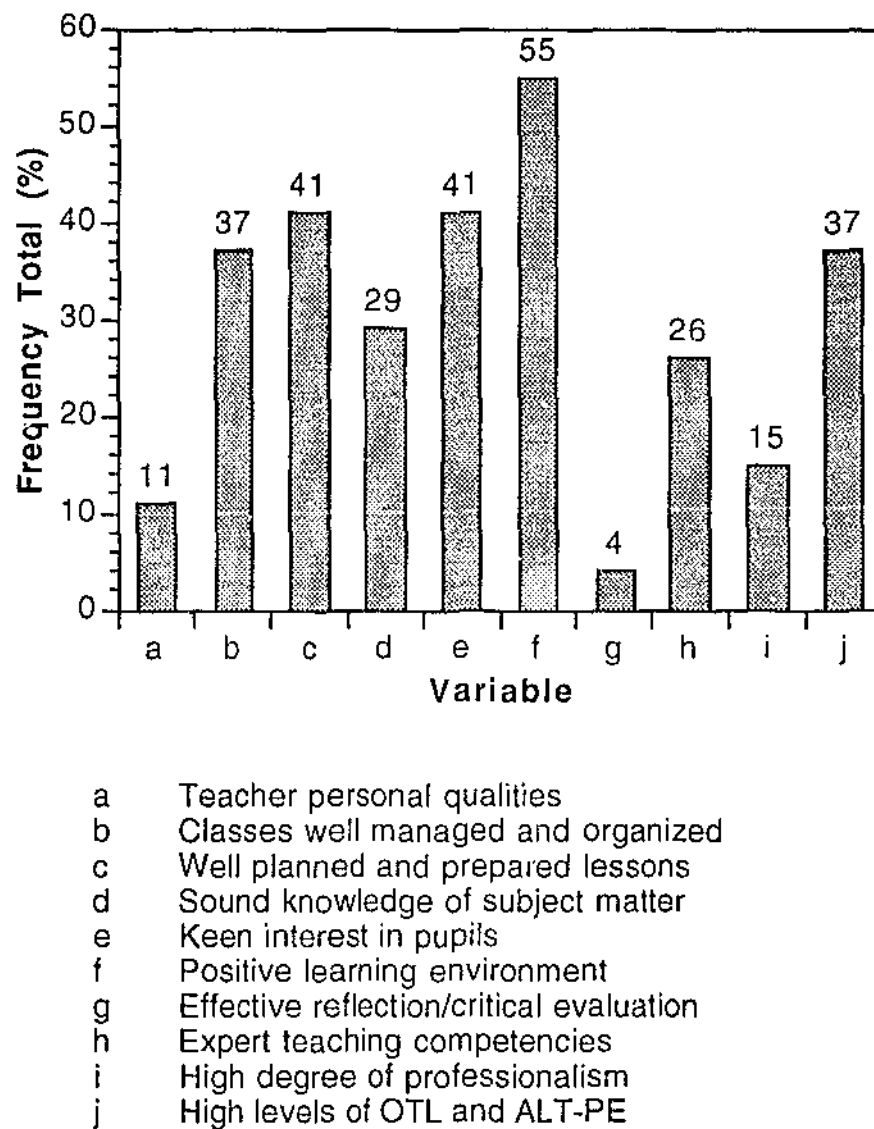
Student Teachers' Ranked Responses of Variables Describing an Expert Physical Education Teacher

	Ranking (%)									
	1	2	3	4	5	6	7	8	9	10
a	7	4	-	11	7	7	11	11	4	37
b	15	15	7	7	11	33	4	7	-	-
c	4	11	26	11	15	7	15	7	4	-
d	7	11	11	15	11	15	7	11	7	4
e	-	22	19	15	15	7	7	4	11	-
f	33	15	7	11	7	4	15	4	4	-
g	-	-	4	-	4	4	11	15	19	44
h	11	-	15	15	7	4	11	22	11	4
i	-	4	11	4	7	4	7	11	37	15
j	22	15	-	7	19	15	11	7	4	-

Number of subjects = 27

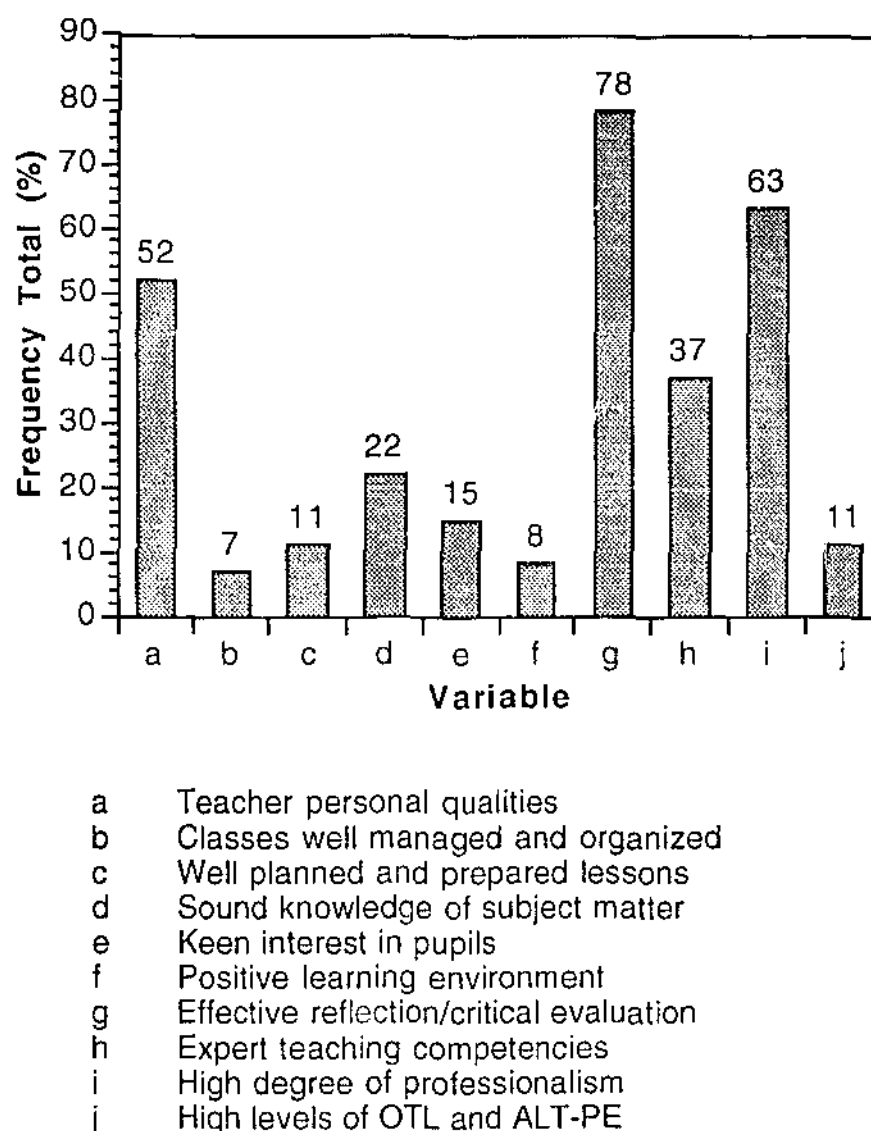
- a Teacher personal qualities
- b Classes well managed and organized
- c Well planned and prepared lessons
- d Sound knowledge of subject matter
- e Keen interest in pupils
- f Positive learning environment
- g Effective reflection/critical evaluation
- h Expert teaching competencies
- i High degree of professionalism
- j High levels of OTL and ALT-PE

To identify which variables were perceived as most important, the response frequencies for ranks 1, 2, and 3 were combined, for each variable. Those receiving the greatest frequency totals (i.e., most important) were established as "positive learning environment" (55%), "well planned and prepared lessons" (41%), and "keen interest in pupils" (41%) (see Figure 6).



**Figure 6.** Student teachers' variable frequency totals for rankings 1, 2, and 3 (most important).

Alternately, variables perceived as least important for describing an expert physical education teacher were those receiving the greatest combined frequency total for rankings 8, 9, and 10. These were "effective reflection/critical evaluation" (78%), "high degree of professionalism" (63%), and "teacher personal qualities" (52%) (see Figure 7).



**Figure 7.** Student teachers' variable frequency totals for rankings 8, 9, and 10 (least important).

*Question 4 : Open-ended Perceptions of an Expert Physical Education Teacher.*

In response to question 4, respondents provided their definition of an expert physical education teacher. Categorized responses are presented in Table 15, arranged in descending order of frequency.

Table 15

Student Teachers' Perceptions of an Expert Physical Education Teacher

Responses		No.	%
i	Positive classroom environment	29	26
ii	Teaching to maximize learning	29	26
iii	Professional qualities	18	17
iv	Knowledge of subject matter and pedagogy	17	16
v	Physical performance	9	8
vi	Personal qualities	4	4
vii	Self-evaluation	3	3
Total		109	100

Number of subjects = 30

Most frequently cited responses focused on "teaching to maximize learning" and "positive learning environment", both with a response frequency of 26%. Typical comments in the first category included, " an expert phys-ed teacher helps to develop students' skills, attitudes, and understandings so as to prepare them for the real world" and " an expert allows all students to participate and have success to some degree". Next most frequent responses cited the teachers' "professional qualities" (17%) and the teacher's "knowledge of subject matter and pedagogy" (16%) as key components in the definition of an expert physical education teacher.

**Question 5 : Perceptions of Processes and Criteria for Identifying an Expert Physical Education Teacher.**

Question 5 comprised two parts. The first part required respondents to explain what process/es should be used to identify an expert physical education teacher; the second part required respondents to discuss criteria which should be used to confirm the identification of the expert. Categorized responses, arranged in descending order of frequency are presented in Table 16.

**Table 16**

Student Teachers' Perceptions of the Processes and Criteria for Identifying an Expert Physical Education Teacher

Responses		No.	%
Process			
i	Examine course outlines, lesson plans, assessment procedures, teacher records	11	25
ii	Observe teacher (interaction with students, lesson presentation)	6	14
iii	Assessment as per student teaching practice	5	12
iv	Interview colleagues	5	12
v	Interview students	5	12
vi	Systematic observation	4	9
vii	Observe students (attitude, participation, competency)	4	9
viii	Interview teacher	3	7
<b>Total</b>		<b>43</b>	<b>100</b>
Criteria			
i	Student achievement, learning outcomes	18	32
ii	Classroom environment	14	24
iii	Lesson presentation	14	24
iv	Professional qualities	8	14
v	Programme content	1	2
vi	Feedback analysis	1	2
vii	Knowledge of subject matter	1	2
<b>Total</b>		<b>57</b>	<b>100</b>

Number of subjects = 30

The identification process mentioned most frequently (i.e., 25%) involved the examination of course outlines, lesson plans, assessment procedures, and teacher records. The second most frequent responses cited observation of the teacher, both with respect to interaction with students and lesson presentation, as an identification process. Observation of students, focusing on their attitudes, participation levels, and competency standards was mentioned as another process.

