An Examination of "Wash-out" and Workplace Conditions of Beginning Physical Education Teachers

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Abstract

The purposes of this study were to: (1) determine the extent of wash-out in two beginning physical education teachers; and (2) determine the workplace conditions these novice teachers experienced that may have influenced the extent of wash-out for them. The interactive factors influencing workplace conditions for physical education teachers outlined by Lawson (1989) provided the framework by which to examine wash-out in these teachers. Results showed that these teachers experienced wash-out from pre-service to their induction years in several areas, but actually showed improvement in other areas. Factors that may have contributed to wash-out included a lack of facilities and equipment in the start of their first year of teaching, lack of prestige and respect for physical education, a particular subculture of students, and the teachers' desire for student acceptance and enthusiasm. Workplace conditions that may have inhibited wash-out were being able to team teach with someone from the same PETE program, a new gym and equipment toward the end of their first teaching year, support from their principal, perceived control over content and teaching methods, and being proactive in soliciting assistance.

As beginning teachers move from being students in teacher education programs to teachers in schools, they may experience "reality shock" (Veenman, 1984), in which their teaching situations are vastly different from those in their pre-service practicum settings. While physical education teacher education (PETE) programs emphasize student learning as an outcome of physical education instruction, many school administrators, faculty, parents, students, or even fellow physical education teachers do not hold that view (O'Sullivan, 1989; Stroot, Faucette, & Schwager, 1993). Additionally, while PETE students often work with fellow students or cooperating teachers in preparing and teaching lessons, novice elementary physical education teachers are often isolated from other teachers (e.g., O'Sullivan, 1989; Stroot et al., 1993).

One consequence of this reality shock may be that beginning teachers return to traditional means of teaching. Zeichner and Tabachnik (1981) propose three reasons for this consequence. First, teacher education programs have a weak impact on pre-service teachers and do not permanently impact their beliefs and practices. Second, while claiming to promote and teach more inventive means of education, teacher education programs actually support more traditional instructional methods. Third, the beliefs and skills beginning teachers have learned from their teacher education program are actually "washed out" by the difficult circumstances they encounter in their induction years. Little is known about the factors that contribute to or inhibit "wash-out".

A Framework for Examining Wash-out

The interactive factors influencing workplace conditions for physical education teachers outlined by Lawson (1989) provide a helpful framework by which to examine the wash-out effect. Work conditions have already been shown to be related to burnout in Israeli physical education teachers (Fejgin, Ephraty, & Ben-Sira, 1995). By examining wash-out, or the lack thereof, in

light of Lawson's framework, we can get an idea of elements in the school workplace that relate to wash-out. Four categories of elements are proposed to affect the socialization of physical education teachers and their teaching practices: political and economic, organizational, situational, and personal-social. We will describe each of these categories in turn, providing examples of how these might inhibit or contribute to wash-out.

Political and economic factors include national standards, state and local requirements, and state and local economic constraints (Lawson, 1989). As an example, a beginning teacher who tries to establish a program following the state or national standards for physical education in the United States (National Association for Sport and Physical Education, 2004) may feel frustration if the local requirements and/or budget do not support those standards. Such a teacher is more likely to experience wash-out than a beginning teacher who buys into the state or national standards and is supported in those beliefs by the local curriculum and budget.

Organizational workplace factors refer to four systems present in a school: the goal system; the allocation of resources; the control, supervision, and evaluation of teacher work performance; and the prestige, reward, and support present in the school for teachers (Lawson, 1989). Each school has a major purpose (e.g., prepare students for college, or prepare responsible citizens). A teacher who is not invested in that goal will find the school a more difficult workplace than a teacher who does. The resources allocated to a beginning teacher, such as amount of equipment and available facilities, can greatly impact whether that teacher experiences wash-out or not; teachers with the equipment they need to teach the lessons they want are less likely to experience wash-out than teachers with inadequate equipment. Likewise, giving a teacher more control over what or how to teach will help to inhibit wash-out. Teachers who teach in subject areas that are afforded little respect or prestige will feel little incentive to teach as they learned in their undergraduate preparation, since no one expects them to teach well anyway. Beginning teachers who are supported in their goals by an authority figure like the principal are probably less likely to experience wash-out than teachers who are not supported.

Situational factors influencing the workplace conditions for teachers include student subcultures, the curriculum and emphasis on learning, and fellow teachers. According to Lawson (1989), student subcultures or subgroups who oppose a teacher in various ways can make instruction difficult for beginning teachers, which could lead to wash-out. If a school's curriculum, administration, and/or community do not value student learning in physical education and require only student participation, the new idealistic teacher may get frustrated, sense the lack of prestige for physical education, and refrain from using the skills and activities learned in preservice training. Fellow teachers can have a big impact on wash-out in beginning teachers. Classroom teachers, or even fellow physical education teachers, who do not see the value of physical education or helping students learn can make things difficult for beginning teachers, and result in wash-out of well-learned teaching skills.

