Educational Psychology in Teacher Education

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Abstract

Over the years, educational psychology has been a part of teacher preparation, moving from a center piece in many programs, through periods when it was deemed irrelevant by some, to current concerns about its role in the reforming of teacher education and teaching. Today psychological knowledge is used to ground reforms in teaching and schooling, particularly the call for teaching for understanding. Current standards for teacher certifications and licensure and suggestions for reform in teacher education assume that teachers will have a deep and generative understanding of learning, development, motivation, and individual differences. This paper explores several themes that recur in the writing on reforms and teacher standards: the need to place learning at the center of teaching, the call for integrated studies, and the value of collaboration with the public schools. These themes have both positive and negative implications for the role of educational psychology in teacher education.

Educational Psychology in Teacher Education[1]

For years, I have been interested in the role of educational psychology in teacher education (Woolfolk, 1989, 1993, 1994, Woolfolk Hoy 1996a b, c, d; 1997a, b; 1998a, b; in press, Woolfolk Hoy & Murphy, in press; Woolfolk Hoy & Tschannen-Moran, 1999). Discussions with colleagues across the country suggest that many share this concern. The overarching goal of this is paper is to examine the past and present status of educational psychology in the preparation of teachers. I focus on three themes that recur in the writing on teacher standards and reforms--themes that have implications for *what* about educational psychology teachers should learn and *how* that learning should take place. The themes are: (a) the centrality of student learning in teaching, (b) the call for integrated studies, and (c) the value of collaboration with the public schools.

This examination begins with a brief glance at the history of educational psychology in teacher education, then moves to consider how the content and focus of educational psychology have changed over the years as both teacher education faculty and students demanded greater relevance, application, and utility from the study of educational psychology. Next I look to the future by analyzing selected perspectives on standards and reforms in teaching and teacher preparation--most written by educators and policy makers outside educational psychology. What messages do these views of the future hold for our field? In many of these reform agendas are affirmations of the importance for teaching and teacher education of topics historically studied by educational psychologists, such as learning, development, motivation, and individual differences. Although few teacher educators or policy makers over the years have questioned the value of psychological knowledge, there is less agreement

about what exactly should be learned or how the learning should take place.

The third part of this paper focuses on the three reform themes listed above. The first theme, student learning as the center of teaching, has implications for what educational psychology should be taught. The last two themes, integrated studies and collaboration with the schools, are related to how the learning of educational psychology might take place. I suggest a few opportunities and dangers in embracing these reforms and then conclude by describing challenges for educational psychology in teacher education.

A Look Backwards

As Berliner (1993) noted, long before there was educational psychology, there was thinking about psychology and education. Plato and Aristotle discussed topics still studied by educational psychologists today--the role of the teacher, the relationship between teacher and student, methods of teaching, the nature and order of learning, the role of affect in learning. The method of Socratic questioning is a current popular topic in inservice teacher development programs. In the 1500s, Juan Luis Vives had some very contemporary thoughts about psychology and education such as the value of practice, the need to tap student interests and adapt instruction to individual differences, and the advantages of using self-comparisons rather than competitive social comparisons in evaluating students' work. In the 1700s, Comenius introduced visual aids in books and teaching and proclaimed that understanding, not memorizing, was the goal of teaching.

Hilgard (1996) observed that some of the writings of European philosophers and reformers such as Rousseau, Pestalozzi, Herbart and Froebel have a familiar contemporary ring for educational psychologists--for example, Pestalozzi's stress on the value of activity and Herbart's' emphasis on prior experience and interest. In fact,

Herbart's five-step approach to pedagogy sounds quite current. The steps are: (1) preparation (of the learner's mind), (2) presentation, (3) association and comparison, (4) generalization or abstraction, and (5) practical application.

Before psychology developed in the United States, the influences of Pestalozzi and Herbart reached America schools through the efforts of school administrators such as William Harris, superintendent of the St. Louis public schools from 1868 to 1880. Harris suggested that, consistent with Herbart's theories, what is wanted in education is not so much sense-perception as apperception-- "not so much seeing and hearing and handling things as recognizing and understanding them" (1893, p. 417). In today's educational jargon, the translation would be that it is not so much "hands-on" as "minds-on" that is needed for student learning. Herbart's five-step approach later provided a frame for methods courses in normal schools for teacher training. Herbart's ideas took over pedagogy preparation with the formation of the Herbart Club at the 1892 meeting of the National Education Association in Saratoga (Hilgard, 1996).

Early Connections Between Psychology and Teaching

In 1886, James Sully published a book for teachers promoting faculty psychology and formal discipline, concepts developed by a group of Scottish philosophers. The idea was that the mind is composed of separate faculties--such as memory, judgment, or attention--that had to be strengthened, just as the muscles of the body had to be strengthened by exercise. The best "mental exercise" was study of the classics such as Latin, Greek, and mathematics. The assumed value of learning computer programming to improve logical thinking was a recent version of exercising the mind.

Enter the formal study of psychology in the United States. From the beginning,

psychology was linked to teachers. In 1890, William James at Harvard founded psychology in America and then followed with a lecture series for teachers entitled *Talks to Teachers about Psychology*. These lectures were given in summer schools for teachers around the country and then published in 1899 both as a book and in the *Atlantic Monthly* magazine.

James's student, G. Stanley Hall, founded the American Psychological Association and was its first president. His dissertation was about children's understandings of the world; teachers helped him collect data. Hall founded the child study movement in this country and encouraged teachers to make detailed observations to study their students' development--as his mother had done when she was a teacher (Ross, 1972). Hall's ideas about psychology influenced education through a journal he founded called *Pedagogical Seminary* and through courses in child study introduced into normal schools beginning around 1863 (Berliner, 1993; Hilgard, 1996). Hall's student, John Dewey founded the Laboratory School at the University of Chicago and is considered the father of the progressive education movement.