Respondents most frequently cited (i.e, 32%) the criterion of "student achievement, learning outcomes". Second most frequent responses identified the nature of the "classroom environment" and the quality of the "lesson presentation" as criteria for identification of an expert physical education teacher.

*Question 6 : Perceptions of Personal Qualities.*

In response to question 6, respondents discussed their perceptions of the personal qualities of an expert physical education teacher. Responses are presented in Table 17, arranged in descending order of frequency.

Table 17

Student Teachers' Perceptions of the Personal Qualities of an Expert Physical Education Teacher

Responses		No.	%
i	Dynamism	42	40
ii	Appearance (attire, fit and healthy)	20	19
iii	Caring	17	16
iv	Sense of humour	11	11
v	Outgoing, easy going, approachable	11	11
vi	Trustworthy, dependable	3	2
vii	Commonsense, intelligence	1	1
<b>Total</b>		<b>105</b>	<b>100</b>

Number of subjects = 30

Results indicate that 40% of the sample perceived "dynamism" as the major personal quality. The second most frequent responses focused on the physical appearance of the teacher. Typical comments mentioned the teacher's need to "dress in sporty gear and look fit".

*Question 7 : Perceptions of Professional Qualities.*

Question 7 aimed to establish perceptions concerning ways in which an expert physical education teacher achieves a high standard of professionalism. Categorized responses are presented in Table 18, arranged in descending order of frequency.

Table 18

Student Teachers' Perceptions of Professional Qualities of an Expert Physical Education Teacher

	<b>Responses</b>	<b>No.</b>	<b>%</b>
i	Highly efficient management and organization	28	31
ii	Commitment to teaching	24	27
iii	Liaison with students, parents, community	15	17
iv	Appearance (positive role model)	8	9
v	Records all aspects of teaching	7	8
vi	Professional development sessions	3	3
vii	Further study	2	2
viii	Teaching experience	2	2
ix	Membership in professional associations	1	1
	<b>Total</b>	<b>90</b>	<b>100</b>

Number of subjects = 30

Results indicate that 31% of responses perceive that quality of "highly efficient management and organization" as a major contributor to an expert physical education teacher's high standard of professionalism. Maintaining a strong "commitment to teaching" was mentioned second in frequency. Third most frequent responses focused on the teacher's ability to liaise with students, parents, and the community.



**Question 8 : Perceptions of Expectations.**

In response to question 8, student teachers discussed their perceptions concerning the expectations an expert physical education teacher communicates to students. Results are displayed in Table 19. Response categories are arranged in descending order of frequency.

Table 19

Student Teachers' Perceptions of Expectations Communicated by an Expert Physical Education Teacher

Responses		No.	%
i	Co-operate, support, respect peers' and teacher's efforts and differences	20	25
ii	Lesson will be challenging and of value to all	14	17
iii	Student responsibility/accountability for own behaviour	14	17
iv	High levels of student involvement	11	14
v	Individual competition and success	9	11
vi	Enjoyment and enthusiasm	7	9
vii	Safe, non-threatening environment	6	7
Total		81	100

Number of subjects = 30

Of the responses, 25% cited the expectation for students to "co-operate, support, respect peers" and teacher's efforts and differences". The second most frequent responses focused on the expectations for the lesson to be "challenging and of value to all" and "student responsibility/accountability for own behaviour".

**Question 9 : Perceptions of Classroom Environment.**

Question 9 aimed to establish student teachers' perceptions concerning the important aspects of the learning environment fostered by an expert physical education teacher. Results are presented in Table 20. Categories are arranged in descending order of frequency.

Table 20

Student Teachers' Perceptions of the Classroom Environment Fostered by an Expert Physical Education Teacher

Responses		No.	%
i	Caring, supportive environment	63	68
ii	Student achievement, learning outcomes	12	13
iii	Efficient management and control	6	6
iv	Open-ness	6	6
v	Challenging atmosphere	5	5
vi	Positive reinforcement	1	2
Total		93	100

Number of subjects = 30

The teacher's ability to foster a "caring, supportive environment" was perceived by 68% of total responses as the most popular aspect. A typical comment suggested that "an expert phys-ed teacher teaches students to have respect for each other and to accept that people may not be as good in some areas of sport as others, therefore they can help each other". Second most frequent responses focused on the teacher's ability to facilitate "student achievement, learning outcomes".

*Question 10: Perceptions of Management and Organizational Qualities.*

In response to question 10, student teachers discussed their perceptions of the distinctive aspects of the management and organizational qualities of an expert physical education teacher. Categorized responses are arranged in descending order and presented in Table 21.

Table 21

Student Teachers' Perceptions of the Management and Organizational Qualities of an Expert Physical Education Teacher

	<b>Responses</b>	<b>No.</b>	<b>%</b>
i	Efficient planning (equipment, resources, skill practices, time)	53	58
ii	Established behaviour code	18	20
iii	Positive teacher-student interaction	9	10
iv	Teacher flexibility, adaptability, variety	4	4
v	Safe, non-threatening environment	4	4
vi	Evaluative strategies	3	3
vii	High participation levels	1	1
	<b>Total</b>	<b>92</b>	<b>100</b>

Number of subjects = 30

Of all responses, 58% cited the necessity for "efficient planning" as a distinctive aspect. Responses discussed this planning with respect to equipment, resources, skill practices, and use of time. The second most frequent responses identified the establishment of a consistent and fair behaviour code, as another distinctive aspect.

*Question 11: Perceptions of Planning Technique.*

Question 11 aimed to determine perceptions concerning the planning technique that is characteristic of an expert physical education teacher. Response categories are arranged in descending order and presented in Table 22.

Table 22

Student Teachers' Perceptions of the Planning Technique of an Expert  
Physical Education Teacher

Responses		No.	%
i	According to students' needs and abilities	17	30
ii	Flexibility, variety	9	16
iii	Developmental planning (objectives, short/long term goals)	8	14
iv	Planning in advance	8	14
v	Considers available, up-to-date resources	7	12
vi	Extensive, thorough planning	4	7
vii	Safety conscious	4	7
Total		57	100

Number of subjects = 30

Most frequent responses (i.e., 30%) focused on the teacher's ability to plan "according to students' needs and abilities". The second most frequent responses identified the elements of "flexibility and variety" as necessary qualities of an expert physical education teacher's planning. Other responses indicated that an expert's planning is conducted with reference to available, up-to-date resources.

*Question 12 : Perceptions of Questioning Technique.*

In response to question 12, student teachers discussed their perceptions of the questioning technique that is indicative of an expert physical education teacher. Results are presented in Table 23. Categories are arranged in descending order of frequency.

**Table 23**

**Student Teachers' Perceptions of the Questioning Technique of an Expert  
Physical Education Teacher**

	<b>Responses</b>	<b>No.</b>	<b>%</b>
i	Questions at varying levels of abstraction	25	33
ii	Variety of question uses	21	28
iii	Questions appropriate for class level	10	13
iv	Teacher questioning skills (re-direction, re-phrasing, prompting, structure)	8	11
v	Sensitive to varying wait times	7	9
vi	Evenly distributed questions	5	6
	<b>Total</b>	<b>76</b>	<b>100</b>

Number of subjects = 30

Most frequent responses (i.e., 33%) cited the ability of the expert to direct "questions at varying levels of abstraction". Comments identified various question types, including probing, open-ended, diverging, and discovery type questions. The second most frequent responses focused on the teacher's use of questions for a variety of purposes. Perceived purposes included, to test student knowledge, extend student knowledge, check for understanding, and maintain on-task behaviour.

***Question 13: Perceptions of Feedback.***

Question 13 aimed to ascertain perceptions concerning the feedback provided by an expert physical education teacher. Response categories, arranged in descending order of frequency are presented in Table 24.

Table 24

Student Teachers' Perceptions of Feedback Given by an Expert Physical Education Teacher

Responses		No.	%
i	Value content	34	42
ii	Positive	16	20
iii	Variety	16	20
iv	Frequent, high incidence, consistent	15	18
Total		81	100

Number of subjects = 30

Of the responses, 42% focused on the "value content" quality inherent in feedback given by the expert. A typical comment explained that the expert's feedback has "constructive aspects which allow room for improvement". Other comments suggested that "meaningful feedback is essential". Next most frequent responses (i.e., 20%) described the nature of an expert's feedback as "positive". Equal responses discussed the teacher's ability to provide a "variety" of feedback, appropriate for the given situation.

*Question 14 : Perceptions of the Importance of Skilled Teaching and Mastery of Subject Matter in Relation to an Expert Physical Education Teacher.*

In response to question 14, student teachers were required to respond to the following statement : Expertise lies in the link between highly skilled teaching and mastery of a particular subject matter. Results are presented in Table 25.

Table 25

Student Teachers' Perceptions of the Importance of Skilled Teaching and Subject Matter Mastery in Relation to an Expert Physical Education Teacher

Responses		No.	%
i	Yes responses (agree) <ul style="list-style-type: none"><li>• Balance is necessary</li><li>• Subject matter mastery is crucial</li><li>• Able to impart knowledge, not necessarily perform</li></ul>	23	77
ii	No responses (disagree) <ul style="list-style-type: none"><li>• Many other variables are involved</li><li>• Mastery of subject matter is not crucial</li></ul>	7	23
Total		30	100

Number of subjects = 30

Of the student teachers, 77% were in agreement with the given statement. That is, the qualities of highly skilled teaching and subject matter mastery were perceived as primary indicators of teaching expertise in physical education. Several comments within this category explained that subject matter mastery does not demand that the teacher always be an "expert performer". Rather, the expert was perceived as possessing the ability to impart subject matter to students in a meaningful way. Alternately, 23% of the student teachers did not agree with the given statement. Typical comments described teaching as a complex process involving many variables, thus making it impossible to confine the concept of "expertise" to only two variables.

*Question 15 : Perceptions of the Skills of Reflection and Critical Evaluation.*

Question 15 aimed to determine perceptions of the expert physical education teacher's skills of reflection and critical evaluation. Results are presented in Table 26. Categorized responses are arranged in descending order of frequency.

Table 26

Student Teachers' Perceptions of an Expert Physical Education Teacher's Skills of Reflection and Critical Evaluation

Responses		No.	%
i	Continual evaluation for improvement	27	72
ii	Evaluation according to student outcomes (enjoyment, interest, involvement, learning)	5	14
iii	Evaluates lessons, programmes, and performance	5	14
Total		37	100

Number of subjects = 30

Of the responses, 72% perceived the expert physical education teacher as being involved in continual evaluation in order to facilitate improvement in his/her teaching. Next most frequent responses perceived the expert to evaluate according to student outcomes. These outcomes were identified as enjoyment, interest, lesson involvement, and student growth and learning.

Summary of Student Teachers' Perceptions

An alternative "image" of an expert physical education teacher, based on student teachers' perceptions has emerged. A variety of process and product variables were perceived as most desirable qualities of an expert physical education teacher. These qualities related to the learning environment (product), lesson planning and preparation (process), and levels of OTL and ALT-PE (process). When describing an expert physical education teacher, qualities related to reflection/critical evaluation (product), professionalism (presage), and teacher characteristics (presage), were perceived as least important.



