The Influence of Experience on Pre-service Teachers' Perceptions of Good and Bad Aspects of a Lesson

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Abstract

Experiences in sport and physical activity prior to formal teacher preparation are thought to be influential on perceptions of aspiring teachers. Various types of sport and teaching experiences of future teachers have not, however, been linked to specific beliefs and perceptions of teaching effectiveness. The purpose of this study was to examine the influence of varying levels of athletic, coaching, and teaching experience on pre-service teachers' perceptions. Seventy undergraduate students representing four different profiles of experience were studied. Participants viewed a 40-minute videotape of an elementary soccer lesson, commenting on good and bad aspects of the lesson. One-half of the participants had previous experience playing the sport, and more than 70% had some combination of teaching and coaching experience. In spite of different histories, profiles of observations were remarkably similar. Consequently, the impact of varied backgrounds may not be a major source of differences across prospective teachers. There was also evidence to suggest that prospective teachers may be able to generalize experiences across different types of playing and teaching or coaching backgrounds. This means that preparation programs do not need to provide recruits with experience in every possible sport activity area.

Investigations into teacher development suggest that biography has a powerful effect on preservice teachers' beliefs and perceptions of teaching. School-related experiences prior to formal teacher education are thought to be influential in providing a subjective warrant for teaching and coaching. Furthermore, this apprenticeship of observation appears to affect recruits' adoption or rejection of the messages delivered in teacher education programs. While research on preservice physical education teachers has documented that various beliefs brought into formal training are difficult to change (Doolittle, Dodds, & Placek, 1993; Graber, 1995; Schempp, 1989), data on the connections between biography and specific beliefs about teaching are limited.

Lawson (1983) has also suggested that prospective teachers develop an orientation toward teaching and/or coaching by assuming these roles prior to formal training. Indeed, a large number of prospective physical education teachers and coaches have assumed what Lawson (1983) termed "secondary involvements" (p. 8) in sport roles prior to formal training (Dodds, Placek, Doolittle, Pinkham, Ratliffe, & Portman, 1992). Exactly what effect these experiences have on preservice teachers' perceptions of teaching is not clear.

This study was designed to understand more clearly preservice teachers' perceptions of physical education teaching as mediated by pretraining experiences (i.e., athletic, coaching and/or teaching). More specifically, the purpose of this study was to examine the influence of different levels of experience playing, teaching and/or coaching on perceptions of good and bad aspects of a lesson. Armed with insights into the effects of biography, teacher educators would have a befter understanding of how recruits learn to teach. Specifically, what may be available are insights into the development of what Shulman (1987) has described as content knowledge (CK), pedagogical knowledge (PK), and pedagogical content knowledge (PCK).

Along with these insights may come the skills to design more effective teacher preparation programs.

Method

Informed consent was obtained from all participants prior to data collection. Participants were assigned a coded identity number, which was used to facilitate anonymity, and to encourage honest responses. Participants were further informed that neither their decision to participate, nor any answers given would affect their grades in any courses within their program of study.

Participants

A total of 70 students, sophomores and juniors enrolled in an undergraduate physical education teacher education (PETE) program in the northeastern United States, served as participants. Most of these students had participated in an initial field observation course. In that course, they were introduced to systematic observation strategies including general and focused field note taking, momentary time sampling with attention to the use of time and space, and event recording of student behavior and teacher feedback. Otherwise, students had received no specific instruction in teaching methods.

Background Questionnaire

To quantify the differences in background experiences, participants completed a questionnaire designed to elicit information regarding prior playing, coaching, and teaching experiences. Questions were simple and direct regarding the age and skill levels of clients, time and duration of experiences with playing, coaching and teaching.