Another of James's students, E. L. Thorndike, wrote the first educational psychology text in 1903 and founded the *Journal of Educational Psychology* in 1910. Thorndike began a shift from the classroom to the laboratory to study learning--a shift decried by both James and Hall. Thorndike's view proved narrow as he sought laws of learning in laboratories that could be applied to teaching without actually evaluating their applications in real classrooms, but his approach defined the field (Berliner, 1993). It took 50 years to return to the psychological study of learning in classrooms, when the Soviet Union's successful launch of the first manned satellite, Sputnik, startled the United States and precipitated funding for basic and applied research on teaching and learning (Hilgard, 1996).

Developments in teaching continued to be closely tied to psychology in the first half of the 20th century. It was not uncommon for psychologists such as Thorndike, Judd, or their students to be both presidents of the American Psychological Association and authors of materials for teaching or assessing school subjects. For example, Thorndike developed methods that were widely adopted in his day for teaching reading and arithmetic and assessing reading, arithmetic, handwriting, drawing, spelling, and English composition. During this era, Cubberly proclaimed educational psychology a "guiding science of the school" (1919, p. 755).

Describing educational psychology from 1926 to 1956, Hilgard (1996) noted that "nearly all teachers in preparation took a course in educational psychology" (p. 998). During this time, there were two possible ways that prospective teachers might encounter educational psychology. The first was through a course and text that sought to replace general psychology with a "psychology for teachers" emphasis (e.g., Gates, 1923, *Psychology for Students of Education*). The second path was to follow an introductory psychology course with courses and texts that examined how psychology could be applied to specific classroom tasks such as teaching reading or mathematics--for example using Reed's (1938) *Psychology of Elementary School Subjects*.

The educational psychology requirement persisted until at least the mid 1970s when Thornberg stated that "Most teacher education programs require the beginning course in educational psychology which commonly focuses on how pupils learn and variables which influence the learning process. In addition, growth and development courses are commonly required" (1976, p. 86). Such courses are still common today, if not as widespread as requirements for learning to teach.

What Did Teachers Learn? The Content of Educational Psychology

To understand what teachers actually encountered about educational

psychology, we can examine both the content of texts and the foci of research in the field.

The movement toward relevance in texts. Table 1 summarizes the content of educational psychology for teachers from 1926 to the present, as defined by basic texts in the field (Ash & Love-Clark, 1985; Gaite, 1975; Hilgard, 1996; Watson, 1926). Many of the changes noted over time reflect directions in the field itself--a movement away from simply covering standard psychological topics to examining learning and teaching as they occur in educational settings. Ash and Love-Clark (1985) attributed many of the changes in text content and in emphases from 1954 to 1983 to a movement away from theory and toward the classroom--a trend toward *relevance* that has been part of the landscape of educational psychology in teacher preparation ever since. In 1970, Biehler published the first mainstream educational psychology text that was clearly applied in content and focus, entitled, *Psychology Applied to Education*. Application and relevance continue to be standards for judging educational psychology texts today, as indicated by the many text features that highlight teachers' contributions and classroom connections.

The movement toward relevance in research. In 1963, Carroll observed that educational psychology was "a discipline with a large, but by no means wholly realized potential for effective application, and we shall continue to teach educational psychology to teachers with a mixture of pious optimism and subdued embarrassment" (p. 119). One reason that the discipline had not realized its potential for effective applications could be traced to the lack of research on the problems of classroom teaching. In 1974, Brophy called for research in educational psychology "that has immediate practical application" (p. 46). He argued that psychology had produced theories and findings about learning when what was needed to inform

Table 1
Texts in Educational Psychology: Content and Changes over Time

	1926-1956	**1956-1975**
Content emphases in texts	•tests and measurement •psychology of school subjects •learning •teaching methods •brain physiology •heredity & instincts	•learning (behaviorism) •test & measurement •development •motivation •social/emotional issues
Changes from previous texts	Eliminated coverage of faculty psychology and formal discipline	•less on school subjects •less on brain physiology, •more on personality, counseling, development
	1975-1983	**1983--Present**
Content emphases in texts	•learning •development •individual differences •motivation •tests & grading	•learning •development •individual & group differences •motivation /management •teaching methods •assessment
Changes from previous texts	•less on mental health •less on personality adjustment •less on social/emotional issues •less on statistics •more on classroom management •more on exceptional children	•less on testing •less on intelligence •more on diversity •more on constructivism •more on psychology of school subjects

practice were theories and findings about teaching. Brophy asserted that, “the problem is not quality; it is relevance. By and large, we simply are not studying problems that are related to the needs of the classroom teacher” (p. 48).

This concern with relevance in research continued. Grinder (1989) listed withdrawal from education-based problems and irrelevance--the retreat to the laboratory and away from classrooms--as difficulties in the field. Klausmeier (1988) made a plea:

> for more research that is directed toward the improvement of the classroom, school, and school district processes of the schools that participate in the research. The future of educational psychology, more than any other specialized area of educational psychology, rests on its ability to solve educational problems through research. (p. 216)

The calls for relevance in educational psychology had an impact. Thirty years after he questioned the potential of educational psychology for effective application, Carroll was ready to claim that, “no longer must we be embarrassed about our potential contribution to educational practice; indeed, we should be openly forthright about the usefulness and validity of our claims” (Carroll, 1993, p. 90). Mayer (1992) agreed that educational psychology had met the challenge of relevance in research because cognitive research had turned to the study of subject matter knowledge and learning--topics that had been removed from texts for teachers by about 1956.

But not all educational psychologists agreed that the field had achieved relevance. As recently as 1998, Chase lamented:

> When I talk to my colleagues in the curriculum areas I sense that educational psychology has slipped farther and farther from their favor. They tell me that psychological theories have modest relevance to their work, that educational

> psychologists do not understand the classroom situation and on a practical level *we have not related theories to solving the problems teachers face every day*. (p. 239, emphasis added)

So the question of whether our theories and research are relevant remains unanswered, at least for some educational psychologists.