A description of an expert physical education teacher, based on a general consensus of student teachers' perceptions can be outlined. Such a teacher possesses a dynamic personality and is able to foster a supportive, positive classroom environment that is success oriented and characterized by high levels of student achievement. The expert's key professional qualities include the ability to maintain highly efficient management and organization, together with being able to uphold a strong commitment to teaching. The expert communicates strong expectations for mutual co-operation and respect. Furthermore, the firm establishment of a consistent and fair behaviour code primarily assists in minimizing disciplinary problems. All planning is conducted according to students' needs and abilities and is characterized by flexibility and variety. The expert directs questions at varying levels of abstraction and uses questions for a variety of purposes, including to test student knowledge. Feedback provided by the expert contains value content and is positive in nature. The expert teacher partakes in continual self reflection and critical evaluation based on student outcomes (e.g., enjoyment, learning), in order to facilitate teaching improvement.

Finally, the relationship between the variables "highly skilled teaching" and "mastery of subject matter" was perceived by the majority of the student teacher sample as the key indicator of teaching expertise. The expert however need not necessarily be an "expert performer", yet must be able to impart subject matter to students in a meaningful manner.

### Teacher Educators

The questionnaire administered to the teacher educators was the same as the one administered to the student teachers and therefore comprised fifteen items (see Appendix A). Results are presented question-by-question.

#### *Question 1 : Importance of Presage, Process, and Product Variables.*

Question 1 aimed to establish teacher educators' perceptions concerning the importance of presage, process, and product variables with respect to defining an expert physical education teacher. Results are presented in Table 27.

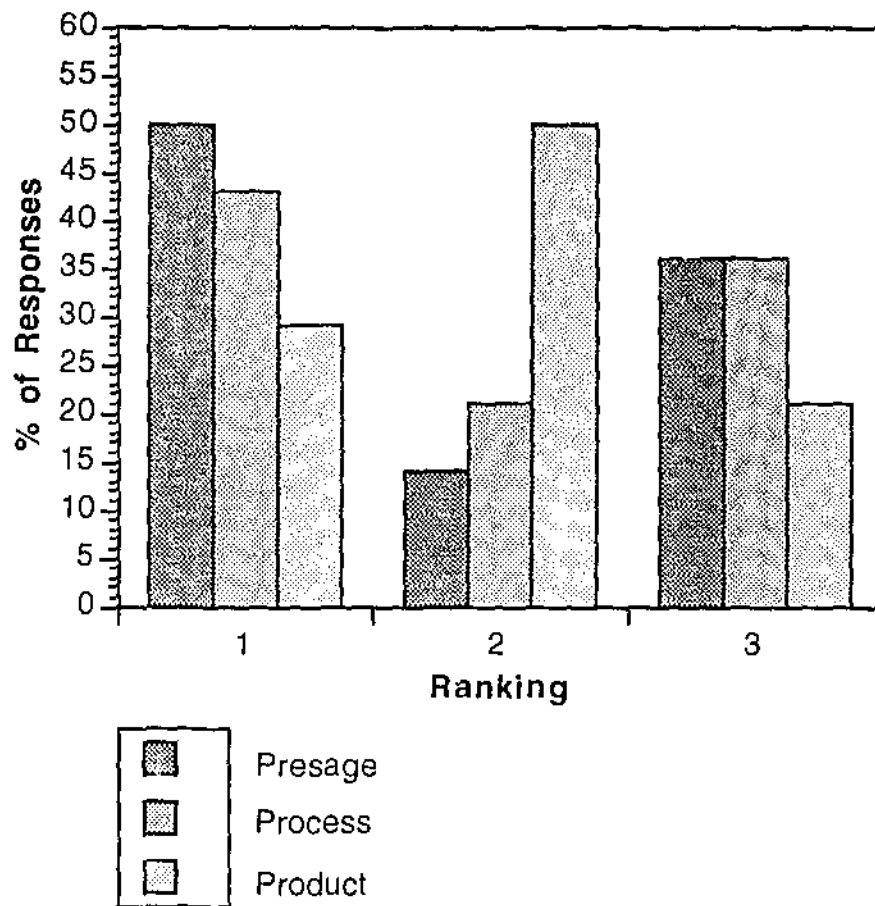
Table 27

#### Teacher Educators' Rankings of Presage, Process, and Product Variables

<b>Rank</b>		<b>Presage</b>	<b>Process</b>	<b>Product</b>
1	No.	7	6	4
	%	50	43	29
2	No.	2	3	7
	%	14	21	50
3	No.	5	5	3
	%	36	36	21

Number of subjects = 14

Of the responses, 50% ranked presage variables first (most important), 43% ranked process variables first, and 29% ranked ranked product variables first. For the second ranking, product variables received the greatest response frequency with 50%, followed by process variables and presage variables, with 21% and 14% respectively. Lastly, presage and product variables both received a response frequency of 36% for the third ranking (least important), while product variables received 21% (see Figure 8).



**Figure 8.** Teacher educators' rankings of presage, process, and product variables.

*Question 2: Variables Describing an Expert Physical Education Teacher.*

In response to question 2, respondents considered a set of variables and indicated those which should be used for describing an expert physical education teacher. An "other" category was included to allow for the identification of additional variables. Results are presented in Table 28.

Table 28

Teacher Educators' Perceptions of Variables Describing an Expert Physical Education Teacher

Variable	Agree		Disagree	
	No.	%	No.	%
a	16	94	1	6
b	17	100	-	-
c	17	100	-	-
d	17	100	-	-
e	17	100	-	-
f	17	100	-	-
g	17	100	-	-
h	17	100	-	-
i	17	100	-	-
j	17	100	-	-
k	1	6	-	-
	1	6	-	-
	1	6	-	-

Number of subjects = 17

- a Teacher personal qualities
- b Classroom management and organization
- c Lesson planning and preparation
- d Teacher knowledge of subject matter
- e Interest in pupils
- f Positive classroom environment
- g Reflection/critical evaluation
- h Teaching competencies
- i Professionalism
- j Levels of OTL and ALT-PE
- k Other
  - Accountability
  - Teaching experience
  - Establishes links with community

Results indicate that "teacher personal qualities" was the single variable receiving a "disagree" response frequency of only 6% (i.e., one teacher educator). All other variables received 100% acceptance. Several comments were mentioned within the "other" category. These focused on the importance of teacher "accountability", "teaching experience", and the teacher's ability to establish links with the community.

**Question 3: Ranking of Variables Describing an Expert Physical Education Teacher.**

The third question required respondents to rank a given set of variables (as per question 2) according to their importance for describing an expert physical education teacher. A ranking of 1 signified greatest importance. Results are presented in Table 29.

**Table 29**

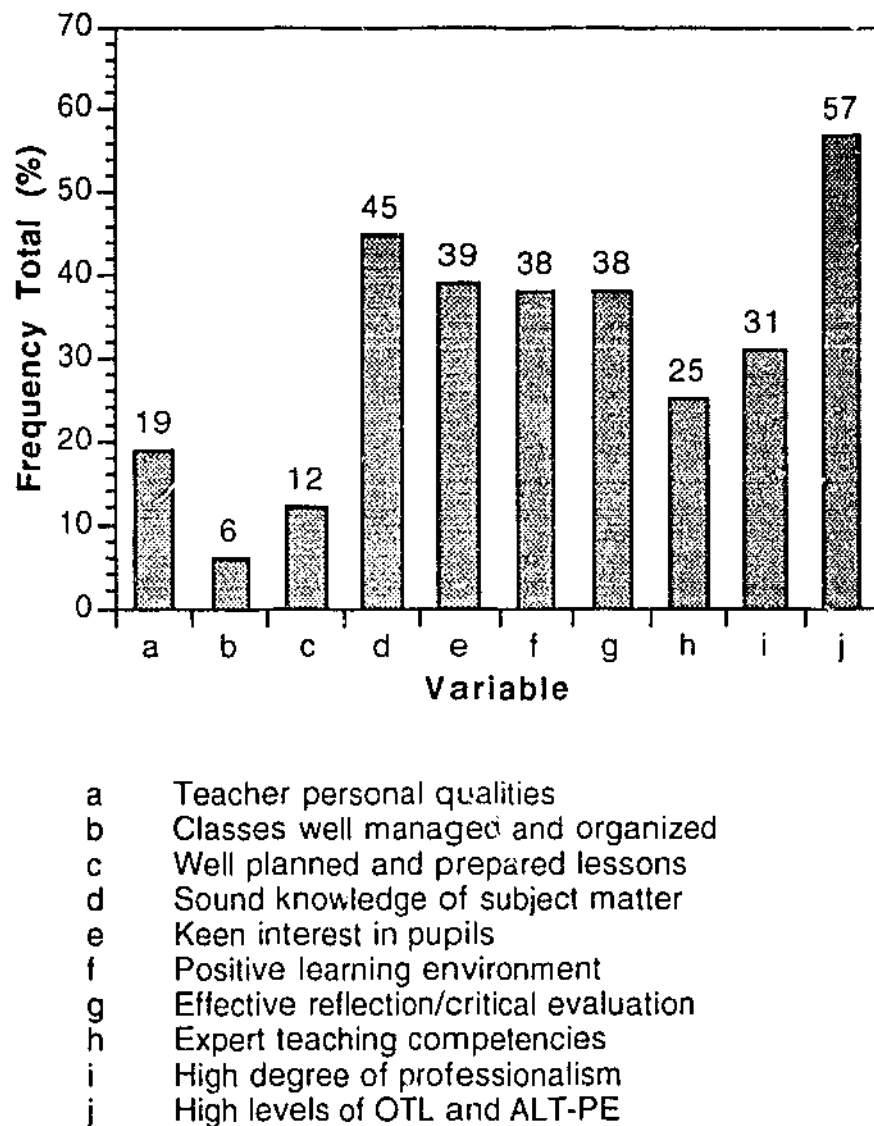
**Teacher Educators' Ranked Responses of Variables Describing an Expert Physical Education Teacher**

	Ranking (%)									
	1	2	3	4	5	6	7	8	9	10
a	-	6	13	6	6	13	13	6	25	13
b	-	6	-	13	13	6	6	25	6	25
c	-	6	6	13	-	25	13	-	25	13
d	13	19	13	13	13	6	13	13	-	-
e	13	13	13	19	6	13	6	6	-	13
f	19	-	19	6	25	-	6	13	13	-
g	19	13	6	6	13	6	13	-	13	13
h	19	-	6	13	19	6	6	31	-	-
i	6	19	6	-	-	19	13	6	13	19
j	13	19	25	6	6	6	13	-	6	6
k	-	-	-	-	6	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-