Assessment Task

Participants were informed that they would view a videotape of a student teacher working with a coeducational group of elementary students in an indoor soccer lesson. A data collection instrument with written instructions and three columns for participant input was presented to participants. The directions were read and discussed for clarification. Participants were directed to do the following:

> Identify as many aspects as possible of what you see or hear on the videotape that you would characterize as "good"—try to say why the things you identify are "good." Also, identify as many aspects as possible of what you see or hear on the videotape that you would characterize as "bad"—try to say why the things you identify are "bad." Please use as many data sheets as you need to respond to these directions. Make sure that you use your Code ID number on each data sheet used. Indicate whether your entry is supportive of a "good" (use a "G") or a "bad" (use a "B") aspect of a physical education lesson. Draw a line under each entry to separate it from other entries.

The first column was labeled as "Good or Bad." The second column was labeled as "Brief Description of Incident" and the final column was labeled "Explanation for why good or bad."

Stimulus Videotape

Participants viewed a 40-minute videotape of an elementary level indoor physical education lesson on soccer. The videotape had a superimposed timer indicating elapsed time in the lesson. There were 20 pupils in the coeducational class, taught by a male student teacher. In the lesson, pupils arrived and went to assigned spots for attendance, which was completed in less than one minute. A brief stretching period was followed by warm-up activities with one soccer ball for each student for the next eight minutes. The lesson then proceeded with approximately 28 minutes of extending, refining, and applying tasks (Rink, 2002), and finished with a check for understanding during a closure, lasting approximately two minutes. The lesson can further be characterized through data from Basic Academic Learning Time-Physical Education (Wilkinson & Taggart, 1985) with 7.1% management time; 15.8% transi-

tion time; 26.3% knowledge time; 10% waiting time and 40.8% activity time.

Data Analysis

Questionnaire data regarding prior playing, teaching, and coaching experiences yielded 7 distinct groups, initially. Due to small numbers of participants in some of the original groups, participants were rearranged into 4 categories (see Table 1).

Participants were included in the Novice Group if they reported no playing, teaching, or coaching experience. Participants reporting no playing experience but some teaching or coaching experience in activities other than soccer were included in the Theorist Group. Participants having played some organized soccer (with uniforms and referees) but with no coaching and some teaching experience were included in the Player Group. Last, the Player Plus Group included participants with formal playing experience and both teaching and coaching background.

Table 1

Participant Experience Groupings

Group	Number	Description
Novice	18	No playing, teaching or coaching experience
Theorist	17	No playing, some teaching or coaching experience in something other than soccer
Player	15	Played soccer; no teaching or coaching experience
Player Plus	20	Played soccer, some teaching and/or coaching experience

Participant comments about the videotape were coded in two phases. First, two of the investigators coded responses independently. Next, the investigators compared their initial coding decisions and arbitrated disagreements to finish with total agreement on the coding of responses. Categories used in the initial analysis of the data were drawn from Belka (1988), a system that was distilled from earlier work (Bell, Barrett, & Allison, 1985). Included in this phase of data analysis are four major categories describing the focus of comments: (1) student, (2) teacher, (3) lesson organization, and (4) content. Since approximately 70% of the responses were accounted for in only two categories, additional subcategories were added in an attempt to unmask hidden relationships. A full description of these categories appears in Table 2. Further attempts to understand these data involved translating original categories into the more established conceptual framework presented by Shulman (1987). These translations are problematic and, at best, represent an initial attempt to apply a more established and, perhaps, a more generalizable framework for understanding the data.

Results

Background of Participants

Within the pool of 70 participants, there was a broad range of experiential backgrounds. Categories of experience were created to facilitate comparisons across participants and these descriptions are summarized in Table 1. The Novice Group (25.7%) is most discernibly different from other groups in that they had no formal soccer experiences before viewing the videotape in this study. The teaching and coaching experiences of the Theorist Group (24.3%) allowed participants an opportunity to work with children of ages

similar to those in the videotape, but again, without formal soccer experiences. The Player Group (21.4%) comes closest to an example of participants with the potential for pure content knowledge