Summary

Educational psychology has contributed to the preparation of teachers for at least the last century through courses, texts, and teaching/testing materials. The relationship between educational psychology and teacher education has changed over time as educational psychology moved from a body of theory derived in laboratories that was assumed to apply to teaching to a field that directly studies many problems and tasks of classroom and subject matter teaching and learning. The content of educational psychology for teachers has also expanded, as shown in Table 1, to include not only the characteristics of learners and the processes of learning, but also settings and formats for teaching. As in the past, educational psychology continues to be challenged to be relevant and useful for teachers. Even though we are studying classroom learning, some observers question whether our findings are useful in the day-to-day lives of teachers.

What might it mean to be relevant today and in the future? Current reform efforts in K-12 schooling and in teacher education point to an important, changing role for educational psychology, and it is to these reform efforts that we turn next.

Current Reforms in Teaching and Teacher Education

To prepare now for the future role of educational psychology in teacher education, we could examine the recommendations for reforms and innovations in teaching and teacher preparation, then note how educational psychology can

contribute to accomplishing these recommendations. These reforms have implications for what about educational psychology should be learned (content) and how that learning should take place (process).

Reforming Schools

Howey (1996) surveyed the reforms and restructuring efforts in K-12 schooling to analyze the *views of teaching and learning* assumed in those efforts. His survey included the Edison Project, several proposals submitted to the Next Century Schools, projects of the New American Schools Corporation (specifically Roots and Wings), the Comer School Development Program, the Higher Order Thinking Skills Program, Levin's Accelerated Schools, Reading Recovery, the Foxfire Project, and the efforts of Sizer and of Hirsch.

Views of teaching and learning in school reforms. Prominent in Howey's conclusions are that reformed schools will depend on cohorts remaining together across multiple years. Cooperative learning structures will be central features of classrooms, learners will be interdependent, and learning will be characterized by group accountability and collaboration. The curriculum will embrace themes and interdisciplinary units. Standards will be clear and high with assessment closely coupled to these high standards. Traditional modes of learning, such as reliance on texts, will be replaced by inquiry, conceptual learning, use of electronic communications, interaction in multiple modes with the "real world," and other innovations. Learning goals will include attention to personal and social as well as cognitive, metacognitive, and academic development. Teachers will be expected to collaborate with parents, administrators, and each other. Interdependence, reciprocal learning, and learning communities are mentioned often as desirable features of teaching and learning. Thus areas of educational psychology that will be helpful for

teachers include knowledge about changes in student's thinking and metacognition over time; how to use dialogue, social interaction, and collaboration to support learning; the matching of different teaching methods to students' abilities and desired outcomes; communication skills; and how to assess multiple kinds of outcomes.

Teaching for understanding. The goal of many educational reforms today is "teaching for understanding." Certainly, understanding has always been the goal of thoughtful teachers, but the new emphasis on teaching for understanding has captured the imagination of educators and the public alike. Countless articles and books have appeared on the subject. For example, the entire February, 1994 issue *of Educational Leadership* was devoted to this topic. In their chapter on elementary teacher education curriculum in the second edition of the *Handbook of Research on Teacher Education* (a project of the Association of Teacher Educators), Ishler, Edens, and Berry (1996) tie cognitive and developmental psychology to teaching for understanding, The following segment from their chapter makes this case:

> To teach for understanding, teachers should have an appreciation for and deep understanding of human motivation, multiple intelligences, and diverse modes of performance. Such a view should ultimately require that teachers have rigorous grounding in the following:
>
> - Cognitive psychology, so that they understand how people learn
> - Developmental psychology, so that they understand when children are ready to learn particular things in particular ways
> - Learning theory and pedagogy, so that they can teach in developmentally and cognitively appropriate ways
> - Professional ethics, so that they can manage schools' competing agendas in ways that keep the best interests of students at the forefront of their actions.

(Ishler, Edens, & Berry, 1996, p. 361)

To many ears, this will sound like a preparation program thoroughly steeped in educational and developmental psychology. The level of rigor and range of knowledge implied in the above quote seems to exceed what has traditionally been available in one or two required educational psychology courses. Yet, as many of us know, teacher preparation programs are more likely to trim rather than expand the time devoted to the study of these topics. Again, this raises several questions for educational psychologists committed to the preparation of teachers. What about cognitive or developmental psychology is most valuable for teaching--what should be the content? There is some guidance about content in the standards set for licensing teachers.

Teacher Standards and Educational Psychology Content

Standards for teachers set by two groups, INTASC and NCATE, have implications for the role of educational psychology in the preparation of teachers. INTASC, the Interstate New Teacher Assessment and Support Consortium sponsored by the Council of Chief State School Officials, is working to make performance standards for the initial licensing of teachers across the states consistent with standards for advanced certification of highly accomplished veteran teachers being developed by the National Board for Professional Teaching Standards. By 1997, 35 states belonged to INTASC and about 24 had formally adopted some version of the INTASC standards (Darling-Hammond, 1999). NCATE, the National Council for Accreditation of Teacher Education, sets standards for teacher education programs. About half of the institutions that prepare teachers voluntarily seek the approval of NCATE (Howey, 1996; Roth, 1996). What do the INTASC standards for teacher licensure and NCATE standards for teacher education program accreditation say about the content of

educational psychology in the preparation of teachers?

INTASC: Beginning teacher licensure. The first version of the INTASC standards addressed the knowledge, dispositions, and performances seen as essential for all beginning teachers (later versions added subject-specific standards). The standards recommend that prospective teachers' subject-matter knowledge and knowledge about teaching and learning be assessed with paper-and-pencil tests at the end of preservice education and then *teaching performances* be assessed using portfolios during an internship or induction period (Roth, 1996). Examples of the INTASC standards that include concepts studied by educational psychologists are given in Table 2, along with standards for beginning teachers established by the National Association of State Directors of Teacher Education (NASDTEC) and the California Commission on Teacher Credentialing.