Number of subjects = 16

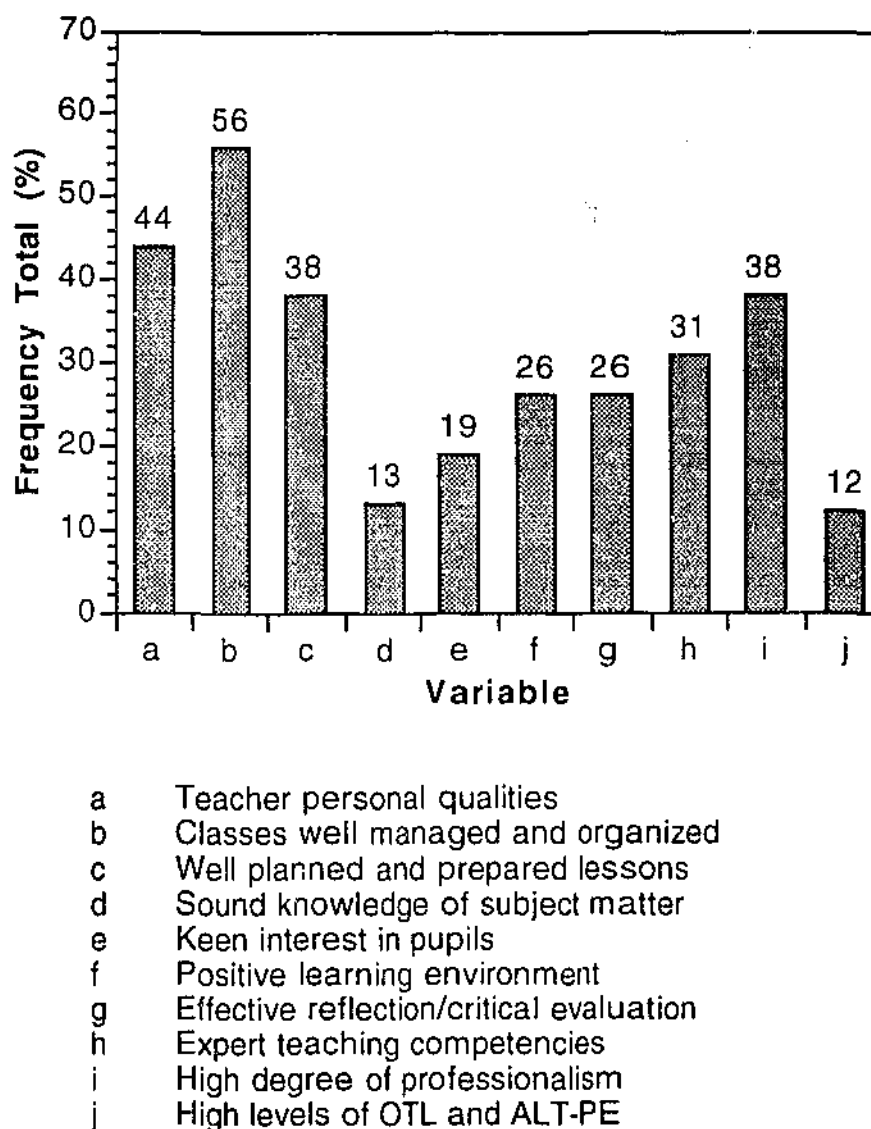
- a Teacher personal qualities
- b Classes well managed and organized
- c Well planned and prepared lessons
- d Sound knowledge of subject matter
- e Keen interest in pupils
- f Positive learning environment
- g Effective reflection/critical evaluation
- h Expert teaching competencies
- i High degree of professionalism
- j High levels of OTL and ALT-PE
- k Other
  - Relationship with parents, other staff
  - Understanding teaching/learning process

To establish which variables were perceived as most important, the response frequencies for ranks 1, 2, and 3 were combined, for each variable. Those receiving the greatest frequency totals (i.e., most important) were established as "high levels of OTL and ALT-PE" (57%), "sound knowledge of subject matter" (45%), "sound knowledge of subject matter" (45%), and "keen interest in students" (39%) (see Figure 9).



**Figure 9.** Teacher educators' variable frequency totals for rankings 1, 2, and 3 (most important).

Alternately, variables perceived as least important for describing an expert physical education teacher were those receiving the greatest combined frequency total for rankings 8, 9, and 10. These were "classes well managed and organized" (56%), "teacher personal qualities" (44%), and "well planned and prepared lessons" (38%) together with "high degree of professionalism" (38%) (see Figure 10).



**Figure 10.** Teacher educators' variable frequency totals for rankings 8, 9, and 10 (least important).

*Question 4: Open-ended Perceptions of an Expert Physical Education Teacher.*

Question 4 required respondents to provide their definition of an expert physical education teacher. Results are presented in Table 30. Response categories are arranged in descending order of frequency.

Table 30

Teacher Educators' Perceptions of an Expert Physical Education Teacher

	<b>Responses</b>	<b>No.</b>	<b>%</b>
i	Teaching to maximize learning	12	23
ii	Knowledge of subject matter and pedagogy	8	15
iii	Meeting students' needs	7	14
iv	Professional qualities	6	11
v	Self-evaluation	6	11
vi	Phys-ed curriculum	3	6
vii	Positive classroom environment	3	6
viii	Quality of relationships (students, parents, colleagues)	3	6
ix	Establishes links with community, parents, administration	2	4
x	Teaching experience	2	4
	<b>Total</b>	<b>52</b>	<b>100</b>

Number of subjects = 15

Most frequently cited responses focused on the qualities of "teaching to maximize learning" (23%) and "knowledge of subject matter and pedagogy" (15%). A typical comment in the first category described the expert as "someone who is able to structure meaningful learning experiences for children". The next most frequent responses (i.e., 14%) focused on the ability of the teacher to meet students' needs. The comment "understanding of variety of students' needs (able to teach across the range)" was a typical response in this category.



*Question 5 : Perceptions of Processes and Criteria for Identifying an Expert Physical Education Teacher.*

Question 5 comprised two parts. The first part asked respondents to explain the process/es that should be used to identify an expert physical education teacher; the second part asked respondents what criteria should be used to confirm "expert" identification. Results are presented in Table 31. Categories are arranged in descending order of frequency.

**Table 31**

**Teacher Educators' Perceptions of the Processes and Criteria for Identifying an Expert Physical Education Teacher**

<b>Responses</b>		<b>No.</b>	<b>%</b>
<b>Process</b>			
i	Observe teacher (interaction with students, lesson presentation)	11	27
ii	Observe students (attitude, participation, competency)	8	19
iii	Interview students	6	15
iv	Interview teacher	6	15
v	Systematic observation	4	10
vi	Examine course outlines, programmes, lesson plans, assessment procedures, teacher records	3	7
vii	Interview colleagues	2	5
viii	Longitudinal study	1	2
<b>Total</b>		<b>41</b>	<b>100</b>
<b>Criteria</b>			
i	Student achievement, learning outcomes	9	28
ii	Interaction with students	5	16
iii	Lesson presentation	5	16
iv	Professional qualities	5	16
v	Classroom environment	4	12
vi	Feedback analysis	2	6
vii	Administrative skills	1	3
viii	Communication of expectations	1	3
<b>Total</b>		<b>32</b>	<b>100</b>

Number of subjects = 15

The identification process mentioned most frequently (i.e., 27%) was teacher observation, focusing on the quality of both interaction with students and lesson presentation. The second most frequent responses (i.e., 19%) cited student observation, focusing on attitudes, participation levels, and competency standards as another identification process.

Of the responses, 28% cited "student achievement, learning outcomes" as a criterion for the identification of an expert physical education teacher. Next most frequent responses on the criteria of "professional qualities" (16%), "lesson presentation" (16%), and "interaction with students" (16%).

*Question 6 : Perceptions of Personal Qualities.*

Question 6 required respondents to discuss their perceptions concerning the personal qualities of an expert physical education teacher. Categories are presented in Table 32, arranged in descending order of frequency.

**Table 32**

Teacher Educators' Perceptions of the Personal Qualities of an Expert Physical Education Teacher

	<b>Responses</b>	<b>No.</b>	<b>%</b>
i	Dynamism	18	33
ii	Caring	11	20
iii	Sense of humour	8	14
iv	Trustworthy, dependable	6	11
v	Outgoing, easy going, approachable	5	9
vi	Appearance (attire, fit and healthy)	4	7
vii	Commonsense, intelligence	1	2
viii	Personal qualities are irrelevant	1	2
ix	Verbal/non-verbal presence	1	2
	<b>Total</b>	<b>55</b>	<b>100</b>

Number of subjects = 15

The most frequently cited quality was "dynamism" (33%). Typical comments mentioned the importance of enthusiasm, energy, and enjoyment toward physical education and the students. A "caring" quality was cited second in frequency (20%). The necessity for "sensitivity to people and issues" and "care and support for students and peers" were typical comments in this category. Third most frequent response discussed the importance of a "sense of humour" (14%).

*Question 7: Perceptions of Professional Qualities.*

In response to question 7, teacher educators discussed their perceptions concerning ways an expert physical education teacher achieves a high standard of professionalism. Response categories are arranged in descending order of frequency in Table 33.

Table 33

Teacher Educators' Perceptions of Professional Qualities of an Expert Physical Education Teacher

	<b>Responses</b>	<b>No.</b>	<b>%</b>
i	Professional development sessions	10	26
ii	Commitment to teaching	7	18
iii	Liaison with students, parents, community	5	13
iv	Further study	4	11
v	Self-evaluation (constant)	4	11
vi	Coaching (community, school)	3	8
vii	Membership in professional associations	3	8
viii	Records all aspects of teaching	2	5
	<b>Total</b>	<b>38</b>	<b>100</b>

Number of subjects = 15

Of the responses, 26% cited the importance of involvement in "professional development sessions". Maintaining a strong "commitment to teaching" was mentioned second in frequency. Typical comments included "maintaining practices and philosophies consistent with a lifelong education process", "viewing teaching as worthwhile", and being "involved/committed to teaching, the subject and the pupils". Third most frequent responses focused on the necessity to liaise with students, parents, and the community.

*Question 8 : Perceptions of Expectations.*

In response to question 8, respondents discussed their perceptions of the expectations an expert physical education teacher communicates to students. Results are displayed in Table 34. Response categories are arranged in descending order of frequency.

Table 34

Teacher Educators' Perceptions of Expectations Communicated by an Expert Physical Education Teacher

	<b>Responses</b>	<b>No.</b>	<b>%</b>
i	Co-operate, support, respect peers' and teacher's efforts and differences	12	28
ii	Lesson will be challenging and of value to all	10	23
iii	Individual competition and success	9	21
iv	High levels of student involvement	5	12
v	Student responsibility/accountability for own behaviour	4	9
vi	Enjoyment and enthusiasm	2	5
vii	Safe, non-threatening environment	1	2
	<b>Total</b>	<b>43</b>	<b>100</b>

Number of subjects = 15

Most frequent responses (i.e., 28%) cited the expectation for students to "co-operate, support, and respect peers' and teacher's efforts and differences". Next most frequent responses (i.e., 23%) mentioned the expectation for the lesson to be challenging, worthwhile, and of value to all students. The expectation for "individual competition and success" was mentioned third in frequency (21%).

*Question 9: Perceptions of Classroom Environment.*

In response to question 9, teacher educators discussed their perceptions of the important aspects of the learning environment fostered by an expert physical education teacher. Response categories are presented in Table 35, arranged in descending order of frequency.