Personal-social factors are the final category of factors that may influence wash-out in beginning teachers. Most teachers desire student acceptance and enthusiasm for the content (Lawson, 1989); students who resist the activities taught by a beginning teacher or how those activities are taught may lead a teacher to abandon activities and methods learned in teacher preparation. Physical education teachers are often also coaches. If the coach role conflicts in some way with the teacher role (e.g., time given to each role, amount of respect afforded for each role), a beginning teacher may begin to let his/her teaching skills slide in favor of the coaching role. Another personal factor that may affect wash-out includes the teacher's dispositions. A teacher who enjoys a challenge, enjoys independence, and doesn't mind being a "rebel with a cause" may be

less likely to experience wash-out than someone without those dispositions.

There are four important features of the framework to keep in mind. First, each category contains several different elements. The elements within each category often influence other elements within that category. For instance, in the political and economic factors category, the state requirements often influence the local school requirements and the budget for physical education. Second, the four categories interact with each other. For example, grants offered at the national level in the political/economic category, if obtained by a teacher, can influence equipment, an element in the organizational category. Third, these categories may have a positive or negative influence on workplace conditions and wash-out, as the examples pointed out. Fourth, these elements can be changed. If a category of conditions appears to be contributing to wash-out, things can be done, by the teacher, fellow teachers, administrators, etc., to change that factor so it does not contribute to wash-out.

Purpose of this Study

Teachers new to the field have been studied in the past (e.g., O'Sullivan, 1989; Solmon, Worthy, & Carter, 1993; Stroot et al., 1993; Wright, 2001), but few researchers have specifically examined workplace conditions as inhibitors or contributors to wash-out. While Smyth (1995) did look at workplace conditions of beginning teachers, interviews were the only data source to obtain the teachers' perceptions, and no documentation of wash-out was obtained.

There were two purposes of our study: (1) to determine the extent of wash-out in two beginning physical education teachers using systematic observation systems, documents and field notes; and (2) to determine the workplace conditions, using Lawson's (1989) framework, these novice teachers experienced that may have influenced the extent of wash-out. Multiple methods (interviews, videotaped lessons, field notes, documents, and psychometric instruments) were utilized to ascertain the relevant workplace conditions.

Methodology

Participants and Setting

The participants were two elementary physical education teachers in their first and second years of teaching. They had graduated the same semester from the same four-year undergraduate program that is designed to prepare students for a single, multigrade teaching certificate in Health and Physical Education for grades P-12. The program is located in an urban research university, in the middle of a major southern United States city (see Metzler, Tjeerdsma, & Walker, 2000, for more contextual information about this program). Pre-service teachers in this program have many opportunities to teach a diverse population of children, due to its geographical location. There is considerable research-quality evidence that pre-service teachers of this PETE program develop the pedagogical skills and beliefs that are indicative of effective physical education teachers (see Metzler & Tjeerdsma, 2000a).

As PETE students, both participants distinguished themselves as exemplary students and student teachers. Roxie (pseudonyms are used) was a Caucasian female, 34 years old, married, with two children. She graduated with a 3.96 GPA (out of 4.0) and was named the outstanding student teacher for the spring semester. Dean was a Caucasian male, 29 years old, married, with one child. He graduated with a GPA of 3.79 and earned As in the four methods courses. Both student teachers received exceptional evaluations from their cooperating teachers as well as their university supervisors. Roxie and Dean were hired to team-teach physical education at the same, new elementary school. However, the school was not finished until the end of their first year of teaching; thus the two teachers taught alone in different elementary schools until the spring, when their new school opened. The new school

was located in a suburban area and served approximately 800 middle-class African American, Caucasian, and Hispanic students, most of whom were used to primarily game-play only during their previous physical education classes (prior to Roxie and Dean).

Data Sources

Five sources provided data for this study. First, *interviews* were conducted with the participants on four different occasions: (1) just before they moved into their new school (after teaching alone for seven months); (2) at the end of their first full year of teaching (after moving into their new school and teaching together for two months); (3) at the start of their second year of teaching (their first time to plan an entire year together); and (4) near the end of the fall semester of their second year of teaching (after they had taught a semester together). Each interview was conducted separately with each participant and lasted approximately 30-60 minutes. All interviews were conducted by the first researcher and audiotaped for later transcription. Topics for the interviews included the following: purpose of physical education, things enjoy/do not enjoy about teaching, relationships with students/ administrators/ teachers/ parents, perceptions of working with another physical education teacher, perceptions of things changed the most/least from student teaching, perceptions of undergraduate teacher preparation. These topics provided starting points for discussion; based on the teachers' responses, follow-up questions were asked to both clarify their responses as well as probe areas identified by the participants. Questions in later interviews also stemmed from the first researcher's field observations.