Table 2
Examples of Standards Describing Expectations for Beginning Teachers' Understanding of Psychological Principles

NASDTEC: Standard 3.0 curriculum
The beginning elementary teacher in the certificated teaching assignment analyzes and organizes into daily, weekly, monthly, and yearly teaching units developmentally appropriate, culturally sensitive, basic and higher-order, challenging, and integrated subject matter including, but not limited to, reading and language arts, mathematics... (NASDTEC, 1993. p. 23).

California standards for teacher education program approval: Standard 24
Each candidate prepares and uses instructional strategies, activities, and materials that are appropriate for students with diverse needs, interests, and learning styles. (Commission on Teacher Credentialing, 1992, p. 25)

INTASC standards for a beginning teachers (selected items)
Understands the central concepts, tools, and methods of inquiry related to discipline and how to create learning experiences that make theses aspects of subject matter meaningful for students;
Understands how children learn and develop and can provide learning opportunities that support their intellectual, social, and personal development;
Understands how students differ in their approaches to learning and creates instructional opportunities that are adapted to diverse learners;
Understands and uses a variety of instructional strategies to encourage students' development of critical thinking and problem solving;
Uses an understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation;
Uses knowledge of effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the classroom;
Understands and uses formal and informal assessment strategies to evaluate and ensure continuous intellectual, social, and physical development of the learner.

The INTASC standards "offer a conception of teaching that is linked to student learning" and use "performance-based modes of assessment" (Darling-Hammond, 1999, p. 245). These two aspects of the standards encourage teachers to evaluate their instruction in terms of their students' learning. In so doing, the teachers become more deeply involved in assessment--their students and their own. In addition to being assessed themselves, the new teachers also participate in other professional roles such as serving on committees that refine the teacher assessment tasks or analyzing exemplary practice to develop benchmarks and materials to help other teachers meet the standards. "Because evidence of the effects of teaching on student learning is at the core of these exercises, candidates and assessors are continually examining the nexus between teachers' actions and students' responses" (Darling-Hammond, 1999, p. 245). The emphasis in the standards on student learning and assessment points toward the first theme to be described later--the *centrality of student learning in teaching*.

The INTASC standards have been influential in their own right as guides for teacher licensure in many states, but these standards also have had an impact because they were incorporated into the NCATE conceptual framework standard.

NCATE: Teacher education program accreditation. In 1987 the standards of the National Council for Accreditation of Teacher Education were revised to require that teacher education programs *be grounded in knowledge about teaching and learning.* Then in 1994, NCATE incorporated the INTASC standards to define what beginning teachers should know and be able to do (Darling-Hammond, 1999). Today, NCATE includes in its Core Guidelines for Professional and Pedagogical Studies, standards requiring that teacher candidates complete a well-planned sequence of courses and/or experiences in professional studies in which they *acquire and learn to apply* knowledge about:

- theories of human development and learning;
- research and experience-based principles of effective practice for encouraging the intellectual, social, and personal development of students;
- variety of instructional strategies for developing critical thinking, problem solving, and performance skills;
- individual and group motivation for encouraging positive social interaction, active engagement in learning, and self-motivation;
- effective verbal, nonverbal, and media communications for fostering active inquiry, collaboration, and supportive interaction in he classroom;
- formal and informal assessment strategies for evaluating and ensuring the continuous intellectual, social, and physical development of the learner;
- the opportunity for candidates to reflect on their teaching and its effects on student growth and learning.

Clearly, the need for knowledge about learning, motivation, and development is an element in current standards for beginning teachers and the programs that prepare them. But it is also apparent that the emphasis is on *application* of this knowledge in the form of principles for practice, strategies, approaches, and communications and the effects of these applications on students' learning. The phrase "know and be able to do" appears frequently in the writings of teacher educators when they describe goals for beginning teachers.

Using educational psychology to meet standards. In a recent chapter on the Professional Knowledge-Research Base for Teacher Education, Christensen (1996) examined 42 self-study reports submitted to NCATE during the spring 1993 semester to determine how these institutions responded to the NCATE standard that the teacher

education program be based on "essential knowledge, established and current research findings, and sound professional practice" (NCATE, 1992, p. 47). Christensen concluded that:

> The knowledge bases found in this review included the traditional forms of scholarly inquiry and theory development. A broad array of quantitative and qualitative research studies was evident. There was also an impressive base of theoretical works representing a large number of scholars. Learning theories, cognitive psychological theories, measurement and evaluation theories, and many others were noted. (p. 49)

When teacher education programs identify a knowledge base to meet standards, theory and research in psychology are there. But the demand for relevance and the emphasis on application, often coupled with state expectations for *more knowledge* (about phonics, diversity, disabilities, subject matter, technology, etc.) gained through *fewer credit hours* has challenged educational psychologists to make better cases for what we have to offer teachers and how knowledge of educational psychology per se truly prepares teachers to meet the standards for beginning licensure and advanced certification. One group who can help us identify the most useful educational psychology content for teaching is teachers themselves.

The Content of Psychology: What Do Teachers Think?

What do experienced teachers think about the role of educational psychology in their own preparation? Two recent surveys provide some information. Cound, Iran-Nejad, Winsler, Harrison, Riccio, and Carter (1996) surveyed teachers in Alabama about the importance of 28 topics typically covered in educational psychology. As is often the case when researchers ask about the value of information from educational

psychology, almost every topic was rated at least “somewhat important” or 3 on a 5-point scale. In addition, all respondents rated knowledge about learning, motivation, and development as 4 or 5. The concern with application and relevance that has been a part of educational psychology for teachers since the mid-twentieth century was also apparent. All respondents agreed that “Behavior management techniques and dealing with students’ emotional and behavioral problems” should be included as topics. About 70% of the respondents strongly agreed that “The content of educational psychology courses should be more authentic and should be more integrated with real-life / hands-on classroom experiences.” About 50% agreed or strongly agreed that “Content of educational psychology courses should include practical, specific strategies for motivating children.”