Table 35

Teacher Educators' Perceptions of the Classroom Environment Fostered by an Expert Physical Education Teacher

Responses		No.	%
i	Caring, supportive environment	14	43
ii	Challenging atmosphere	6	18
iii	Student achievement, learning outcomes	6	18
iv	Positive reinforcement	5	15
v	Holistic education	1	3
vi	Neutral, business-like	1	3
<b>Total</b>		<b>33</b>	<b>100</b>

Number of subjects = 15

Teacher educators most frequently cited (i.e., 43%) care and support as necessary elements of the learning environment. Responses mentioned second in frequency (i.e., 18%) focused on the facilitation of student achievement and learning outcomes, together with the creation of a "challenging atmosphere".

*Question 10 : Perceptions of Management and Organizational Qualities.*

Question 10 aimed to ascertain perceptions concerning distinctive aspects of the management and organizational qualities of an expert physical education teacher. Results are presented in Table 36. Categories are arranged in descending order of frequency.

Table 36

Teacher Educators' Perceptions of the Management and Organizational Qualities of an Expert Physical Education Teacher

Responses		No.	%
i	Established behaviour code	15	31
ii	Efficient planning (equipment, resources, skill practices, time)	13	27
iii	Student responsibility, accountability	8	17
iv	Student achievement, learning outcomes	7	15
v	Safe, non-threatening environment	3	6
vi	Positive teacher-student interaction	1	2
vii	Teacher flexibility, adaptability, variety	1	2
Total		48	100

Number of subjects = 15

Of all responses, the most frequently cited aspect (i.e., 31%) focused on the implementation of an "established behaviour code". Next most frequent responses discussed the necessity for "efficient planning" with respect to equipment, resources, skill practices, and time considerations. The ability to foster "student responsibility, accountability" was mentioned third in frequency.

*Question 11 : Perceptions of Planning Technique.*

In response to question 11, teacher educators discussed their perceptions concerning the planning technique of an expert physical education teacher. Categorized responses are arranged in descending order of frequency and are presented in Table 37.

Table 37

Teacher Educators' Perceptions of the Planning Technique of an Expert  
Physical Education Teacher

Responses		No.	%
i	Considers available, up-to-date resources	8	29
ii	According to students' needs and abilities	7	25
iii	Based on constant evaluation, continual monitoring	5	18
iv	Mental planning	4	14
v	Extensive, thorough planning	2	7
vi	Planning in advance	2	7
Total		28	100

Number of subjects = 15

Most frequently cited responses (i.e., 29%) mentioned the ability to plan according to available, up-to-date resources. Planning based "according to students' needs and abilities" was mentioned second in frequency. Third most frequent responses commented that an expert's planning is "based on continual monitoring" of teaching performance.

*Question 12 : Perceptions of Questioning Technique.*

In response to question 12, respondents discussed their perceptions concerning key aspects of the questioning technique of an expert physical education teacher. Results are presented in Table 38. Categories are arranged in descending order of frequency.

Table 38

Teacher Educators' Perceptions of the Questioning Technique of an Expert  
Physical Education Teacher

Responses		No.	%
i	Questions at varying levels of abstraction	12	42
ii	Variety of question uses	11	39
iii	Evenly distributed questions	2	7
iv	"Hands up" rule operates	1	4
v	Questioning technique not indicative of an expert physical education teacher	1	4
vi	Sensitive to varying wait times	1	4
Total		28	100

Number of subjects = 15

Most frequently mentioned responses (i.e., 42%) focused on the teacher's ability to direct "questions at varying levels of abstraction". Typical question types included direct/open-ended, high/low order, deductive/analytical, and divergent/convergent questions. The second most frequent responses focused on the teacher's use of questions for a variety of purposes. Perceived purposes included to review previous work, to stimulate student ability to predict, "to encourage the learner to expand, explore, reconsider, apply, or just reply", and to "facilitate an understanding and valuing of content".

*Question 13: Perceptions of Feedback.*

Question 13 aimed to establish teacher educators' perceptions concerning the nature and incidence of feedback given by an expert physical education teacher. Response categories are presented in Table 39, arranged in descending order of frequency.



Table 39

Teacher Educators' Perceptions of Feedback Given by an Expert Physical Education Teacher

Responses		No.	%
i	Value content	24	39
ii	Variety	16	26
iii	Positive	10	16
iv	Feedback inherent in tasks	5	8
v	Frequent, high incidence, consistent	4	6
vi	Reciprocal teaching	3	5
Total		62	100

Number of subjects = 15

Of the responses, 39% focused on the "value content" quality inherent in feedback given by an expert. Next most frequent responses (i.e., 26%) discussed the importance of providing a "variety" of feedback. The provision of "positive" feedback was mentioned next in frequency.

*Question 14 : Perceptions of the Importance of Skilled Teaching and Mastery of Subject Matter in Relation to an Expert Physical Education Teacher.*

Question 14 aimed to ascertain perceptions concerning the importance of highly skilled teaching and mastery of subject matter. Teacher educators were instructed to consider and comment on the statement : Expertise lies in the link between highly skilled teaching and mastery of a particular subject matter. Results are presented in Table 40.

Table 40

Teacher Educators' Perceptions of the Importance of Skilled Teaching and Subject Matter Mastery in Relation to an Expert Physical Education Teacher

Responses		No.	%
i	Yes responses (agree) <ul style="list-style-type: none"><li>• Balance is necessary</li><li>• Subject matter mastery is crucial</li><li>• Able to impart knowledge, not necessarily perform</li></ul>	12	80
ii	No responses (disagree) <ul style="list-style-type: none"><li>• Many other variables are involved</li><li>• Expertise lies in relation to learning outcomes</li></ul>	3	20
<b>Total</b>		15	100

Number of subjects = 15

Of the teacher educators, 80% were in agreement with the statement, thus indicating that highly skilled teaching and subject matter mastery were perceived as key indicators of teaching expertise. Comments within this category explained that an appropriate balance between the two variables must be achieved for "expert" status to be earned. Alternately, 20% of the teacher educators did not agree with the given statement. Several comments suggested that teaching expertise in physical education lies instead in relation to student achievement and learning outcomes.

*Question 15 : Perceptions of the Skills of Reflection and Critical Evaluation.*

In response to question 15, teacher educators discussed their perceptions concerning an expert physical education teacher's skills of reflection and critical evaluation. Results are presented in Table 41.

Table 41

Teacher Educators' Perceptions of an Expert Physical Education Teacher's Skills of Reflection and Critical Evaluation

	<b>Responses</b>	<b>No.</b>	<b>%</b>
i	Integral part of teaching <ul style="list-style-type: none"> <li>• Clear and well understood frame of reference to make the process worthwhile</li> <li>• Must question the nature of all aspects of PE as they relate to students' needs and broader community needs</li> <li>• To know effects and implications of teaching</li> <li>• Also encourage students to reflect on process and product</li> <li>• Uses feedback from students and peers</li> <li>• At least twice a year</li> <li>• Motivation to modify and improve</li> </ul>	14	93
ii	Not skills of reflection and critical evaluation, but a disposition to be curious, enquiring	1	7
	<b>Total</b>	<b>15</b>	<b>100</b>

Number of subjects = 15

Of the responses, 93 % perceived the skills of reflection and critical evaluation as integral parts of teaching/most important pre-requisites. Responses mentioned the expert's ability to establish a "clear and well understood frame of reference " to ensure that the evaluation process is worthwhile. Other comments suggested that the process of reflection/critical evaluation involves "questioning the nature of all aspects of physical education as they relate to students' needs and broader community needs. One response (i.e., 6%) explained that it is not the skills of reflection and critical evaluation, but is instead a "disposition to be curious, enquiring etc. that marks an intelligent practitioner from a mere technician".

### Summary of Teacher Educators' Perceptions

An additional "vision" of an expert physical education teacher, based on teacher educators' perceptions has emerged. Key qualities of such a teacher were perceived as those relating to high levels of OTL and ALT-PE (process), sound knowledge of subject matter (presage), and displaying a keen interest in students (process). Least favoured qualities were perceived as those relating to classroom management and organization (process), teacher personal qualities (presage), lesson planning and preparation (process), and professionalism (presage).

A description of an expert physical education teacher based on the general consensus of teacher educators' perceptions may be outlined. The expert possesses a dynamic and caring personality and is able to foster a supportive, challenging classroom environment that is characterized by high levels of student learning. A high standard of professionalism is maintained as a result of continual involvement in professional development sessions, together with the ability to uphold a strong commitment to teaching. Key expectations communicated by the expert relate to both mutual co-operation and respect amongst all class members and for the lesson to be challenging, worthwhile, and of value to all. Highly efficient management and organization is primarily maintained by establishing a consistent and fair behaviour code. All planning is conducted according to both available, up-to-date resources and students' needs and abilities. The expert directs questions at varying levels of abstraction and uses these questions for a variety of purposes (e.g., review previous work). Both value content and positive feedback are the primary types of feedback issued by the expert teacher. Additionally, engagement in self reflection and critical evaluation was perceived as an integral element of teaching expertise.

Finally, the majority of teacher educators agreed that the element of expertise lies in the link between highly skilled teaching and mastery of subject matter. It was emphasized however that an appropriate balance between the two variables must be achieved.

## Discussion

Several different images of an expert physical education teacher emerged from this study. Both similarities and differences were evident between pupils', student teachers', and teacher educators' descriptions of an expert teacher. Furthermore, these descriptions are both compatible and incompatible with the research synthesis.

### Descriptors of an Expert Physical Education Teacher

No outstanding trends were evident when pupils and teacher educators ranked presage, process, and product variables in order of importance for defining an expert physical education teacher (see Table 42).

Table 42

Subjects' Response Frequencies (%) for Ranking 1, 2, and 3 of Presage, Process, and Product Variables

	Presage			Process			Product		
	1	2	3	1	2	3	1	2	3
Pupils	40	33	27	37	20	43	23	47	30
Student Teachers	18	18	64	36	50	14	46	11	43
Teacher Educators	50	14	36	43	21	36	29	50	21

Based on these results, no single variable group could be targetted as most or least important. Student teachers' responses however indicated that presage variables received a significantly low response frequency (i.e., 18%) for ranking 1 (most important). When coupled with the high response frequency (i.e., 64%) for ranking 3 (least important), results strongly suggest that student teachers perceive presage variables as least important for defining expertise in physical education teaching.

When identifying which variables of a given set should be considered for describing an expert physical education teacher, several similarities between subjects' perceptions were evident. Variables receiving 100% acceptance for inclusion in a definition which were common to all three groups were "classroom management and organization" (process), "teacher interest in pupils" (process), and "levels of OTL and ALT-PE" (process). Because of their universal acceptance, these three variables were regarded as common denominators of expertise in physical education teaching. These variables have a distinctive "process" orientation and are somewhat contradictory to the rankings expressed in Table 42.

A comparison of subjects' responses to question 3 revealed both similarities and differences between perceptions of the most and least important variables for describing an expert physical education teacher (see Table 43).