The second data source was *videotaped lessons* taught by the participants. Several lessons taught by each participant during their undergraduate practicum courses had already been videotaped and analyzed for a previous study (Metzler, Tjeerdsma, & Mozen, 2000). For purposes of this study, only the videotaped lessons in the beginning and end of the participants' beginning methods course and their elementary methods course were used (four lessons, 12-15 minutes long). The lessons in the beginning methods course were taught to 10-12 of their peers, while the elementary methods course lessons were taught to 10-15 children (grades 1 and 3). In addition, each participant had four more lessons videotaped for this project: the first, shortly after moving into the new school; the second, three weeks after moving into the new school; the third, three weeks into the participants' second school year; and the fourth, just before Thanksgiving of that second year. These 40-minute lessons were taught to double classes of 40-45 students, grades 1, 2, 3, and 4. Each participant wore a remote microphone so that all communications with the students and each other could be heard.

The third data source was *field notes* taken by the first researcher as she observed the participants planning, preparing for, and teaching lessons. The field notes included comments from informal conversations with the participants. The first researcher observed the teachers on 30 different days, including the days she videotaped lessons, staying for 2-4 class periods each day.

The fourth data source was *documents,* including lesson plans, curriculum plans, and student assessments completed by the participants during their induction years, and e-mail communications between the first researcher and the participants. Additional documents included lesson plans the participants had written during the pre-service years and had previously been collected and analyzed (Tjeerdsma, Metzler, & Walker, 2000). For this study, lesson plans from the following experiences were examined: beginning methods course, elementary methods course, and elementary student teaching.

The fifth data source was two *psychometric instruments* completed by the participants throughout their undergraduate practicum courses and in their second teaching year: the Teacher Efficacy Scale (TES; Gibson & Dembo, 1984; physical education modification, Metzler & Reif, 1986) and the Pluralism and Diversity Attitude Assess-

ment Scale (PADAA; Stanley, 1996). The TES consists of Likert scale items to which one responds from "strongly agree" (6) to "strongly disagree" (1). There are two subscales in the TES: Teaching Efficacy (TE; 7 items) and Personal Teaching Efficacy (PTE; 9 items). TE refers to a person's confidence in his/her ability to overcome contextual limitations to produce student learning, with higher levels of confidence shown with scores closer to 1.0. PTE indicates a person's confidence in his/her ability to produce student learning, regardless of context, with higher levels of confidence indicated with scores closer to 6.0. Internal reliability coefficients of 0.78 and 0.75 were found for the PTE and TE (respectively) subscales of the original TES (Gibson & Dembo, 1984).

The PADAA consists of 19 Likert scale items to which one responds from "strongly agree" (6) to "strongly disagree" (1). Four subscales make up the PADAA: Appreciates Diversity, Implements Pluralism, Values Pluralism, and Uncomfortable with Diversity. On the first three subscales, scores range from 5 to 30, with scores closer to 30 indicating higher appreciation for diversity and greater value for and willingness to implement pluralism. Scores on the fourth subscale range from 4-24, with scores closer to 4 suggesting higher levels of comfort with diversity. Stanley (1996) found an internal reliability coefficient (Cronbach's alpha) of 0.91, while the test-retest reliability was 0.84.

Data Analysis

Evidence of wash-out was sought primarily by examining the lesson videotapes, lesson plans, and psychometric instruments, but was supplemented by the other data sources. The videotapes and lesson plans provided a representative sample of the participants' teaching and planning skills and helped determine if these skills diminished from the participants' undergraduate levels. A lesson checklist and a systematic observation system were devised to analyze the videotapes, while the lesson plans were analyzed using a lesson plan checklist. Graduate student assistants were trained to code the videotapes and lesson plans, and reached an interobserver reliability level of 80% prior to coding. The participants' scores on the psychometric instruments upon exiting their pre-service program were compared to their scores in their second teaching year to determine if changes occurred.

Lesson checklist. As part of the previous study (Metzler & Tjeerdsma, 2000b), a lesson checklist was developed to detect the demonstration of certain preferred pedagogical practices (PPPs), including the use of the following: set induction, attention signal, student first names, positive feedback that is specific, checking for understanding, verbal and modeled cues, circulating during practice, equipment ready before class, pinpointing, closure, content question, fewer than five verbal crutches, and no inappropriate reference language. The checklist simply noted if a PPP was *observed, not observed*, or *not applicable* on the lesson videotapes.