Table 2

Coding Categories for Comments

1. Student
   - 1a. Student movement resulting from a movement task (e.g., "passes were accurate;" "all students were participating").
   - 1b. Student responses to organizational task (e.g., "students lined up very slowly").
   - 1c. Student social interaction with the teacher or with other students (e.g., "children paid attention to the teacher;" or, "they worked well with each other").
   - 1d. Personal characteristics or traits of students (e.g., "students dressed sloppily").
   - 1e. Student cognitive characteristics (e.g., "I was amazed how the students understood").
2. Teacher
   - 2a. Personal traits of the teacher (e.g., "the teacher never smiled;" "he was mean to the students").
   - 2b. Statements describing interactive teaching techniques used in the lesson:
     - 2b1. Teacher demonstrates knowledge related to content (CK) (e.g., "teacher demonstrated the skill accurately").
     - 2b2. Interactive teaching techniques in response to students (PK) (e.g., "uses words such as 'freeze' or 'stop';" "teacher had his back to students").
     - 2b3. Instructional techniques related to content and students (e.g., "teacher's instructions were confusing").
   - 2c. Statements describing the learning climate (e.g., "teacher was bored and the kids were bored").
3. Lesson Structure
   - 3a. Statements about the goals or objectives of the lesson (e.g., "the purpose of the lesson was to learn control of soccer passing").
     - 3b1. Statements about the general management of the lesson (PK) (e.g., "teacher used space efficiently;" "left a child unattended").
     - 3b2. Statements about the organization of the lesson related to soccer (PCK) (e.g., "teacher gave each child a ball").
4. Content

   Statements about activity selection and sequencing (e.g., "the skills were too difficult for students;" "activity was inappropriate for a soccer lesson).

and without experiences one might expect necessary for the development of pedagogical content knowledge. It is the last group of Player Plus (28.6%) in which the greatest potential for pedagogical content knowledge exists; these are the participants with playing, teaching and/or coaching experience.

The one area in which there was a distinct separation of the experiential backgrounds of participants was in regard to playing experience. The

participant pool was split in half with 35 participants (50%) with no soccer playing experience and 35 participants with soccer playing experience of at least one complete season where teams with uniforms and referees were involved.

Observations

In Tables 3 and 4, frequencies of responses from each group of participants are presented. Percentages indicated reflect the percent of the total for each group.

Table 3

Focus of Participants' Comments as a Function of Comment Focus

Focus of Comment	Participant Group			
	Novice	Theorist	Player	Player Plus
Student				
1a	27 (11.1%)	17 (6.7%)	10 (3.6%)	23 (7.2%)
1b	7 (2.9%)	6 (2.4%)	8 (2.8%)	6 (1.8%)
1c	6 (2.4%)	6 (2.4%)	3 (1.1%)	4 (1.3%)
1d	1 (0.4%)	0 (0%)	0 (0%)	0 (0%)
1e	2 (0.8%)	0 (0%)	0 (0%)	0 (0%)
Total	43 (17.6%)	29 (11.5%)	21 (7.5%)	33 (10.3%)
Teacher				
2a	4 (1.6%)	6 (2.4%)	14 (5%)	3 (0.9%)
2b1	1 (0.4%)	1 (0.4%)	1 (0.4%)	4 (1.3%)
2b2	53 (21.7%)	46 (18.2%)	53 (18.9%)	55 (17.2%)
2b3	33 (13.6%)	49 (19.3%)	46 (16.4%)	55 (17.2%)
2c	4 (1.6%)	5 (2%)	9 (3.2%)	3 (0.9%)
Total	95 (38.9%)	107 (42.3%)	123 (43.9%)	120 (37.5%)
Organization				
3a	1 (0.4%)	0 (0%)	0 (0%)	0 (0%)
3b1	42 (17.2%)	31 (12.2%)	43 (15.4%)	47 (14.7%)
3b2	34 (14 %)	44 (17.4%)	51 (18.2%)	68 (21.2%)
Total	77 (31.6%)	75 (29.6%)	94 (33.6%)	115 (35.9%)
Content (4)	29 (11.9%)	42 (16.6%)	42 (15 %)	52 (16.3%)
TOTAL	244 (100%)	253 (100%)	280 (100%)	320 (100%)
Av. N. comments	13.6	14.8	18.6	16.0