In 1990, as part of the redesign of the NTE, the Educational Testing Service completed a national survey of 355 randomly selected teachers representing all grades and subjects and geographic areas (Reynolds, Tannenbaum, & Rosenfeld, 1992). The focus of the survey was principles of teaching and learning. The respondents rated the importance of 64 statements describing key understandings for a beginning teacher. Understandings were grouped into five categories: Human Development and Learning, Curriculum Planning and Design, Management of the Learning Process, Assessment of the Learning Process, and Professional Issues Related to Teaching and Learning. The top six understandings were: how to select motivational techniques, how to use different disciplinary styles, repertoire of teaching strategies, relationship of instructional activities to learning characteristics, affective development stages / patterns, and climate for learning.

The teachers in this survey would like educational psychology to help them design learning activities that match their students’ characteristics, then gain and

maintain the students' engagement in those activities. In addition teachers seek ways of supporting the social and emotional development of their students. These teachers want help in doing the basic work of teaching and are less concerned about implementing the reforms described by Howey (1996).

Shuell noted that the first two entries in the Educational Testing Service survey list above stress "how to" connect psychological knowledge to teaching decisions and actions (how to select motivational techniques, how to use different disciplinary styles). The next two on the list involve actions and connections as well (having a repertoire of teaching approaches and connecting the approaches appropriately to the students) (personal communication, September 30, 1996). A focus on the uses of knowledge for action is a challenge to the ways that educational psychology typically has been taught (Anderson, Blumenfeld, Pintrich, Clark, Marx, & Peterson, 1995). This challenge brings us to a second concern--the process of teaching educational psychology. This process will be affected by larger reforms in teacher education.

Reform in Teacher Education and the Process of Learning Educational Psychology

After examining the reform literature on teacher preparation and standard and examining innovative programs at nine different institutions, Ishler, Edens, and Berry (1996) conclude by stating five framing conditions for preparing elementary teachers. The elementary teacher education curriculum should:

> "be conceived as a fluid continuum of professional development, developed collaboratively by both public school and university professionals." (p. 372)
>
> "be interdisciplinary, integrated, problem-oriented, socially constructed, and student centered." (p. 372)
>
> recognize that an integrated curriculum "may be most suited for preparing

elementary school teachers to teach a multitude of different subject matter to diverse students." (p. 373)

"draw upon and integrated studies approach in order to narrow the conceptual and practical gaps between theoretical and practical training as well as between administrators and teachers." (p. 373)

"provide opportunities to develop technological competence, which can serve as a learning bridge for students from diverse cultures and for those who possess different learning styles and for teachers who must assess students in multiple ways." (p. 374)

The themes of *integrated studies* and *collaboration with public schools* are prominent.

In suggested reforms for preparing middle and secondary school teachers, the same themes of integration, interdisciplinary curricula, and collaboration recur (Beane, 1993; Perrone & Traver, 1996). Some educators suggest that the curriculum to prepare middle level teachers should blend a concern for adolescent development with an examination of critical problems, themes, or issues facing young adolescents. Interdisciplinary learning, collaboration, and authentic assessment are elements that occur frequently, as shown in Table 3.

Table 3

Recommendations for Strengthening Middle Grades Teacher Preparation

Rank	Recommendation
1	Greater understanding of early adolescent development with special attention on responding to cultural and language diversity, more coverage of how to involve parents/family members and community resources in young adolescents' schooling.
2	Greater variety of developmentally responsive teaching and assessment techniques, especially cooperative learning, interdisciplinary curriculum and team teaching, student exhibitions, and portfolios.
3	Middle grades teacher education should expose first and second year preservice middle grades teachers to extensive experiences in effective and successful middle grades schools with a diversity of young adolescents.

Source: Adapted from P. Scales & C. K. McEwin (1994). *Growing pains: the making of America's middle school teachers*. Columbus, OH: National Middle School Association and Center for Early Adolescence.

In the *Handbook of Research on Teacher Education* (Sikula, 1996) chapters on secondary teacher preparation for English, language arts, and reading; mathematics; science; and social studies advocate greater collaborations between public school and university professionals in the preparation of teachers. The chapter describing alternative routes to licensure notes that many alternative programs claim to be superior to standard university programs because the alternative routes base preparation on internship and apprentice models and therefore have closer ties to practice. Thus the theme of closer ties to real classrooms recurs throughout these chapters on the preparation of secondary teachers.

Whether we listen to the standards for beginning teachers and teacher

preparation programs, the voices of teachers themselves, or calls for reform in teacher education, three themes recur that should influence the content and process of teaching educational psychology: the *centrality of learning* in teaching, the value of *integrated studies*, and the need for *collaboration with the public schools*. Each theme holds both opportunities and dangers for educational psychologists committed to the preparation of teachers.

The Centrality of Learning in Teaching

Clearly, there is a focus on student learning--understanding--that runs through all the K-12 reform efforts and teaching standards, as evidenced by the interest in assessment and in the standards requiring new teachers to evaluate the effects of their teaching on student learning. Where learning is central, educational psychology has much to offer. But in educating prospective teachers about learning, we face a significant challenge--helping our students distinguishing between learning and teaching. When I ask my educational psychology students to describe the process of learning, they tell about hands-on activities and creative, interesting teachers. When I ask them to draw concept maps of learning, they often create networks that look more like maps of teaching. Research indicates that many prospective teachers believe that engagement in interesting activities is learning (Woolfolk Hoy & Murphy, in press).