Systematic observation system. To obtain a richer analysis of the videotaped lessons, a systematic observation system was developed (Metzler & Tjeerdsma, 2000b) to obtain event and duration recording utilizing the Noldus Observer™ software package. Learner engagement, in terms of percentage of time, was coded into the following categories: pre-class practice (e.g., instant activity or warm up), no practice/ listening, less than 50% practicing, or more than 50% practicing. Also recorded as a percentage of time was how class time was allocated, using the following categories: warm up/instant activity, management, set induction, task presentation, practice, closure/ review, and pinpointing. The practice category was further divided into dimensions of content development tasks (Rink, 2005): informing, extension, refinement, application, games/modified games (Metzler & Tjeerdsma, 2000b), and repeating. The teachers' verbal instructional interactions were coded using event recording using the following categories: cues, guides, skill feedback, and nonskill feedback. Finally, several other PPPs were

event recorded using the Noldus Observer™ software package, including five positive PPPs (checking for understanding, content/review questions, explain/ use of attention signal, student first name, safety reminders) and two negative PPPs (verbal crutches and inappropriate reference terms).

Lesson plan checklist. A checklist to assess lesson plans written by the teachers, and thus their planning skills, was devised based on the PPPs described earlier (Metzler & Tjeerdsma, 2000b). Twelve items were coded as being *evident, not evident*, or *not applicable* on the lesson plans: lesson objective, activity list, content development, set induction, task presentation plan, key cues, space allocation plan, safety plan, more than 50% active, closure, time plan, and equipment list. A thirteenth item, to determine if the lesson planned was developmentally appropriate for the grade level indicated, was coded as *not at all*, *somewhat*, or *fully*.

Qualitative data analysis. The other documents, interviews, and field notes were analyzed by the two researchers using the workplace conditions framework (Lawson, 1989). Each researcher separately searched the data sources for concepts related to the four categories. The researchers then compared their findings, discussing and negotiating their results until full agreement was reached. The trustworthiness of the data analyses was ensured in four ways: (1) member checks of the qualitative data were conducted by having the participants review transcripts of their interviews, as well as review findings from the study; (2) two researchers performed independent analyses of the data; (3) a deliberate search for confirming or conflicting evidence of wash-out and workplace conditions was performed by both researchers; and (4) the use of multiple data sources and visits by the first researcher greatly enhanced the trustworthiness of the findings.

Results

Extent of Wash-out

Evidence suggesting wash-out. Several sources suggest that Roxie and Dean did experience wash-out in some areas. The average percentage of desirable items evident in the written lessons plans declined from their elementary student teaching (Roxie = 81%; Dean = 88%) to their first teaching year, when each planned separately (Roxie = 45%; Dean = 35%), as well as their second teaching year, when they planned together (35%). At graduation, Roxie's Teaching Efficacy (TE) score was 2.29, while Dean's was 2.00; however, by their second year of teaching, both Roxie's and Dean's TE scores had risen to 2.86. Since lower TE scores indicate higher confidence levels, this shows both participants were slightly less confident in their abilities to overcome contextual limitations in their second teaching year than when they graduated.

The PADAA scores showed some interesting differences between the two teachers. On the three subscales in which higher scores mean higher agreement with a factor, Roxie's scores all declined from program exit to her second teaching year. She had less appreciation for pluralism (exit = 30; second year = 27), less value for pluralism (exit = 30; second year = 26), and was less willing to implement pluralism (exit = 28; second year = 21). Moreover, her scores on the remaining subscale (in which lower scores indicate higher comfort with diversity) increased (exit = 5; second year = 10), suggesting that Roxie felt less comfortable with diversity in her second year than when she graduated. On the other hand, Dean's scores on the PADAA subscales suggested that he had slightly higher levels of appreciation (exit = 23; second year = 27) and value for diversity (exit = 23; second year = 27), while his willingness to implement pluralism (exit and second year = 24) and comfort level with diversity (exit = 8; second year = 6) changed little.

The results of the systematic observations show a couple of areas in which the teachers appeared to experience wash-out (see Tables 1-3). Allocated management time increased and set induction time decreased from pre-service to post-graduation for both teachers (Table 1). There was less variety in the types of tasks students completed post-graduation than pre-service; both teachers did informing tasks in pre-service, but not post-graduation, while Roxie did refining and application tasks pre-service but not post-graduation (Table 1). Regarding student engagement time, Roxie had less time in which 50% or more of the students were active post-graduation than pre-service (Table 2). Both teachers had fewer instructional interactions (e.g., cues, guides, feedback) per minute post-graduation than pre-service (Table 3). In addition, field notes showed that Roxie often failed to keep her back to the wall, a pedagogical practice emphasized in their PETE program.