Table 4

Frequency of Participants' Responses Relative To Type of Knowledge Reflected

Focus of Comment	Participant Group			
	Novice	Theorist	Player	Player Plus
CK (2b1, 3a, 4a)	31 (12.7%)	43 (17%)	43 (15.4%)	56 (17.5%)
PK (2b2, 3b1)	95 (38.9%)	77 (30.4%)	96 (34.3%)	102 (31.9%)
PCK (2b3, 3b2)	67 (27.5%)	93 (36.8%)	97 (34.6%)	123 (38.4%)
Other	51 (20.9%)	40 (15.8%)	44 (15.7%)	39 (12.2%)
TOTAL	244 (100%)	253 (100%)	280 (100%)	320 (100%)

CK = Content Knowledge; PK = Pedagogical Knowledge; PCK = Pedagogical Content Knowledge; Other = Other comments not obviously in one of the preceding categories.

The primary focus of attention for participants in all four groups was the teacher. This area of focus included between 37 and 44% of all comments. One subcategory of teacher-focused comments attracting attention involved the interactive teaching techniques used by the teacher (category 2b2), which was mentioned in between 17 and 22% of the comments. An example would be the extent to which the teacher used key words like "freeze" or "stop" or teacher positioning relative to activity—on the perimeter or with a turned back to students.

The other subcategory attracting attention involved instructional behavior related to the content (category 2b3), mentioned in between 13 and 20% of comments. An example of this type of response would include the extent to which directions were delivered in such a way that students could understand the expectations for a given task.

The focus commented on second most, related to aspects of lesson organizational structure. This area of focus included between 29 and 36% of all comments. Within this category, attention was again directed to two subcategories. One subcategory of lesson organization mentioned in between 12 and 18% of comments, involved statements about the general management of the lesson (category 3b1), For example, the use of space relative to the number of students in the small gymnasium was focal for many. For other participants, attention was directed to a student who appeared to be left unattended for much of the period. The second focus within the lesson organization category linked decisions to the soccer content (category 3b2), mentioned in between 14 and 22% of comments made. For example, many participants noted the teacher's choice to give a soccer ball to each student.

Differences Across Groups

The most notable difference across groups described in Table 3 arises in the third most common focus of attention. The Novice Group was more interested in the students (17.6% of comments) over the content of the lesson (11.9%) while each of the other groups looked at content (between 15 and 17% of comments) more frequently than at students (between 7 and 12% of comments).

Within the student category, the sub-category of movement resulting from a movement task (category 1a) accounted for the greatest number of comments from each group. The Novice Group

tallied the most comments on this topic (11.1%) with at least one comment in each of the remaining four sub-categories. The other groups also attended to subcategory 1a with between 3 and 8% of their comments. No comments were directed by the remaining groups to sub-categories 1d (personal characteristics of students) or 1e (student cognitive characteristics).

One other difference across groups is evident in Table 3. As experience increases, so does the total number of comments. The Novice Group made the least comments (244) and the Player Plus Group made the most comments (320). In addition, each increase is greater as experience increases: There are 9 more comments in the Theorist Group (than in the Novice Group); 27 more comments in the Player Group (than in the Theorist Group); and, 40 more comments in the Player Plus Group (than in the Player Group).

In an attempt to examine participant comments through a more familiar conceptual framework, topics were grouped into categories of content knowledge (CK), general pedagogical knowledge (PK), pedagogical content knowledge (PCK) and other. These relationships appear in Table 4.

The greatest number of comments of the Novice Group was categorized as PK (38.9%). These comments addressed the interactive teaching techniques used by the teacher in response to student behaviors and statements about the general management of the lesson. This category received the second most attention from each of the other groups of participants (between 30 and 35% of comments).

The second most noted category by the Novice Group (27.5%), and most addressed category for each of the other groups (between 34 and 39%) was PCK. This category included comments relating instructional technique to both the content and the students. Also included were comments about the organization of the lesson relative to an apparent understanding of the game of soccer and how it should be taught.

