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PRESERVICE TEACHERS' UNDERSTANDING OF TEACHING PHYSICAL EDUCATION

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Introduction

Understanding the meaning of classroom events is a critical component for effective teaching and a prerequisite for decision making during instruction. This is particularly important while it is suggested that novice teachers' image of self as a teacher and beliefs about teaching physical education have a central role in early teacher socialization. Preservice teachers enter teacher education programs with richly formulated, highly personal, and persistent understandings of teachers' work. Kagan (1992) summarized generic research on preservice teachers and pointed out the central role of preexisting beliefs and previous experience when students worked with the content in education courses. Likewise in physical education, Housner and French (1994) indicated that previous beliefs were central for preservice teachers in the accumulation of knowledge in teacher education. These personal beliefs are stable and difficult to affect and can remain unchanged during preservice programs and will affect student work in the classroom.

One line of research in physical education on teacher knowledge and understanding has focused on knowledge structure. Rink, French, Lee, Solmon, and Lynn (1994) compared novice and experienced preservice teachers' concept maps and reported that experienced preservice teachers' knowledge structure included more words and critical concepts. In addition, the coherence of the organization within concepts increased during the teacher education program. Furthermore, Sebren (1995) reported a knowledge development within preservice teachers' knowledge structures and ability to link new experiences to previous knowledge.

Another line of research has analyzed teachers' observations and interpretations of teaching. Graham, French, and Woods (1993) studied the ability to observe and interpret teaching physical education at different stages in teacher education. They found that beginning preservice teachers' observations and interpretations of teaching were fewer in number, less focused and more general than those of experienced preservice teachers. Novices paid more attention to social aspects of the lesson compared to experienced preservice teachers. However, both groups of preservice teachers mainly focused on issues related to content development and teaching methods. Also Behets (1996) found that novice preservice teachers fixated and reported fewer critical events from viewing scenes on slides compared to experienced preservice teachers.

Chapman (1996) reported somewhat contradicting results, while preservice students addressed fewer aspects in the post-course interviews, although these were more detailed. Also Allison (1987, 1990) analyzed preservice teachers' observations of teaching and she (1987) reported that preservice physical education teachers observed students' movement responses, the non-movement characteristics of students, and organizational tasks and patterns. Furthermore, preservice classroom teachers' observations focused on student movement responses and they frequently reported it in a evaluative manner (Allison, 1990).

During early field experiences in physical education, preservice teachers showed concerns with management and instructional skills and practices (Curtner-Smith, 1996). Also classroom

research showed that student teachers were primarily concerned with classroom events that affected them negatively (Gonzalez & Carter, 1996). Classroom management was particularly problematic for these student teachers.

There are also differences between inservice teachers at different stages and research has suggested that experienced and effective teachers comprehend, interpret, and predict teaching events more accurately than novices. Needles concluded (1991) that experts recall features and patterns of tasks better than novices and process the information differently than novices. Experts teachers showed a more fully understanding of the complexity of teaching and the relation between the elements of a lesson. The experienced teachers were more "sensitive" to how teachers might use student experiences and background information. Additionally, Gonzalez and Carter (1996) compared novice and expert teachers' interpretations of classroom events and found that they had different verbal descriptions and thoughts, and interpreted the impact of students differently.

Housner and French (1994) concluded that little is known about the knowledge used in teaching physical education and also about how teachers develop from novices to experienced teachers. Therefore, the purpose of this study was to compare novice and experienced preservice teachers' abilities to observe and understand teaching physical education.

Methods

The participants in this study were 22 male first-year students and 10 male second-year students, who all studied in a four-year classroom teacher education program. Novices or first-year students were in the beginning of their teacher education program while experienced or second-year students had completed a four-credit methods course in teaching physical education and were qualified to teach physical education in elementary schools. The course consisted of two elements. During the practical element students worked on improving their basic skills in the main sport of the Finnish curriculum. The theoretical element included lectures about teaching physical education in elementary schools, small group discussions, written assignments, and a final exam.

Data about preservice teachers' understanding of the observed lesson were collected during their physical education classes, which was the first class of the course for novice students and the final class for experienced students. Each student viewed a 21 minute segment of a videotaped lesson, where a male classroom teacher taught volleyball to 26 fourth-grade students. The lesson consisted of three parts: An elimination game was used as warm-up, while students practiced forearm pass in four groups during skill practice. Students finally played a game with applied rules while half of the group sat and waited on the benches. The teacher allocated 2:14 minutes (10.6 %) to transition, 1:24 minutes (6.6 %) to instruction and 17:32 minutes (82.8 %) to student practice. Four randomly selected target students were actively motor engaged 32 % of the warm-up game. The target students had an average score OTRs during skill practice (5:18 min) and four OTRs during game play (3:12 min).