Evidence against wash-out. Other sources did not provide evidence of wash-out. The checklist for the lesson videotapes found that Roxie and Dean actually exhibited more PPPs post-graduation than pre-service. Out of the thirteen items, Roxie averaged 11 PPPs and Dean 11.33 PPPs in their post-graduation lessons, while Roxie averaged 9.5 PPPs and Dean 7.5 PPPs during their elementary methods course. Task presentation time decreased for both teachers from pre-service to post-graduation (Table 1), and both teachers had students listening/not practicing for less time in lessons post-graduation than pre-service (Table 2); these data suggest the teachers became more efficient in providing instructional information during their induction years. Dean maintained a relatively high percentage of time in which 50% or more of the students were active (Table 2). The rate of negative PPPs was fewer for both teachers in their post-graduation lessons than their pre-service lessons, while Dean also displayed a higher rate of positive PPPs post-graduation (Table 3). Moreover, when asked in their last interview to rate the importance (on a scale of 1-10, 10=high) of nineteen pedagogical skills from their PETE program, both participants rated all but three skills 9 or 10. Thus Roxie and Dean still believed that the things they learned in their pre-service education were important to good teaching.

Other evidence against wash-out can be seen in the psychometric surveys. The Personal Teaching Efficacy (PTE) scores of Roxie and Dean indicated that their confidence in their teaching skills, apart from context, increased slightly from graduation (Dean = 3.89; Roxie = 5.56) to their second teaching year (Dean = 4.33; Roxie = 5.78). As mentioned earlier and shown by the PADAA scores, Dean appeared to have slightly higher levels of appreciation and value for diversity post-graduation than pre-service.

Factors Contributing to Wash-out

Several factors in the participants' workplace conditions could have contributed to wash-out. One organizational factor was the fact that neither participant had a gym in which to teach or any equipment for most of their first teaching year. This was before their new school was ready, while they were teaching alone. Another organizational factor that could have led to wash-out was the lack of prestige and respect for physical education that the participants' perceived. For instance, the gym in the new school was not air conditioned. When Dean was told by the janitor to close the doors that went from the gym to the school because the cool air was being sucked out of the school, Dean commented, "PE's last of the line. In everything. Everyone else has a computer, too. We don't" (field notes, 5/2/00).

A situational factor that could have contributed to wash-out for these participants was their fellow teachers. Roxie and Dean believed that the classroom teachers did not think physical education was on the same level as other subjects, "…because they don't have a concept of what it is or how important it is or what we are trying to do with the kids" (Roxie, 4th interview). Roxie further noted, shortly after moving into the new school, that the classroom teachers from Dean's school did

Table 1. Class allocation time (in percentage of total class time)*

Category	Dean		Roxie	
	Pre-service	Post-graduation	Pre-service	Post-graduation
Warmup/Inst. Act.	0.00	5.88	0.00	6.14
Management	10.51	29.58	23.65	41.43
Set induction	5.55	2.70	7.56	1.18
Task Presentation	25.03	10.35	29.58	16.02
Practice				
Informing tasks	6.77	0.00	11.87	0.00
Extension tasks	31.28	44.91	4.24	33.15
Refinement tasks	0.00	0.00	5.17	0.00
Application tasks	0.00	0.00	11.76	0.00
Games	0.00	0.00	0.00	0.00
Repeating	0.00	0.00	0.00	0.00
Closure	9.67	6.59	6.18	2.08

*Numbers reported are the average of all lessons coded either pre-service or post-graduation.

Table 2. Student engagement time (in percentage of total class time)*

Category	Dean		Roxie	
	Pre-service	Post-graduation	Pre-service	Post-graduation
Pre-Class Practice	0.00	5.57	0.00	6.27
No Practice/Listening	59.81	49.27	66.79	60.63
< 50% Active	0.00	3.31	8.70	17.27
= or > 50% Active	40.19	41.85	24.51	15.84

*Numbers reported are the average of all lessons coded either pre-service or post-graduation.

Table 3. Instructional interactions and positive and negative PPPs (in rate/minute)*

Category	Dean		Roxie	
	Pre-service	Post-graduation	Pre-service	Post-graduation
Total Instructional Interactions	4.44	3.23	4.84	2.81
Positive PPPs	0.91	1.63	1.40	1.34
Negative PPPs	2.10	0.41	2.27	1.04

*Numbers reported are the average of all lessons coded either pre-service or post-graduation.

not trust her at first (fieldnotes, 4/16/00; 2nd interview). Dean also commented that the physical education teachers at the elementary school where his students were housed for the first seven months caused him to question his methods: "They'd see me doing things, and they're like, 'why are you doing that?' Then I get to thinking, am I doing this right…?" (2nd interview).