Content knowledge (CK) attracted the least attention of Novice Group (12.7%) and similarly low levels of attention from each of the other groups (between 15 and 18% of comments). Examples of CK included comments noting the ability of the teacher to demonstrate tasks accurately, attention to the goals of the lesson, and to the appropriateness of the selection and sequencing of skills.

One additional difference across groups is notable in Table 4. A category of Other Comments was created to account for participant observations that did not obviously fit into the preceding Shulman categories. The percentage of these observations, relative to the total number of comments made within groups, decreased as experience increased. In the Novice Group, these outlier comments accounted for 20.9% of comments made, down to only 12.2% of comments made by the Player Plus Group.

One final comparison of comments by experience is presented in Table 5. In this comparison, experience is limited to formal playing experience, which split the group in half. Comments were not remarkably different between the two groups. The focus of comments is sequenced in the same order of emphasis for each group with comparable proportional weightings.

Discussion

The purpose of this study was to examine the influence of varying levels of athletic, coaching, and teaching experience on pre-service teachers' perceptions of good and bad aspects of a lesson. The observations of a videotaped soccer lesson by 70 undergraduate students representing four different experience profiles have been presented. Several of the findings of this study warrant further discussion. First, the Novice Group directed more attention to the students than any of the other groups. Put another way, participants with more experiences with playing, teaching and/or coaching directed the fewest of their comments toward students. Belka (1988) identified a similar trend when he noted that prospective teachers who had progressed further through their programs had incrementally fewer things to say

Table 5

Comments By Playing Experience

Focus of Comment	Participant Group: No Playing Experience (N=35)	Participant Group: Players (N=35)
Student	72 (14.5%)	54 (9.0%)
Teacher	202 (40.6%)	243 (40.5%)
Organization	152 (30.6%)	209 (34.8%)
Content	71 (14.3%)	94 (15.7%)
TOTAL	497 (100%)	600 (100%)

about students. In a profession where children are supposed to be a central focus, this finding should raise a red flag for teacher educators. When more experience with physical activity bleeds attention away from the focus of attention—the student—a re-evaluation of priorities seems in order. Are recruits appropriately directing their attention to instructional performance; or, is a humanistic child-centered focus of prospective teachers being displaced by a mechanistic perspective toward teaching?

An alternative explanation of these findings may be found in Fuller and Brown's (1975) elaboration on earlier work by Fuller (1969) regarding the concerns of teachers. Fuller and Brown describe a sequence of concerns for students studying to become teachers. They suggest that the first stage, which they designate as "preteaching concerns" (p. 38) is characterized by a concern for pupils because recruits relate more to the pupils than to the teachers; to them, the role of teacher is still a fantasy. Increased contact with the demands of teaching lead recruits through concerns about surviving and an ability to control their class; content presentation skills; and later, a return to a focus on pupil attributes and needs. Through this framework, novice participants in this study could be seen as at the first stage of concerns. Other participants could be seen as progressing through the next stages of survival and presentation focus, but not yet reaching the final stage.

Several aspects of the findings analyzed through the Shulman (1987) framework warrant comment. First, the finding that most members of the Novice Group commented on PK might reflect the impact of the initial field experience observation course most participants had completed prior to data collection for this study. It is possible that the introductory course gave participants a framework with which they could understand what was happening in an otherwise unfamiliar setting.

Next, the minimal attention by the Novice Group directed to CK was not unexpected, since this is the group least familiar with soccer, the content of the videotaped lesson. This lack of attention to CK would suggest a concern with the extent to which future teachers can adequately attend to the appropriateness of the content being taught. That is, while it is important for teachers to attend to control and management of pupils (PK), there is also a need for some content expertise (CK) to ensure that the PK is appropriately focused. Indeed, this is the crux of the notion of PCK.

The dominant attention by the Player Plus Group to what was coded as PCK (38.4%) is further support for the apparent value in having a strong background in content. The fact that the Theorist Group had a very similar emphasis on PCK (36.8%), however, is confusing. This finding runs contrary to commonly accepted beliefs that playing, teaching and coaching experiences yield a richer understanding of areas to be taught. These data support the suggestion that a rich understanding can be gained without playing and coaching experiences in a specific sport or activity. The existence of some degree of transfer across similar types of activities would appear to be supported by these findings. If it is possible to achieve this kind of transfer, there are implications for making activity choices in teacher preparation programs where many certification demands fill the curriculum.