Table 43

Subjects' Variable Frequency Totals (%) for Rankings 1, 2, and 3 (most important)

<b>Variable</b>		<b>Pupils</b>	<b>Student Teachers</b>	<b>Teacher Educators</b>
a	Teacher personal qualities	<b>57</b>	11	19
b	Classes well managed & organized	16	37	6
c	Well planned & prepared lessons	20	<b>41</b>	12
d	Sound knowledge of subject matter	10	29	<b>45</b>
e	Keen interest in pupils	<b>57</b>	<b>41</b>	<b>39</b>
f	Positive learning environment	<b>56</b>	<b>55</b>	38
g	Effective reflection/critical evaluation	20	24	38
h	Expert teaching competencies	27	26	25
i	High degree of professionalism	13	15	31
j	High levels of OTL & ALT-PE	23	37	<b>57</b>

As shown in Table 43, the teacher's ability to display a "keen interest in pupils" (process) was commonly ranked by each subject group within the top three "most important" variables. This suggests a degree of consistency with question 2 results which indicated that all three subject groups perceived a "keen interest in pupils" as a necessary quality of an expert physical education teacher. Furthermore, these results also support Earls' (1981) research which suggested that the expert's key quality is a "love of children". An additional similarity occurred between pupils' and student teachers' responses where both groups ranked the variable "positive learning environment" within the top three "most important" variables.

An inconsistency was also evident amongst teacher educators' responses. The variable "high levels of OTL and ALT-PE" received the highest combined response frequency (i.e., 57%) for rankings 1,2, and 3 (most important), yet the variable "classes well managed and organized" received a very low response frequency (6%) (see Table 43). It seems necessary however that classes be extremely well managed and organized in order to facilitate high levels of OTL and ALT-PE.

When subjects' perceptions of the least important variables for describing an expert physical education teacher were compared, similarities and differences were again evident (see Table 44).



Table 44

Subjects' Variable Frequency Totals (%) for Rankings 8, 9, and 10 (least important)

<b>Variable</b>		<b>Pupils</b>	<b>Student Teachers</b>	<b>Teacher Educators</b>
a	Teacher personal qualities	7	<b>52</b>	<b>44</b>
b	Classes well managed & organized	20	7	<b>56</b>
c	Well planned & prepared lessons	33	11	<b>38</b>
d	Sound knowledge of subject matter	<b>57</b>	22	13
e	Keen interest in pupils	7	15	19
f	Positive learning environment	6	8	26
g	Effective reflection/critical evaluation	<b>57</b>	<b>78</b>	26
h	Expert teaching competencies	30	37	31
i	High degree of professionalism	<b>47</b>	<b>63</b>	<b>38</b>
j	High levels of OTL & ALT-PE	37	11	12

The variable teacher "professionalism" was commonly ranked by each subject group within the bottom three variables and is consequently regarded as one of the least important variables for describing an expert physical education teacher.

An additional similarity was evident between student teachers' and teacher educators' perceptions. "Teacher personal qualities" (presage) was ranked by both groups as one of the three least important variables for describing teaching expertise in physical education (see Table 44). Alternately however, this same variable was perceived by pupils as one of the three most important variables for describing an expert physical education teacher (see Table 43). This discrepancy emphasizes the need for both teacher educators and student teachers to be aware that a teacher's personal qualities are considered extremely important by pupils and therefore perhaps deserve some degree of consideration.

The fact that student teachers attached minimal importance to teacher "personal qualities" (presage) is consistent with results from question 1 which also indicated that presage variables were perceived by student teachers as least important for describing an expert physical education teacher. Consequently, consistency between questionnaire items 1 and 3 and subsequent student teacher responses to these items is apparent.

A final similarity occurred between pupils' and student teachers' responses to question 3. Both groups perceived "effective reflection/critical evaluation" as one of the three least important variables for describing an expert physical education teacher (see table 44). It is noted that teacher educators attached far greater importance to this same variable i.e., ranked it within the top four "most important" variables. Current criticism of the performance pedagogy orientation of teacher education programmes (Tinning, 1991) would not be surprised by this finding which supports the claim that student teachers are currently involved in highly technical, classroom management, instructive, and skill oriented training programmes.

#### Open-Ended Perceptions of an Expert Physical Education Teacher

When subjects' open-ended perceptions of an expert physical education teacher were compared, several similarities were evident. Qualities that were common to all three groups focused on the creation of a "positive learning environment", a result consistent with Weinstein's (1989) research. Additionally, "professional qualities" was mentioned by all three subject groups in their descriptions of an expert physical education teacher.

Perceived qualities of expertise which were common to both pupils and student teachers focused on "personal qualities" and "physical performance". Responses common to pupils and teacher educators centred upon the variables of "meeting students' needs" and the "quality of relationships with students". Finally, common responses of student teachers and teacher educators focused upon "teaching to maximize learning", "knowledge of subject matter and pedagogy", and "self-evaluation".

Pupils' open-ended perceptions reflect a strong and somewhat limited emphasis upon social and affective variables. It appears that pupils primarily perceive expertise in physical education teaching with regard to the teacher's personal qualities and the quality of teacher-student interaction, two attributes highlighted in Weinstein's (1989) research. Student teachers and teacher educators however provided a much broader interpretation of teaching expertise. That is, in addition to social and affective variables, perceptions also focused on the actual teaching-learning process, outcomes of the learning process, and evaluation of the teaching-learning process.

Most of the questionnaire items aimed to ascertain perceptions concerning specific skills, qualities, and behaviours of an expert physical education teacher. These attributes are now categorized and discussed under the headings of presage, process, and product variables.

### Presage Variables

When the responses of pupils, student teachers, and teacher educators were compared, several similarities were noted. All three subject groups cited the categories of "outgoing, easy going, approachable" and "sense of humour". Consequently these variables may be regarded as key personal qualities of an expert physical education teacher. Additionally, like the student teachers, teacher educators most frequently cited the quality of "dynamism". Furthermore, these two groups stressed the importance of the capacity of "caring", which is also highlighted in Perry's (1990) research. Other responses common to both the student teachers and teacher educators focused on the qualities of trustworthiness and dependability. Moreover, commonsense and intelligence, which were not mentioned in Weinstein's (1987) research were also common to both student teachers and teacher educators.

A further inconsistency existed between pupils' perceptions and Earls' (1981) research, where pupils perceived the expert physical education teacher as authoritative yet fair, while Earls (1981) described the expert as possessing a non-authoritative manner.

Although the comparison between subjects' perceptions and the research revealed commonly perceived personal qualities of an expert physical education teacher, it seems important to question whether specific "expert" personal qualities can indeed be pinpointed. It is therefore suggested that no single quality can be highlighted as a necessary personal attribute of an expert teacher; instead it seems more appropriate to suggest that certain personal qualities are perceived as more acceptable qualities e.g., caring, sense of humour.

Striking similarities were evident between the perceptions of the importance of subject matter mastery. Student teachers' and teacher educators' responses supported Siedentop and Eldar's (1989) research findings which suggested that the element of expertise lies in the link between highly skilled teaching and high levels of subject matter competence. The majority of student teachers and teacher educators perceived subject matter mastery as crucial to expertise. They highlighted the fact that subject matter mastery may however imply being able to impart subject matter in a meaningful manner to student and therefore doesn't demand expert performance. Pupils' responses supported these findings, again indicating that expert physical performance is not a critical element of expertise. It is interesting to note however that subject matter knowledge (competence) was not highlighted in previous questionnaire items as a key denominator of teaching expertise in physical education. What high levels of subject matter competence or subject matter mastery mean in the context of a specific physical education lesson or unit, are of course somewhat indeterminable. At times, effective instructional skills may hide low levels of subject matter competence.

Both student teachers and teacher educators differed in their perceptions of the primary way an expert physical education teacher maintains a high standard of professionalism. That is, student teachers most frequently cited "highly efficient management and organization" while teacher educators most frequently cited "professional development sessions". Other suggestions common to both groups that are consistent with research findings focused on "strong commitment to teaching (second most frequent response of both groups), "further study", "membership in professional associations", and "recording all aspects of teaching" (Earls, 1981; Harrison & Blakemore, 1989; Hedges & Papritan, 1987; Porter & Brophy, 1988).

### Process Variables

When each groups' perceptions of an expert physical education teacher's key management and organizational qualities were compared, several similarities were noted. The establishment of a fair and consistent behaviour code, a response common to all three subject groups, is consistent with previous research (Brophy & Good, 1986; Evertson, 1989; Rosenshine & Stevens, 1986). Additional responses common to all three subject groups focused on the the development of "positive teacher-student interaction" and the necessity for teacher "flexibility, adaptability and variety". Consequently, these three focus areas are regarded as common indicators of the management and organizational qualities of an expert physical education teacher.

When the responses of the student teachers and teacher educators were compared, additional similarities occurred. Frequently mentioned responses common to both groups were consistent with research focusing on the quality of efficient planning with respect to equipment, resources, skill practices, and time (Housner, 1990; Siedentop, 1983). This similarity seems to reflect both student teachers' and teacher educators' greater recognition that "expert management and organization" extends beyond the "here and now" of the classroom. Other common responses focused on the creation of a safe, non-threatening environment.

Both pupils' and student teachers' perceptions were consistent with earlier research indicating that an expert physical education teacher facilitates high student participation levels in order to minimize potential discipline problems (Brophy, 1982; Phillips & Carlisle, 1983) .

An additional important difference between perceptions was also noted. Teacher educators were the only group to mention the encouragement of student responsibility/accountability for learning and behaviour as an important management strategy of an expert physical education teacher. This reflects teacher educators' greater recognition that student achievement, skill development, and behaviour are a dual responsibility of both the expert teacher and students. This is consistent with research suggesting that expert teachers not only hold students accountable, but also help them become accountable for their own learning and behaviour (Evertson, 1989). It seems possible however that teacher educators may perhaps be a little "out of touch" with the realities of school physical education where skill assessment is rarely practiced in any systematic manner. The notion of pupils being "busy, happy and good" is apparently not accepted by teacher educators.

When subjects' perceptions of the questioning technique of an expert physical education teacher were compared, striking similarities were apparent. Both student teachers' and teacher educators' most frequent responses were consistent with research focusing on the ability of the expert to direct questions at varying levels of abstraction and the expert's use of questions for a variety of purposes (Harrison & Blakemore, 1989). This finding supports the claim that an expert physical education teacher is able to select the question level that is most appropriate for the specific purpose of the given situation. All three groups cited similar question uses including to establish student knowledge, understanding, and learning, to determine students' thoughts and opinions, and to maintain on-task behaviour.

Additional responses common to both student teachers and teacher educators focused on the necessity for evenly distributed questions (re class area, gender). Furthermore, perceptions were consistent with research indicating that an expert physical education teacher is sensitive to varying question wait times (Brophy, 1982; Graham & Heimerer, 1981).

When pupils discussed ways an expert physical education teacher assists students in learning new and difficult skills, most frequent responses focused on the provision of individual assistance (teacher or student), encouragement and praise, and the design of relevant practice activities. A comparison of student teachers' and teacher educators' perceptions of an expert's feedback highlighted several key similarities. Common responses were consistent with research indicating that an expert's feedback primarily contains value content (is relevant and meaningful), is positive, varies according to the situation (e.g., individual/group, specific/general), and is provided frequently and consistently (Harrison & Blakemore, 1989; Siedentop, 1983).