A unique situational factor found that may have negatively impacted Roxie's first year was a particular subculture of students. In Roxie's second interview, she described a subset of fifth grade girls who were "not accepting of me at all" and "resented me having any control over the classroom…" This was primarily because this group of girls thought Roxie was "in their territory" and that they were "very territorial about Dean". These girls may have had a crush on Dean and did not like Roxie working so closely with him, so they resisted Roxie and the activities she taught. Such resistance might have led Roxie to change her teaching methods and activities.

One personal-social factor that could have led to wash-out was the participants' desire for student acceptance and enthusiasm. In Dean's 2nd interview, he stated, "I think we will get lynched if we don't start basketball soon…Every class that came in here… 'When are we going to play basketball?'" Fieldnotes (5/4/00) and the videotaped lessons show that basketball passing, dribbling and shooting were later done with grades 2-5, even though these were not appropriate activities for young children.

Factors Inhibiting Wash-out

Several factors in the workplace conditions could have worked to inhibit wash-out in these participants. One of the strongest factors seemed to be team teaching with someone from the same PETE program, a situational factor. Dean said it was nice "…having somebody there to discuss things with…We talk back and forth, and she's got great ideas, and she says, 'yeah, that's a great idea'" (2nd interview), while Roxie said, "His strengths seem to be my weaknesses and his weaknesses seem to be my strengths" (1st interview).

Three organizational factors seemed important in preventing wash-out: the new gym and equipment that the participants had when they reached their new school, the strong support both participants perceived from their principal, and the control they had over what and how they taught. The new gym and equipment these two teachers had when they got to their new school seemed to overcome the lack of equipment and facilities experienced by these two teachers for most of their first year.

Both Dean and Roxie mentioned in several interviews and informal conversations (documented in field notes) that their principal was very supportive of them and gave them maximum control over what and how they taught. Dean said about the principal: "Just anything that I need if I ask her…And she said, 'I'll back you in anything like the parents.' And I've had things like kids saying that things happened that didn't happen and she was very supportive with the parents" (1st interview). The principal actually put Roxie in charge of scheduling the physical education classes and the other specials (art, music), which allowed Roxie to control which grade levels came, when, and with what other classes. Moreover, Roxie said that the principal refused when several classroom teachers asked the principal to tell the two physical education teachers how to run their field day at the end of the first year (2nd interview).

An important personal-social element that probably helped reduce wash-out was the fact that both participants were proactive in counteracting some of the negative factors that may have contributed to wash-out. For instance, before getting to their new school, Roxie and Dean both borrowed equipment from their former cooperating teachers, which helped overcome the lack of equipment (1st and 2nd interviews). Even though assigned mentors were supposed to be teachers within the school, Dean requested that his mentor be his cooperating teacher from student teaching, who taught in a neighboring school in the same school district (1st interview). Furthermore, in response to the distrust she felt from some teachers, Roxie said, "I really went out of my way to get to know all the teachers and talk to them and make them feel comfortable with me" (2nd interview).

Discussion

Purpose #1: Extent of Wash-out

The first purpose of this study was to determine the extent of wash-out in two beginning physical education teachers using systematic observation systems, documents, and field notes. As mentioned earlier, two other explanations for any negative change in instructional skills or beliefs by beginning teachers, besides wash-out, could be a weak teacher education program (so skills and beliefs were never actually acquired) or a teacher education program that espouses innovative instructional methods but actually promotes more traditional means (Zeichner & Tabachnik, 1981). We are relatively certain that any negative changes we observed were due to wash-out because: (1) there is considerable research-quality evidence for the effectiveness of this teacher education program, at least with its pre-service teachers (see Metzler & Tjeerdsma, 2000a); and (2) graduates of this program report a high level of knowledge about models-based instruction (an innovation emphasized in this program) and that their colleagues who graduated several years earlier from other programs did not have this knowledge and taught more traditionally (Gurvitch & Blankenship, in press).

The results showed that these teachers appeared to experience wash-out of some instructional skills and beliefs but not others. Graber (1998) also found that some things learned by a beginning high school teacher in her PETE program were washed out (e.g., implementing assessments), but others were not (e.g., commitment to student learning). Similar to these teachers, other researchers found that beginning teachers spent more time managing students than student teachers (Freedman, 1985), and that as a teacher moved from pre-service to full-time teaching, the variety of tasks planned for decreased (Barrett, Sebren, & Sheehan, 1991). Other findings that suggest wash-out include a decrease in lesson plan PPPs, decreased confidence in their ability to overcome contextual limitations, and fewer instructional interactions. Roxie seemed to exhibit more signs of wash-out than Dean. Evidence that wash-out did not occur include: more PPPs and a lower rate of negative PPPs in lessons, greater efficiency in task presentations, more confidence

in their overall teaching skills, and high importance placed on the pedagogical skills learned in their PETE program. An examination of the workplace conditions might help explain why some things washed out but others did not.