Conclusions

Three conclusions appear warranted based on the preceding data. First, many students continue to enter physical education teacher education (PETE) programs with prior playing, teaching and coaching experiences in physical activities. At least half of the participants in this study had played organized soccer and over 70% had some variety of teaching and/or coaching experiences. Hence, the biography of prior sport experiences continues to be a factor that will influence how recruits respond to formal training.

Regardless of biography, many recruits demonstrate remarkably similar profiles regarding targets of observation. Consequently, prior sport-related experience differences may not be one of the major sources of uniqueness in physical education recruits. Put another way, teacher educators can focus attention on other attributes (e.g., race, ethnicity, gender, etc.) for insights into how to best craft educational experiences.

Finally, there appears to be some transfer across activity experiences. Data from this study support the notion that the potential for acquisition of PCK in some activities may be enhanced with experience in other activities. Hence, exploring the notion of increasing requirements for "secondary involvements" (Lawson, 1983) or coaching/teaching internships, and restricting the number and type of activity courses included in professional preparation programs appears warranted. This will be good news for programs with limited resources and time in the curriculum for professional preparation when students have other course requirements to meet.

REFERENCES

Belka, D.E. (1988). What preservice physical educators observe about lessons in progressive field experiences. *Journal of Teaching in Physical Education, 7*, 311-326.

Bell, R., Barrett, K.R., & Allison, P.C. (1985). What preservice physical education teachers see in an unguided, early field experience. *Journal of Teaching in Physical Education, 4*, 81-90.

Dodds, P. (1989). Trainees, field experiences, and socialization into teaching. In T. Templin & P. Schempp (Eds.). *Socialization into physical education: Learning to teach*, (pp. 13-38), Indianapolis: Benchmark.

Dodds, P., Placek, J., Doolittle, S., Pinkham, K., Ratliffe, T., & Portman, P. (1992). Teacher/coach recruits: Background profiles, occupational decision factors, and comparisons with recruits into other physical education occupations. *Journal of Teaching in Physical Education, 11*, 161-176.

Doolittle, S.A., Dodds, P., & Placek, J. (1993). Persistence of beliefs about teaching during formal training of physical education teachers. *Journal of Teaching in Physical Education, 12*, 355-364.

Fuller, F. (1969). Concerns of teachers: A developmental conceptualization. *American Educational Research Journal, 6*, 207-226.

Fuller, F., & Brown, O. (1975). Becoming a teacher. In K. Ryan (Ed.), *Teacher education: The seventy-fourth yearbook of the National Society for the Study of Education,* (pp. 25-52). Chicago, IL: University of Chicago Press.

Graber, K. (1995). The influence of teacher education programs on the beliefs of student teachers: General pedagogical knowledge, pedagogical content knowledge, and teacher education coursework. *Journal of Teaching in Physical Education, 14*, 157-178.

Lawson, H.A. (1983). Toward a model of teacher socialization in physical education: The subjective warrant, recruitment, and teacher education. *Journal of Teaching in Physical Education, 2*(3), 3-16.

Mitchell, M., & Schwager, S. (1994, April). *A developmental analysis of preservice physical education students' observational skills.* A roundtable paper presentation at the annual national meeting of the American Educational Research Association, New Orleans, LA.

Rink, J.E. (2002). *Teaching physical education for learning* (4th ed.). Boston, MA: McGraw-Hill.

Schempp, P. (1989). Apprenticeship of observation and the development of physical education teachers. In T. Templin & P. Schempp (Eds.), *Socialization into physical education: Learning to teach* (pp. 13-38), Indianapolis: Benchmark.

Shulman, L.S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review, 57*(1), 1-22.

Wilkinson, S., & Taggart, A. (1985). *Physical education and sport observation coding manual for basic ALT-PE.* Columbus: The Ohio State University.

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