But the students are not alone. Much of the talk in the professional literature about constructivism in learning is really about teaching strategies and approaches. For many teacher educators, teaching methods are central. For example, Doyle and Carter (1996) contend that the vision of Anderson and her colleagues (1995) of a situated approach to the teaching of educational psychology

> sounds like a plea for what has traditionally been called *methods* in teacher education. There is a history in teacher education that would define a

> method as an action frame grounded in an argument about educative purposes, the nature of content, and fundamental characteristics of learners and learning, and a basic assumption of methods instruction is that experience in using the methods is essential to the acquisition of proficiency. Such instruction has been going on for years in teacher education and in student teaching. (p. 26)

I am struck by the rapid transformation of the insights of educational psychology about the complexities of learning and teaching into a belief that methods embody all that is needed to create learning. But is this surprising? After all, teachers need what Korthagen and Kessels (1999) call action-guiding knowledge that provides "quick and concrete answers to situations in which they have little time to think" (p. 5) rather than general abstract knowledge that is several steps removed from action. Methods seem to provide these guides for action. If prospective teachers assume that certain teaching methods (such as manipulatives in math or projects in science or using portfolios with integrated units) almost guarantee learning, then it could follow that these prospective teachers simply need more authentic experiences with children (their needs and learning styles) and methods (to fit those styles). I would prefer to prepare teachers who focus more on learning than on method. I have argued that if you understand how students learn and you understand the subject, you can *invent* teaching methods.

So what about learning (or development or motivation) should be learned? The answer might require making a distinction between what Korthagen and Kessels (1999), following Aristotle, have called episteme and phronesis. Epistemic knowledge consists of general and abstract conceptions that apply to a wide range of situations--theory with a big T (Kessels & Korthagen, 1996). When most educational psychologists

think about theories of learning, they are thinking about epistemic knowledge. Phronesic knowledge, on the other hand, is theory with a small t; it is situation-specific and related to the context in which a teaching problem is experienced. Whereas episteme is conceptual, phronesis is perceptual and focuses attention on features of the situation that will suggest appropriate action. Korthagen and Kessels (1999) say that "*episteme* aims primarily at helping us to *know* more about many situations, while the emphasis of *phronesis* is mostly on *perceiving* more in a particular situation and finding a helpful course of action on the basis of strengthened awareness" (p. 7, emphasis in original).

Ball (1997) makes a similar distinction when she says that teachers need two kinds of knowledge about students. They need "understandings of students in general--patterns common to particular ages, culture, social class, geography, and gender; patterns in typical student conceptions of the subject matter" (p. 773). But teachers also need to know their own students. "Face to face with actual children who are particular ages and gender, culture and class, teachers must see individuals against a backdrop of sociological and psychological generalizations about groups" (p. 273). It is in knowing specific children against the backdrop of general patterns that educational psychology has work to do. Too often it seems that prospective teachers either apply psychological formalisms such as praising all student work to "build the child's self-esteem" without regard to the specifics of the work or the child (Pajares & Graham, 1998) or the prospective teachers jettison the psychological theory as useless as soon as they encounter real students (Woolfolk Hoy & Murphy, in press).

So what about learning is worth teaching in educational psychology? Our texts are filled with epistemic knowledge about learning. Alexander and Murphy (1998) have synthesized the 12 learner-centered principles developed by the American

Psychological Association's Board of Educational Affairs into five principles that provide an excellent frame for organizing epistemic knowledge about learning:

- *The Knowledge Base Principle*: What we already know "is a scaffold that supports the construction of all future learning" (Alexander, 1996, p. 31). Existing knowledge determines to a great extent what we will pay attention to, perceive, learn, remember, and forget by guiding organization and representations, providing associations for new information, and coloring and filtering all new experiences.
- *The Strategic Principle:* The ability to monitor and regulate thought and behavior is essential for learning.
- *The Motivation/Affect Principle:* Goals, attributions, intrinsic motivation and other motivational factors along with characteristics of the learning task play an important role in learning.
- *The Development Principle:* Even though no two individuals develop identically, learning proceeds through common stages of development influenced by both inherited and environmental/experiential factors.
- *The Context Principle:* Learning is both socially and individually constructed.

To develop phronesic knowledge about learning, prospective teachers need first to experience the fact that methods do not magically produce learning for every child. This usually happens fairly naturally the first time prospective teachers try to teach, but the insight can be deepened if they are asked to document what each child learned as a consequence of the activity. Using the above five principles to analyze these connections between teaching and learning might prove helpful.

Ball (1997) has written powerfully about how to listen to the learning of specific children through observation of their verbal and nonverbal communications and

through collaborative analyses of teaching transcripts, videotapes of class interactions, or students' products. Korthagen (1985, in press) has designed a model of reflection and teacher education that increases teachers' abilities to relate theory to practice and develop phronesic knowledge. Another possibility is to devise tasks and assignments that give prospective teachers experience in the kinds of performance assessments they will encounter in the INTASC standards that require documenting the impact of their teaching on student learning. As they connect teaching and learning, we can supply texts, readings, research studies, websites, and other educational psychology resources that provide tools for analysis and assessment. It is not necessary to decide in advance which theories or studies are the most useful--the prospective teachers can select the tools that best fit their current understandings and needs.

This final option of documenting the impact of teaching on student learning might best be accomplished as a joint assignment in educational psychology and teaching methods courses--which leads to the next theme.

A Theme in Reforming Teacher Education: Integrated Studies

Both NCATE and NASDTEC emphasize the need for elementary teachers to be able to integrate the curriculum. Similarly, "the integration of learning is a key emphasis at the middle level" as noted in Table 3 earlier (Williamson, 1996). In the brief survey of K-12 reforms described above (Howey, 1996), teaching with themes and interdisciplinary units is a common thread running through many innovative structures. Barone, Berliner, Blanchard, Casanova, and McGowan (1996) describe visionary classroom practice as integrative and holistic.