Purpose #2: Workplace Conditions

The second purpose of this study was to determine the workplace conditions, in light of Lawson's (1989) framework, that may have influenced the extent of washout. Several workplace factors that seemed to contribute to washout have also been found in previous research. Similar to Roxie and Dean's comments about the lack of prestige and respect for physical education, other beginning teachers have lamented about the marginalization of physical education (O'Sullivan, 1989; Solmon et al., 1993; Smyth, 1995; Stroot et al., 1993; Williams & Williamson, 1995; Wright, 2001). Lack of respect by classroom teachers is a common complaint of beginning teachers (Fejgin et al., 1995; O'Sullivan, 1989; Solmon et al., 1993; Smyth, 1995; Stroot et al., 1993). Gold (1996) describes students as major determinants of teacher socialization, and that if students' values (like for certain activities) are different than the teacher's, induction can be negative. Like Roxie and Dean, Smyth (1995) found that students' responses did affect beginning teachers' curricular offerings and teaching methods.

Several other workplace conditions emerged that may have led the participants to complete wash-out, but that did not occur. Some elements began as negative and possibly could have resulted in total wash-out became positive, and probably inhibited wash-out, when the teachers moved into their new school and were able to work together. Specifically, these elements included their fellow physical education teachers and the equipment and facilities.

For much of their first year of teaching, Dean and Roxie taught alone. In Dean's initial situation, there were fellow physical education teachers that questioned his methods and activities. If that kind of situation had continued, that may have led to more wash-out than what was seen. Other studies found that having fellow physical education teachers who teach differently than the beginning teacher can be discouraging for that first year teacher and may affect how they teach (Smyth, 1995; Stroot et al., 1993). But that negative factor was removed when Roxie and Dean moved into their new school. Then they had the opportunity to plan lessons and teach together. Team teaching seemed to remove the sense of isolation that other beginning teachers have discussed (O'Sullivan, 1989; Solmon et al., 1993; Smyth, 1995; Stroot et al., 1993; William & Williamson, 1993; Wright, 2001). As Smyth (1995) found, having teaching colleagues can be either positive or negative. Colleagues could actually contribute to wash-out if they subscribe to a "roll the ball out" philosophy that differs from the beginning teacher. On the other hand, teaching colleagues may help inhibit wash-out if they are supportive of what and how a beginning teacher is trying to teach and they have similar goals of student learning. In this study, the fact that these two teachers were from the same PETE program, thus spoke the same language, had the same goals for student learning, and were very supportive of each other really worked to inhibit wash-out. Gold (1996) emphasized that beginning teachers need support from colleagues the first few years of teaching to enhance their induction. This study points out that the support can come from fellow beginning teachers; it doesn't have to be experienced teachers.

Another element that changed once Dean and Roxie got to their new school was the equipment and facilities available to them. For most of their first teaching year, neither teacher had a gym in which to teach, nor equipment of their own with which to teach. If this had continued, we may have seen more wash-out in Roxie and Dean's teaching skills. Instead, the new gym and all the equipment they had when they moved to their new school let them teach what they wanted and how they wanted, an important factor in preventing

wash-out. Previous studies have also found that the equipment and/or facilities first year teachers had affected what or how they taught (Smyth, 1995; Solmon et al., 1993).

One workplace factor that may have contributed to wash-out for Roxie actually emerged when the two teachers began teaching together at their new school: the subgroup of fifth grade girls that were jealous of Roxie for working closely with Dean. Fortunately this factor disappeared when the teachers began their second teaching year, since these girls had moved on to the middle school. But this subgroup clearly bothered Roxie, and may have resulted in more wash-out if they had been around longer.

Other workplace conditions that may have inhibited wash-out for Roxie and Dean are confirmed in the literature. Like these teachers, previous research shows that support from administrators (O'Sullivan, 1989; Smyth, 1995; Stroot et al., 1993) and a sense of control (Smyth, 1995; Solmon et al., 1993) are important factors for beginning teachers. Similar to Roxie and Dean, Smyth (1995) described a first year teacher who was quite proactive about "…promoting both himself as a member of the school community and his subject matter as part of the curriculum" (p. 207), which can work to negate many of the negative workplace conditions that may be present.