Students' observations of the lesson were intended to observe, take notes, and write a description of what they observed. The students were asked to write a description of the lesson. Students' writings were analyzed according to the observational focus. Observational foci were descriptive or evaluative. A descriptive statement provided an account or record of lesson segments. A statement was evaluative if the subjects commented the appropriateness or value of some aspects of the lesson. Evaluative statements were also analyzed to assess whether preservice teachers just evaluated or whether they also made suggestions about specific changes for improving the lesson. Categories of observational focus were based on previous research and on an inductive analysis of all statements. Major categories were management, content development, teaching methods, student response, feedback, teacher

behavior, social climate, motivation, and the teaching context. The categories were not planned to be mutually exclusive and a statement could have more than one observational focus. This would give a richer and more complete analysis of the statements. Prior to coding two coders worked collaboratively to refine categories and questionable statements were discussed until agreements were reached. Intercoder agreement among the coders was calculated for 15 % of the statements and showed to be 94 % for observational function and 80 % for observational focus.

Results

Table 1 shows that experienced preservice students (ES) wrote in average almost twice as many statements as novice students (NS). There was also a difference between the two groups in the function of the observation. Experienced students wrote more evaluative statements (77 %) while 54 % of novice students statements were evaluative. A sample of students' statements:

The teachers starts the lesson by gathering the students along one wall and briefly explains the lesson (descriptive NS)

The students were also during this part of the lesson somewhat inactive (evaluative NS)

Two groups played while the other two groups watched the game sitting on the benches (descriptive NS)

The warm up game is somewhat chaotic before everyone knows which wall to go to (evaluative ES)

The teacher places the groups in each corner of the gym and gives each group a ball (descriptive ES)

During the game play they started to catch the ball and then to pass and that was really good (evaluative ES)

	n	Total Statements		Function of Statements			
		Frequency	Ave.	Frequency		Percentage	
				Eval.	Descr.	Eval.	Descr.
Novice	22	285	13,0	153	132	53,7	46,3
Experienced	10	237	23,7	182	55	76,8	23,2

▲ **Table 1.** Frequency, Average Number, and Function of Statements for Novice and Experienced Preservice Students.

Although experienced students used more evaluative statements, they also frequently suggested changes that they felt would improve the lesson. Twenty eight percent of evaluative statements of ESs contained recommendation (i.e., 22 % of total statements), while only 10 % of evaluative statements of NSs included recommendations (i.e., 1 % of total statements). Some experienced students wrote:

...the first time starting will give us the way to avoid the... (ES)
...hole... (ES)
Were there... balls/balls in the...? There should not... more balls in use (ES)

Table 2 shows the distribution of observations between various categories. Experienced students had a higher mean number of observations than novice students in most categories except feedback and motivation. Students' statements focused mainly on the categories of student responses, content development, management, and teaching methods.

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Category	Frequency/Percentage				Mean	
	Novice		Experienced		Novice	Experienced
	No	%	No	%		
Management	71	19,1	49	17,4	3,2	4,9
Content development	106	28,6	64	22,8	4,8	6,4
Teaching methods	34	9,2	37	13,2	1,5	3,7
Student respons	105	28,3	78	27,8	4,8	7,8
Teacher behavior	8	2,2	13	4,6	0,4	1,3
Social climate	17	4,6	12	4,3	0,8	1,2
Feedback	6	1,6	1	0,4	0,3	0,1
Motivation	4	1,1	0	0	0,2	0
Context	12	3,2	17	6,0	0,5	1,7
Other	8	2,2	10	3,6	0,4	1,0
Total	371			281		

▲ **Table 2.** *Distribution of Statements Among Categories for Novice and Experienced Preservice Students.*

Preservice students wrote about the category students responses:

The rest of them had to sit and wait, it would have been better if they could have had a task to do while they waited (ES)

The students started to run around the gym and continued to do so for some minutes (NS)

A sample of statements about content development:

In scrimmage students could have practiced serve, set, and underarm pass (ES)

The lesson started with a game as warm up (NS)

Management was described as following:

The teacher what he needed for the warm up, that everything was ready before the lesson started (ES)

After that the teacher gathered the students and divided them into four groups with girls and boys randomly mixed (NS)

Students' statements about teaching methods:

During the first task the teacher could have provided more instructions to the groups or to the whole class (ES)

The teacher taught with the command style and ha was rather authoritative (NS)

Experienced students had higher percentages in teaching methods, context, and teacher behavior while novice students had higher percentages in content development, management, student responses, social climate, motivation, and feedback.

Discussion

The purpose of this study was to compare novice and experienced preservice teachers' abilities to observe and understand teaching physical education. The findings showed that experienced students were able to write more about the observed lesson. This is a good sign of a

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