Teacher educators cited two additional qualities, namely "feedback inherent in tasks" and "reciprocal teaching", the latter of which was briefly touched upon by pupils (individual assistance from teacher or student). These findings reflect teacher educators' greater understanding that an expert physical education teacher recognizes that feedback may be provided from a variety of sources, including peers' and the task itself.



A comparison between pupils', student teachers', and teacher educators' perceptions of the expectations an expert physical education teacher communicates to students revealed that responses focusing on "high levels of student involvement" and "enjoyment and enthusiasm" were common to all three subject groups. Other striking similarities were noted. Most frequent responses of both student teachers and teacher educators focused on the expectations "co-operate, support, respect peers' and teacher's efforts and differences" and for the lesson to be "challenging and of value to all", respectively. Like the student teachers, teacher educators also mentioned the expectations "individual competition and success" and "safe, non-threatening environment". Other perceptions were consistent with research identifying the expectation for "student responsibility/accountability for own behaviour" (Evertson, 1989). Differences however were noted when pupils' perceptions were compared with those of student teachers and teacher educators. That is, pupils' responses on different expectations such as "positive teacher-student interaction" and "teacher participation".

Several similarities were highlighted when student teachers' and teacher educators' perceptions of distinctive aspects of an expert physical education teacher's planning technique were compared. Common responses focused on planning according to available, up-to-date resources, planning based on students' needs and abilities (highlighted in Mustain's 1990 research), planning that is extensive and thorough, and planning carried out in advance. Because of their common acceptance, these four variables are regarded as critical elements of an expert's planning technique.

Additional responses of student teachers were consistent with research suggesting that an expert's planning is characterized by flexibility and variety (Ropo, 1988). Furthermore, planning seems "developmental" in that both objectives and long/short term goals are constantly considered (Mustain, 1990).

Other responses of the teacher educators were also consistent with research indicating that the expert often engages in "mental planning" (Livingston & Borko, 1989; Westerman, 1990). Moreover, all planning is based on constant evaluation/reflection of the teaching-learning process (Leinhardt, 1989; Munn et al., 1989).

#### Product Variables

A comparison of student teachers' and teacher educators' perceptions of the important elements of an expert's skills of reflection and critical evaluation revealed a distinctive similarity. Both groups highlighted the importance of reflection and critical evaluation focused on student achievement, a finding supported by previous research (Livingston & Borko, 1989; Ropo, 1988; Westerman, 1990). It therefore appears that evaluation of the student learning process and consequent outcomes is a primary concern of the expert physical education teacher. Additionally, like the student teachers, teacher educators mentioned the necessity for the evaluative process to focus to some degree on teacher-related variables, including lesson presentation, work programmes, and actual teaching performances.

A degree of consistency was evident when teacher educators' responses to different questionnaire items were cross-checked. That is, Table 43 reveals that teacher educators perceived "effective reflection/critical evaluation" as relatively important for describing expertise in physical education teaching. This perception was also reflected in responses to item 15 (see Table 41) where teacher educators emphasized the claim that the skills of reflection and critical evaluation are an integral part of teaching and are indeed an important pre-requisite for teaching expertise. Alternately, student teachers' responses did not appear to reflect this same heavy emphasis on the skills of reflection and critical evaluation. Student teachers' responses to questionnaire item 3 also complemented this finding. That is, responses suggested that "effective reflection/critical evaluation" was perceived by student teachers as least important for describing an expert physical education teacher (see Table 44). It could therefore be presumed that the teacher education programme of this group of student teachers does not emphasize the importance of critical reflection and evaluation.

When perceptions of the classroom environment fostered by an expert physical education teacher were compared, responses common to all three groups focused on the importance of student achievement and learning outcomes. This finding supports previous research indicating that a distinctive aspect of an expert physical education teacher focuses on his/her ability to facilitate student achievement related to both skill performance and cognitive development (Livingston & Borko, 1989; Ropo, 1988; Westerman, 1990). The majority of pupils' additional responses focused on teacher-related variables (e.g., teacher is authoritative yet fun, positive teacher-student interaction), whereas both student teachers' and teacher educators' responses focused more on the actual elements of the learning environment.

Like the student teachers, teacher educators most frequently cited the development of a caring, supportive environment, a finding that is also consistent with previous research (Brophy, 1982; Medley, 1979). Furthermore, both student teachers' and teacher educators' responses focused on the creation of a challenging atmosphere that is characterized by teacher positive reinforcement. Additionally, it was noted that teacher educators mentioned the concept of "holistic" education, thus reflecting teacher educators' stronger perception that the expert physical education teacher is concerned with the "total" development of students and consequently focuses on psychomotor, cognitive, and affective learning domains.

Finally, student teachers' and teacher educators' perceptions of the processes for identifying an expert physical education teacher together with criteria on which to base the identification were compared. Striking similarities occurred between the two groups' perceptions where seven of the "process" response categories and five of the "criteria" categories were common to both groups.

Differences however did occur between perceived importance of response categories. With respect to identification processes, student teachers most frequently cited examination of course outlines, lesson plans, assessment procedures, and teacher records, a process mentioned less frequently by teacher educators. This emphasis on teacher "bookwork" seems to be a direct result of current teacher education programmes which transmit a strong focus on teaching aspects such as lesson planning, programming and the like. It is important to highlight the fact that teacher educators most frequently cited teacher observation as an identification process.

Furthermore, it was apparent that teacher educators' responses focused more on processes related to the actual teaching-learning process (e.g., observation of students, interviews with teacher and students), when compared to the student teachers who mentioned these same processes less frequently. Consequently, a conflict between teacher educators' perceptions and teacher educators' "actions" (teacher education programmes) appears to exist. It seems important that teacher educators clarify beliefs about teaching expertise and modify teacher education programmes accordingly, to ensure that value content and relevant material is transmitted to student teachers.

A comparison of perceived criteria indicated that both student teachers and teacher educators most frequently cited the criterion of "student achievement, learning outcomes". This finding is consistent with research indicating that expertise in physical education teaching is primarily related to the teacher's ability to facilitate high levels of student achievement (Westerman, 1990).

Although student teachers and teacher educators highlighted the criterion of student achievement as an indicator of teaching expertise in physical education, it seems relevant to question whether it is the actual student learning or alternately the processes that facilitate student learning that should be emphasized. Because the degree of student learning is somewhat dependent upon the quality of the teaching process, it is believed that the essence of expertise lies in the teaching performance itself, and therefore encompasses all associated aspects, such as the quality of teacher-student interaction, classroom management and organization, and levels of OTL and ALT-PE. Additional responses that were common to both groups focused on the criteria of "lesson presentation", "professional qualities", "classroom environment", and "feedback analysis".

In conclusion, this study focused on two key areas that were highlighted in previous research as important considerations with regard to teaching expertise. Firstly, is there any discrepancy between beliefs about expertise in physical education teaching?; secondly, is there any consensus about what constitutes an expert physical education teacher? To address these issues, pupils', student teachers', and teacher educators' perceptions of an expert physical education teacher were compared and contrasted. This triangulation of information sources highlighted both areas of discrepancy and areas of consensus between subjects' perceptions.

One major discrepancy occurred between subjects' perceptions of the importance of the teacher's "personal qualities" which was ranked by pupils as one of the most important variables for defining expertise. However, this same variable was perceived by both student teachers and teacher educators as one of the least important variables.

A further discrepancy was evident when the importance of the variable "effective reflection/critical evaluation" was examined. Teacher educators emphasized the importance of these skills, while both pupils and student teachers ranked this same variable as one of the least important for defining an expert physical education teacher.

A certain degree of consistency was evident between subjects' perceptions. Common denominators of expertise in physical education teaching were identified as "classroom management and organization", "teacher interest in pupils", and "levels of OTL and ALT-PE". Results also suggested that "keen interest in pupils" was commonly perceived as one of the most important variables for describing an expert physical education teacher.

Further consensus existed where "teacher professionalism" was commonly perceived as one of the least important variables for describing expertise in physical education teaching.

Additionally, consensus amongst subjects' perceptions of specific elements of teaching expertise was apparent. It was established that the most acceptable personal qualities of an expert physical education teacher were a "sense of humour" and the capacity to be "outgoing, easy going, approachable". Subjects' responses also indicated that "expert" physical performance was not perceived as a critical element of expertise. The firm establishment of a "fair and consistent behaviour code", together with the development of "positive teacher-student interaction", and "teacher flexibility, adaptability, variety", were all commonly perceived as key indicators of the management and organizational qualities of an expert physical education teacher. Finally, both student teachers' and teacher educators' responses identified "student achievement, learning outcomes" as the key criterion for identification of an expert physical education teacher.

It is encouraging to acknowledge that consensus amongst perceptions did exist and that some of these commonly perceived elements of expertise are indeed transmitted in current teacher education programmes.

### Recommendations

Serious consideration needs to be given to how the nature of teacher expertise in physical education is defined. To date, limited research has focused specifically on perceptions of an expert physical education teacher. This study used a questionnaire to solicit pupils', student teachers', and teacher educators' perceptions of expertise. In order to more specifically substantiate the common denominators of teaching expertise in physical education, it is recommended that the same questionnaire be administered to physical education teachers to ascertain their beliefs about qualities, behaviours, and skills of an expert physical education teacher. It is then important that results be compared and contrasted with findings from this study.

Furthermore, to complement the information collected from the questionnaires, it is strongly recommended that interviews be conducted (with pupils, student teachers, teachers, teacher educators) to facilitate a greater depth and understanding of perceptions of an expert physical education teacher. The use of in-depth interviews will overcome the somewhat restrictive limitation inherent in questionnaires.

Additionally, this study highlighted several key inconsistencies between teacher educators' perceptions and teacher educators' "actions" (teacher education programmes). Consequently, results from this study and future studies of the like, must be examined with respect to teacher training programmes. Findings have suggested the need for teacher educators to clarify their own perceptions of an expert physical education teacher, together with the need to examine these beliefs with respect to those of pupils, student teachers, and teachers.



Moreover, as suggested by Perry (1990), if an expanded view of teaching expertise is to be achieved, teacher education programmes must also challenge student teachers to examine and articulate their beliefs and others' beliefs of expert teachers. Essentially, it is then important to determine whether teacher education programmes are consistent with established conceptions of an expert physical education teacher.

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## **Appendices**

- A. Questionnaire for Student Teachers and Teacher Educators
- B. Questionnaire for School Pupils
- C. Questionnaire Cover Letter
- D. Questionnaire Follow-up Letter

## Questionnaire : The Expert Physical Education Teacher

This questionnaire is comprised of a combination of forced choice and open-ended questions. You are asked to read the specific instructions for each question before responding. The 9 pages of the questionnaire should take you approximately 30 minutes to complete.

Please provide the required information below.

- A. To assist with questionnaire follow-up, it would be appreciated if you would provide your name. This however is optional for you.

Name : (optional) \_\_\_\_\_

I wish to remain anonymous throughout the study.

☐

Yes

☐

No

- B. Status : Please tick the appropriate box.

☐

Teacher Educator

☐

Tertiary Student

- C. Sex : Please tick the appropriate box.