Implications

For PETE Programs and Beginning Teachers

While the nature of the study limits sweeping generalizations, the results suggest several things PETE programs and beginning teachers can do to help prevent wash-out. PETE programs should educate pre-service teachers about workplace conditions related to wash-out that they may encounter when they graduate. Let pre-service teachers know that it will be difficult to teach using the effective pedagogical skills and methods they have learned when: their students initially reject their new methods, fellow physical education teachers want them to "roll out the ball", neither classroom teachers nor parents value physical education, administrators do not support their new methods, or there is little equipment or space. But besides merely telling pre-service teachers about these challenges, specific strategies for inhibiting wash-out should be conveyed to them.

One strategy PETE programs can teach their student teachers is what to look for and questions to ask when they interview for a job. Obtaining information on the following can help student teachers determine if the school at which they are interviewing has the workplace conditions that would inhibit wash-out:

- Ask the principal his/her view of the purpose of physical education (to determine if student learning is valued, or is physical education simply a place to keep students busy) and how he/she supports physical education;
- Ask to see the current curriculum and/or lesson plans (again, to determine if student learning is valued);
- Talk with current physical education teachers (if there is more than one) and/or classroom teachers and ask them about the purpose of physical education (to determine if their philosophies are similar, and if physical education is valued);
- Ask about parent views of physical education, or if possible, ask for names of parents to contact about the physical education program;
- Find out who does class scheduling, and how much control/input the teacher would have in such decisions;
- Ask to see the current facilities and equipment for physical education, future plans for facilities, priority of use for physical activity spaces, and the budget for equipment purchases.

Of course, often times beginning teachers end up taking positions at schools that do not have the ideal workplace conditions to inhibit wash-out. One lesson learned from this study is that teachers need to be proactive in counteracting some negative workplace conditions they might encounter

that could lead to wash-out. Some strategies PETE programs could teach pre-service teachers to use if they are caught in such a school situation include:

- Find your own support. Keep in contact with your classmates and faculty from your PETE program, join physical education list-serves, seek the advice of local physical educators (even if they are not from your school) or your cooperating teacher;
- Join your state and national physical education organizations, attend conferences, and regularly get on websites like PE4Life and PE Central;
- Create a website or monthly physical education newsletter to send out to parents, fellow teachers, and administrators. In this website or newsletter, explain your philosophy of physical education, the activities students are performing and the skills/content they are learning, assessment techniques, statistics supporting your approach, the state and/or national standards for physical education, etc.
- Invite parents, administrators, and other faculty to visit your physical education classes so they can see what the students are doing and learning;
- Make a conscious effort to get to know faculty from other areas in your school; ask about ways you can reinforce lessons they are teaching while students are in physical education, and in turn, suggest ways they could reinforce physical education content in their classrooms;
- If your school is lacking equipment, approach the school's parent organization about conducting a fund-raiser for money to purchase additional equipment. Or borrow equipment from near-by schools.

For Future Research

Several implications for future research emerged from this study. One limitation of this study was the possible contextual differences between the pre-service lessons that were videotaped and coded and the lessons coded during the induction years. The pre-service lessons were only 12-15 minutes long and taught to 10-15 learners (some of whom were adults), while the induction lessons were 40 minutes long and taught to 40-45 children. The decline seen in some instructional skills might be due in part to teaching longer lessons to more students. Future studies should compare more similar lessons, like lessons taught during student teaching with the induction year lessons; a clearer view of the extent of wash-out might then be obtained.

The common practice of team-teaching in physical education needs further examination, in order to determine the conditions under which team-teaching may help inhibit wash-out in beginning teachers. For instance, team teaching at different levels (e.g., elementary, middle and high school) could be compared, as well as team teaching when the teachers' philosophies differ. This study focused primarily on the teachers' perceptions of their workplace conditions, along with perceptions of the researchers' obtained by observations. Future research might examine other school participants' perceptions of physical education and physical educators who teach in new ways, including principals, classroom teachers, students, and parents. Such information might reveal more specific means of enhancing the workplace, and inhibiting wash-out, for beginning teachers. For instance, all of the above participants could be asked about the purpose of physical education and what they would do if a new physical educator taught differently than what they expected. Such information would reveal the degree of resistance the novice physical educator might experience and actions those participants might take to resist any innovative actions.

Lawson's (1989) workplace conditions framework was chosen to examine factors that might contribute to or inhibit wash-out in these beginning teachers. However, another theory that holds promise for investigating the phenomenon of wash-out in novice teachers is the diffusion of

innovation theory (Rogers, 1995), since it is often the new, innovative methods of instruction that are washed out during the first years of teaching. According to this theory, various change agents (e.g., colleagues, students, administrators, parents, cooperating teachers) and change agencies (e.g., organizational factors, teacher education programs, social system norms, professional organizations) influence whether or not teachers choose to implement instructional innovations they have learned. Examination of these change agents and agencies might shed light onto why instructional skills and methods learned in PETE programs are washed-out or not.

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