What is good for younger students is seen by many teacher educators as good, even necessary for prospective teachers as well. NCATE asserts that teachers ought to be prepared through the "integration of pedagogy with content in a majority of the

program courses." Such integration is consistent with the Holmes Group recommendations. The Spring 1996 issue of *Action in Teacher Education*, a publication of the Association of Teacher Educators (ATE), is entirely devoted to "Curriculum Integration in Teacher Education." In the preface to the issue, Ishler (1996), then president of ATE, called curriculum integration "one of the most pervasive themes of the restructuring movement in education today" extending from early childhood through higher education. While acknowledging Dewey's advocacy of integration, Ishler attributed much of the current interest to "the expanding knowledge from cognitive science that increases our understanding of how we build knowledge structures that help us learn new information" (p. v).

Ishler noted that the *Handbook for Research on Teacher Education* is filled with talk of curriculum integration. She went on to describe themes of integration in the chapters on elementary, middle-level, and secondary teacher education curriculum. Howey (1996), in his *Handbook* chapter on designing coherent and effective teacher education programs, advocated the use of themes to connect course, laboratory, and field experiences.

What does this mean for teacher education? Ishler called upon teacher educators to "bring teacher education practices in line with integrated practices in the schools" by providing courses that "integrate general studies with professional education and content knowledge with pedagogy," by providing models of interdisciplinary teaming--special and regular education; teachers, parents, and interprofessional agencies.

A number of institutions have integrated educational psychology with other courses in teacher preparation. What are they learning?

The Bright Side

Research on curriculum integration is growing in educational psychology (see Harris & Alexander, 1998, Special Issue of *Educational Psychology Review*). In addition, there have been some successes integrating educational psychology with other courses in teacher preparation. It was clear at the 1996 conference on Teaching Educational Psychology sponsored by the American Psychological Association's Division of Educational Psychology that a number of programs are making headway here. It was also clear that integration takes a tremendous toll on time and energy.

To carry the integration of knowledge and skills throughout the courses and into the field placements in my program at Ohio State, we designed several tasks that cut across content and time. Based on evaluations from students and cooperating teachers and our own assessment, the most successful tasks were: (a) preparation of an early teaching videotape that provided context for discussions of learning, management, and motivation; (b) designing an integrated unit that students planned in the fall and winter and taught during student teaching. In a major paper for educational psychology, students analyzed the match between their plan and the learning, development, and motivation needs of their students; and (c) a shared book on classroom management, utilized across classes, but examined in depth in the Pedagogy class.

The Dark Side: Integration Without Parts Makes Holes Rather Than Wholes

I take this heading from a comment by Winne (personal communication, September 25, 1996) as he read an earlier draft of this paper. Both his comments and my observations over the years suggest that prospective teachers are drawn to instances and pictures of practice, rather than to concepts, principles, or theories that might allow them to reason about or invent practice. Rather than exercising knowledge

in constructing adaptive skill, they are drawn to the end product of the enactment--the skill as it looks in a particular situation. The complaint that courses are too theoretical, the popularity of cases as teaching tools, the esteem for field experiences--all attest to the allure of products and pieces of practice.

But transfer is elusive. As many a student teacher has found, the simple enactment by the student teacher of an instance of the cooperating teacher's management practice may have unpredictable effects on the students. A collection of instances is useful as a guide to action only to the extent that the prospective teacher can engage in mindful abstraction across the instances (Mayer & Wittrock, 1996; Salomon & Perkins, 1989). To guide learning to teach, cases, as Shulman (1992) reminds us, must be cases of something--instances of something more general. With time, intelligence, interest, persistence, and fortune, the prospective teacher may construct useful principles of development or learning that approximate the insights of Piaget, Vygotsky, Skinner, Bandura, Bruner, or others--but this is not likely in the press for the practical found in most teacher education programs. So, without the parts (provided by a reasonable understanding of principles of learning and development offered by such psychologists as those above), the prospective teacher is likely to integrate instances into an understanding that is more hole-filled than holistic and more mindless than mindful (Barone et al., 1996).

A Related Theme: Collaboration with the Public Schools

There is another theme in some of the writings about teacher preparation--the closer the preparation experience to actual classroom life, the more "situated" the learning, the better. More than one writer has recommended that college professors and courses move into the public schools and that "much of what passes now for method instruction should take place in actual school settings with professors joining

their students in instructing K-12 pupils" (Howey, 1996, p. 161). One of the recommendations for improved middle-grades teacher education programs by Scales and McEwin (1994) is that these programs be conducted at the school site as much as possible and involve considerable collaboration between middle school and university faculties. Of the 20 or so institutions represented at Division 15's 1996 conference on teaching educational psychology, at least one had such a structure in place.

Learning From Experience: Seeing Beneath the Surface

As the table of contents for the section, "School Curriculum and Psychology," in the *Handbook of Educational Psychology* (Berliner & Calfee, 1996) shows, much of the current exciting research in educational psychology is on the learning of school subjects--a topic left behind in educational psychology texts after about 1956. Mayer (1992) made the same point several years ago. But how do we connect what we as educational psychologists know about the learning of subjects to the teaching of those subjects, when teaching subjects is increasingly seen as something you learn to do by standing "at the elbow" of a teacher? If, as Grimmitt and MacKinnon (1992) suggest, college methods instruction takes place in actual public schools settings with the university professors joining their students in teaching K-12 pupils, how would the prospective teacher benefit from educational psychologists' understanding of the learning of subjects? Must we be standing there too--and what exactly does this mean? At what point are students "overcoached" and under-educated? Without an understanding of the concepts and connections that explain how teaching can affect learning, the prospective teacher sees only surface features at the elbow of the even the most expert teacher. And given the tacit knowledge that characterizes expertise, expert teachers often have difficulty explaining their actions to novices.