☐

Male

☐

Female

- D. I would like a copy of the results from the study. Tick the appropriate box.

☐

Yes

☐

No

If yes, please provide your postal address.

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\_\_\_\_\_ Post Code \_\_\_\_\_

## The Expert Physical Education Teacher

1. The qualities and behaviours of the expert physical education teacher can be classified into various categories. Rank the following variables in order of their importance when defining the expert physical education teacher. (1 = most important, 2 = next important, 3 = least important variable for defining teaching expertise)
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*Presage Variables* - any characteristics or properties that the teacher brings to the teaching experience. Such variables include teacher formative experience (e.g. age, sex), teacher training experience, and teacher properties (e.g. teaching skills, personality traits, knowledge of subject matter).



*Process Variables* - include teacher behaviour, pupil behaviour, and the interaction between the two. Examples include the amount of time pupils spend doing tasks, how pupils respond to teacher directions, and any instructional skills of the teacher (e.g. feedback, performance cues, giving directions).



*Product Variables* - concern the outcomes of teaching - those changes that come about in pupils and teachers as a result of their involvement in classroom activities.

## The Expert Physical Education Teacher

2. Following is a set of variables that have been identified as indicators of teaching expertise. Please indicate which variables you feel should be included when defining an *expert physical education teacher* by placing a tick in the box which corresponds to your opinion.

			Agree	Disagree
(a) Teacher personal qualities, e.g. personality traits.	<input type="checkbox"/>	<input type="checkbox"/>		
(b) Classroom management and organization.	<input type="checkbox"/>	<input type="checkbox"/>		
(c) Lesson planning and preparation.	<input type="checkbox"/>	<input type="checkbox"/>		
(d) Teacher knowledge of subject matter.	<input type="checkbox"/>	<input type="checkbox"/>		
(e) Interest in pupils.	<input type="checkbox"/>	<input type="checkbox"/>		
(f) Positive classroom environment.	<input type="checkbox"/>	<input type="checkbox"/>		
(g) Reflection/critical evaluation (of lessons, self).	<input type="checkbox"/>	<input type="checkbox"/>		
(h) Teaching competencies e.g. feedback, questioning.	<input type="checkbox"/>	<input type="checkbox"/>		
(i) Professionalism.	<input type="checkbox"/>	<input type="checkbox"/>		
(j) Levels of pupil opportunity to learn (OTL) and academic learning time (ALT) - pupils engaged in activity with success.	<input type="checkbox"/>	<input type="checkbox"/>		
(k) Other.	<input type="checkbox"/>	<input type="checkbox"/>		

If you ticked agree, please specify those other variables that you feel should be included in the definition of an expert physical education teacher.

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## The Expert Physical Education Teacher

3. Listed below is a set of teaching variables. Please decide which ones you feel are the best indicators of expertise in physical education teaching and rank your choices from 1 to 10 (1 = most important, 10 = least important variable of teaching expertise).
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- ☐ Classes are well managed and organized.
- ☐ Well planned and prepared lessons.
- ☐ High levels of pupil opportunity to learn (OTL) and academic learning time (ALT).
- ☐ Development of a warm, positive learning environment.
- ☐ Displaying a keen interest in pupils.
- ☐ A sound knowledge of subject matter.
- ☐ A high degree of professionalism.
- ☐ Expert teaching competencies, e.g. feedback, questioning strategies.
- ☐ Teacher personal qualities, e.g. personality traits - good sense of humour.
- ☐ Effective reflection/critical evaluation of lessons and self.

Other -----

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If you rank this other variable very highly, please indicate its' relative ranking. That is, where would it rate in accordance with your above ranking?

☐

## The Expert Physical Education Teacher

*Please think carefully about the following questions and record your answers in the space provided.*

4. Please provide your own definition of an *expert physical education teacher*. Highlight those areas that you feel are the key components of your definition.

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5. Explain how you would identify an expert physical education teacher. That is, what *process* would you undertake to identify an expert and what *criteria* would you use to confirm your identification.

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6. *Teacher characteristics* refer to the personal qualities of the teacher such as personality traits, enthusiasm and appearance. Identify those characteristics that you feel are associated with the expert physical education teacher.

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7. *Teacher professionalism* refers to those professional skills and qualities that a teacher possesses. Identify/explain ways in which you feel the expert physical education teacher achieves a high standard of professionalism.

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8. In a physical education lesson, what *expectations* do you believe expert teachers communicate to their pupils?

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9. The *learning environment* refers to the positive, neutral, or negative affect exhibited by the teacher and the students. Briefly discuss important aspects of the learning environment that you feel characterize an expert physical education teacher's class.

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10. Describe what you feel are distinctive aspects of an expert physical education teacher's *management* and *organizational* qualities.

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11. Describe how you perceive the expert physical education teacher with regard to his/her *planning* technique.

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12. Explain the *questioning* technique that you feel is indicative of an expert physical education teacher.

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13. Describe the nature and incidence of *feedback* given by an expert physical education teacher.

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14. Expertise lies in the link between *highly skilled teaching* and *mastery of a particular subject matter*. How do you feel in response to this statement?

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15. How do you perceive the expert physical education teacher with reference to how he/she *reflects* on and *critically evaluates* his/her teaching.

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**Questionnaire : The Expert Physical Education Teacher**

This is not a test. This questionnaire simply aims to determine your thoughts about the expert physical education teacher. You are asked to read the specific instructions for each question and think carefully before responding. The total questionnaire should take you approximately 15 minutes to complete. Thanks for your co-operation.

Please provide the required information below.

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A. Sex : Please tick the appropriate box.

☐

Male

☐

Female

## The Expert Physical Education Teacher

1. You are being asked to describe what you think the "best" phys-ed teacher should be like. Listed below are three categories, each with different statements. Please rank the categories according to how important you think they are when describing the best phys-ed teacher.

- 1 = most important
  - 2 = next important
  - 3 = least important
- 

☐

Teacher's age and sex.

Teacher is fun, easy going and looks good.

Teacher is good at phys-ed.

☐

Teacher helps students learn skills.

Students spend a lot of time in phys-ed activities.

Teacher controls the class well.

☐

Students learn new skills.

Students enjoy phys-ed.

## The Expert Physical Education Teacher

2. Following is a set of statements that may be used to describe the "best" phys-ed teacher. If you had to describe what you think a really good phys-ed teacher is like, which ones would you use? Tick the boxes which match your opinion.

	Would Use	Wouldn't Use
(a) Teacher is fun.	<input type="checkbox"/>	<input type="checkbox"/>
(b) Teacher manages and organizes the class well.	<input type="checkbox"/>	<input type="checkbox"/>
(c) Teacher is well prepared for phys-ed lessons.	<input type="checkbox"/>	<input type="checkbox"/>
(d) Teacher is good at sport.	<input type="checkbox"/>	<input type="checkbox"/>
(e) Teacher gets on really well with students.	<input type="checkbox"/>	<input type="checkbox"/>
(f) Students in the class enjoy phys-ed.	<input type="checkbox"/>	<input type="checkbox"/>
(g) Teacher really thinks about what he/she does.	<input type="checkbox"/>	<input type="checkbox"/>
(h) Teacher gives good feedback and helps students learn.	<input type="checkbox"/>	<input type="checkbox"/>
(i) Teacher enjoys phys-ed teaching and always tries to become a better teacher.	<input type="checkbox"/>	<input type="checkbox"/>
(j) Students spend lots of time in activities and develop new skills.	<input type="checkbox"/>	<input type="checkbox"/>
(k) Other.	<input type="checkbox"/>	<input type="checkbox"/>

Is there anything else you would add if you had to describe what you think a really good phys-ed teacher should be like? If yes, please write your answer below.

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## The Expert Physical Education Teacher

3. Listed below is a set of statements. You are asked to rank each statement according to how important you think it is for describing what a really good phys-ed teacher is like. (1 = most important, 10 = least important)
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☐

Teacher is fun.

☐

Teacher manages and organizes the class well.

☐

Teacher is well prepared for phys-ed lessons.

☐

Teacher is good at sport.

☐

Teacher gets on really well with the students.

☐

Students in the class enjoy phys-ed.

☐

Teacher really thinks about what he/she does in phys-ed classes.

☐

Teacher gives good feedback and helps students learn.

☐

Teacher enjoys phys-ed teaching and always tries to become a better teacher.

☐

Students in the class spend lots of time in activities and develop new skills.

Other. If you think something else is important, write it here and fill in where you would rank it in the above list.

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## The Expert Physical Education Teacher

4. Please provide your own definition of an expert (really good) phys-ed teacher. Emphasize the main points in your definition.

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5. What sort of personality do you think an expert (really good) phys-ed teacher should have? e.g. fun, strict.

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6. Briefly explain how you think the expert (really good) phys-ed teacher gets students to do what he/she asks.

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7. Do think that students enjoy participating in the class of an expert (really good) phys-ed teacher? Why?

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8. Do you think that there are many discipline problems in the lessons of an expert (really good) phys-ed teacher? Why do think this is so?

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9. Why do think the expert (really good) phys-ed teacher asks students in phys-ed lessons questions?

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10. If a student was having difficulty in learning a new phys-ed skill, how do you think an expert (really good) phys-ed teacher would help that student to learn?

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11. If a phys-ed teacher isn't very good at some sport (e.g. hockey), do you think that this teacher could still be described as an expert or a really good phys-ed teacher? Briefly explain your answer.

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Dear \_\_\_\_\_,

I am completing a Bachelor of Education (Honours) degree at Edith Cowan University (ECU) and would like your assistance in completing the attached questionnaire. My honours thesis aims to investigate the topic of "How the Expert Physical Education Teacher is Perceived". This study has therefore been designed to determine your perceptions concerning teacher expertise in secondary school physical education.

Information obtained from this questionnaire will help to provide a valuable resource for defining criteria for expertise in physical education teaching. Furthermore, because little previous research has focused on perceptions of expert physical education teachers, the knowledge base developed may provide important implications for teacher education programmes.

You have been selected to complete the questionnaire because it is felt that information obtained from the perspectives of those involved in the "reality of teaching" (teacher educators, prospective teachers, pupils) adds an important dimension to an understanding of teaching expertise.

It would be greatly appreciated if you would complete the questionnaire as soon as possible and return it to me by the 1st December 1991. Confidentiality of all responses is assured and if you wish, a summary of the results from the questionnaire will be made available to you. Should you have any queries regarding the questionnaire, please do not hesitate to contact me [REDACTED]. I look forward to receiving your questionnaire return. Thankyou for your cooperation.

Yours sincerely,

Christine Albert  
B. Ed (Hons) Student  
Edith Cowan University

Dear \_\_\_\_\_,

I am writing to you with regards to the questionnaire that was sent to you approximately one month ago, concerning your perceptions of the "expert physical education teacher".

Having not yet received your reply, I am contacting you in the hope that you will complete the questionnaire and return it promptly. It would be greatly appreciated if you could return the questionnaire to me before Christmas. I look forward to receiving your questionnaire return soon. Thankyou for your cooperation.

Yours sincerely,

Christine Albert  
B. Ed (Hons) Student  
Edith Cowan University