With extensive fieldwork, the prospective teacher has many experiences and

instances of teaching to reflect upon but little to reflect with--no theoretical frames to use in categorizing, interpreting, and ultimately explaining what happened and why (McCown, personal communication, September 15, 1996). Without such an explanatory frame, the learning is more than situated--it is frozen in time and place and of little use in constructing future practice. Barone et al. (1996) suggest that one important source of the strong professional's understanding is "the scientific knowledge generated in sociology, educational psychology, anthropology, economics, and research on teaching, to name a few..." (p. 1125). They go on to describe *theories to think with*, such as expectancy X value theories of motivation or the American Psychological Association synthesis of contemporary psychological theories of learning and motivation (APA, 1995); *concepts to classify with*, such as academic learning time, zone of proximal development, or authentic assessment; *pedagogical technologies*, such as reciprocal teaching, anchored instruction, or reading recovery; and *findings to check out*, such as wait time effects, the value of advance organizers, or the impact of kindergarten retention. These theories, concepts, technologies, and findings are frames for reflection that allow students to weave a rich and strong tapestry of understanding from the instances of experience.

The Context of the Practical

There is another potential problem with taking the study of teaching into "real classrooms." For the almost 30 years that I have been involved with teacher preparation, there have been calls for earlier, longer, and more frequent field experiences. At times it seemed as though field experience--integration of academic content with "real teaching"--is seen as the key to teacher preparation. Our program at Ohio State certainly has extensive and integrated field work, with students in a school all year, from three days a week in autumn to full time during student teaching. But a

year-long internship causes as well as solves problems. Students often feel overwhelmed and exhausted. They have responsibilities in their field placement and responsibilities in our classes, weekly meetings with school-based focus groups and weekly meeting in interprofessional seminars. The field-placement requirements seem more immediate--more emotionally, physically, and mentally demanding than college course work. This *context of the practical* coupled with tremendous time pressures often undermines our efforts to help students move beyond seeing teaching as a collection of activities and instances. Borko and her colleagues (1992) made similar observations in their extensive case study of a prospective elementary teacher.

In the pervasive context of the practical, students ask why we are withholding information or wasting their time on topics they cannot *apply* tomorrow morning when they again face real children. Reading, reflection, and inquiry about learning and teaching are seen as frivolous luxuries. As Feinem-Nemser and Buchmann (1986) noted over a decade ago, the lessons the field settings teach are not always the best preparation for becoming a thoughtful teacher.

Many of the arguments for moving teacher preparation to the graduate level assumed that a four-year undergraduate program did not provide enough time to educate competent teachers (Woolfolk, 1989). But at least there was some time for understanding and reflecting on a body of knowledge, without the extensive time pressures of constant field commitments. Intensive, field-based graduate programs, particularly the shorter ones, can become an overcorrection to the separation of theory and practice in many traditional four-year undergraduate programs.

Conclusions

This has been a long journey--from the early uses of educational psychology in the preparation of teachers to current integrations and future concerns. As a discipline

committed to understanding and improving education we have several challenges at this stage in our history.

Challenges for Educational Psychology

The press is likely to continue to integrate educational psychology into and across other courses and subjects in teacher preparation. One reason is that teaching with themes and curriculum integration are valued in K-12 teaching. Many teacher educators will insist that these approaches be modeled for prospective teachers in their preparation programs. Also, integration seems to be an answer to two perennial problems in teacher education--"covering" more topics and standards in fewer hours and making learning more authentic. It may be especially important for educational psychologists to make the case that teacher education is different from K-12 schooling and need not mimic it in every way (Putnam & Borko, 1997), but we also need to develop and test appropriate ways to integrate educational psychology across other teacher preparation courses and field experiences.

A second challenge will be to situate learning without having understanding pushed out by the situation--by the dazzle of doing and the press of the practical. We must insist, for example, that if cases are used in teacher preparation, then they must be cases of something and that mindful abstraction rather than "tricks" collection is the goal of working with cases. Time is the enemy here because reflection and abstraction take time.

A third challenge is to identify the theories to think with, concepts to classify with, pedagogical technologies, and findings to check out (Barone et al., 1996) that are truly useful for beginning teachers. Alexander and Murphy's (1998) five-learner centered principles is one place to begin. It is around these theories, concepts, technologies, and findings that teacher preparation courses can be integrated. The

educational psychology component in every teacher preparation program could study what use prospective teachers make of these theories, concepts, technologies, and findings in their practice. Another possibility is to map the theories, concepts, technologies, and findings that will help beginning teachers achieve the performance standards of the Interstate New Teacher Assessment and Support Consortium.

A final challenge is to consider how we can make the processes of learning and motivation as apparent and accessible to students as the methods and techniques that they are drawn to. In our research we have powerful examples of students' learning as exemplified in students' words or products, but this research format is seldom utilized by prospective teachers. Unfortunately, for example, we have few good videotapes showing student learning--the focus of the camera is almost always on the teacher.

Appreciated, Integrated, Appropriated, and Out?

I end with this concern. If integration is the wave of the future in teacher preparation, how do we as educational psychologists contribute, collaborate, and connect without being integrated, appropriated, and then abandoned? Although being abandoned is unlikely given our contributions to the understanding of learning and the emphasis in teaching standards on learning, the possibility exists as states add more requirements to preparation programs. Too often I have seen this dilemma solved by eliminating classes and experiences that fall outside the departmental boundaries of curriculum and instruction or teacher education. If this solution becomes more general, there will be less need for educational psychology graduate students to participate in teacher education. Not only will these students miss valuable experiences, but educational psychology programs will lose financial support for doctoral students. Where will the new psychological knowledge about learning,

motivation, teaching, and development come from as educational psychology in teacher preparation, the base of many doctoral programs, is integrated, appropriated, and then abandoned? Will teaching reform and standards for teaching be frozen in current views of learning and development? How do we participate fully in the culture of teacher education without losing our identity, traditions, language, knowledge, and power to contribute?

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