

Teaching Educational Psychology to Develop Creative and Transformative Teachers

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ABSTRACT: In recent years, there has been much discussion about the content, pedagogy, and purpose of educational psychology. Specifically these discussions have focused on identifying the essential components, concepts, and theories that should be associated with educational psychology courses as well as how to make educational psychology relevant to future teachers. While these issues are important, they are nonetheless difficult to address and are often influenced by the context of the school communities. We suggest educational psychology should help prepare teachers to be creative decision-makers in their classrooms and school communities. In other words, educational psychology should help future teachers adapt and function successfully in any school environment. This perspective highlights the artistic nature of teaching informed by Sternberg's Triarchic Theory of Intelligence and Transformative Teaching. In this article, we present an overview of scholars' perspectives on educational psychology and share our experiences teaching educational psychology courses with a creative decision-making approach.

Résumé: Ces dernières années, beaucoup de discussions sur la teneur, la pédagogie et le but de la psychologie enseignante, ont eu lieu. Ces débats ont spécifiquement été axés sur l'identification des composants essentiels, des concepts et des théories qui devraient être liés aux cours de psychologie enseignante pour les futurs professeurs. Bien que ces buts soient importants, ils n'en restent pas moins difficiles à aborder et sont souvent influencés par le contexte des communautés scolaires. Nous pensons que le cours de psychologie enseignante devrait aider les professeurs dans leur préparation à prendre des décisions créatives au sein de leur classe et de leurs communautés scolaires. En d'autres termes, la

psychologie enseignante devrait épauler les nouveaux instructeurs à s'adapter et à réussir dans n'importe quel environnement scolaire. Cet aspect souligne le côté artistique de l'enseignement. Sternberg nous le révèle dans «La Théorie triarchique de l'intelligence et de l'enseignement évolutif.» Dans cet article, nous survolons aussi les points de vue des connaisseurs sur la psychologie enseignante et nous faisons partager notre expérience en expliquant le contenu des cours de psychologie enseignante avec une approche créative quant à la prise de décision.

Whether embedded in teacher education methods courses or taught as a separate foundations course, teacher educators agree that psychology in education (also known as educational psychology) plays an important part in educating preservice teachers. Despite this consensus, there is much variation in the content and process of teaching educational psychology. So much so, that in recent years teacher educators as well as other educational scholars engaged in a healthy discussion about the content and purpose of educational psychology in teacher credential programs (Anderson, Blumenfeld, Pintrich, Clark, Marx, & Peterson, 1995; Heinen, Sherman, & Stafford, 1990; Marshall, 1996). The discussion centered around two broad themes: (a) how to make educational psychology ever more relevant to preservice teachers (Anderson et al., 1995; Shuell, 1996; Rocklin, 1996) and (b) how to include more contemporary theories in the course offerings (Marshall, 1996; Strauss, 1996). These themes give rise to difficult questions: (a) Should there be a standard curriculum for educational psychology and, if so, what should it be? (b) What are the best instructional practices for educational psychology courses? and (c) What should be educational psychology's primary goal and how should it fit within teacher credential programs?

Although we have opinions regarding these questions, we do not have definitive answers. We believe that any discussion that focuses on content or practice ignores the important element of the artistry of teaching. Although educational psychology has had a strong research oriented and, therefore, scientific background (see Aspy, 1970), we believe that reconceptualization of educational psychology should emphasize the artistry of teaching. Elliot Eisner (2002) eloquently wrote, "The missing ingredient [in teaching education] pertains to the crafting of action, to the rhetorical features of language, to the skill displayed in

guiding interactions, to the selection and description of an apt example. In short, what is missing is artistry" (p. 382). For Eisner, artistry lies in the teacher's "ability to make judgments about the feel and significance of the particular" (p. 382). Sternberg (1999b, 2000) refers to this as creativity, the process of decision making. Likewise, we believe that educational psychology should not only present relevant theory and teach for practical utility, but also become a tool that facilitates making effective real-time decisions about the teaching and learning process; educational psychology should facilitate the artistic nature of teaching.

In this paper, we have three main goals. First we summarize the discussion about educational psychology and its implications to the art of teaching. Second, we demonstrate the utility of a creative decision making approach to the teaching of our educational psychology courses. Finally, our paper concludes with implications of creative decision making in teacher education content and instructional activities.

What is Educational Psychology?

What Should be the Curriculum?

What foundational concepts, theories, and/or ideas should we present to preservice teachers? This question typically boils down to a theory versus practice and the depth versus breadth debates. First, discussions focus on how much theory should we present in an educational psychology course. Originally, schools of education designed educational psychology courses as a means of using psychological concepts and theories to conceptually organize classroom phenomena (Doyle & Carter, 1996; Eisner, 2002). Teacher educators presented various cognitive and motivational theories to legitimize the educational practices of the time by working to provide predictability to classroom behavior and student achievement. In so doing, Doyle and Carter write that educational psychology increasingly devalued classroom teachers' knowledge and experiences as well as overwhelmed preservice teachers by the lack of directly applicable theory. As a result, teacher educators reflected, revised, and revamped their educational psychology courses, increasingly focusing on practicality. With this shift, educational psychology courses focused on one of the most difficult issues for preservice teachers – classroom management (Anderson et al., 1995). This focus promoted greater linkages between field-based instruction, student teaching, and the theories of psychology (Grinder, 1971; Young & Beiner, 1978).

Debate also surrounds which of the many psychological theories should be presented in teacher education programs. Should the course include only contemporary theories that represent widely accepted notions of learning, or should we present the widest possible range of theories? Often this dilemma comes down to the question of breadth versus depth. On the one hand, Marshall (1996) makes a case for the first position: that we should discuss in depth only contemporary theories. He argues specifically for the movement away from traditional, information processing psychological theories towards a more constructivist approach to learning and teaching. A constructivist approach, Marshall suggests, considers the environmental contexts of the classroom as well as the unique life experiences of each human being within the classroom. He reasons that this theoretical approach, therefore, offers the most in terms of legitimizing the unique experiences, behaviors, and ways of knowing of diverse students. On the other hand, Heinen et al. (1990) argue the second position: that we should present the widest possible range of theories. They suggest that encountering a variety of theories offers opportunities for multiple interpretations of classroom phenomena as well as a source through which preservice teachers can locate their beliefs. That is, the breadth of educational psychology content acts as a tool for promoting deeper understanding of teaching and learning. This approach presumes to make no value judgements about the correctness or the applicability of theories. Instead, this approach aims to allow teachers to confirm and adjust their beliefs based on views of a wide spectrum of psychological research.

Of course, the answers to this curriculum question proposed within the literature may differ dramatically from what educational psychology instructors actually practice. Scholars and educators can identify the core components of an educational psychology course but what is actually taught depends on the instructor. As Marshall (1996) points out, instructors of educational psychology largely teach in the same ways they learned from their own instructors. In addition, Hoy (1996) and Rocklin (1996) suggest that the "what to teach" debate should fully consider the context in which educational psychology instructors teach these courses. Hoy writes that factors such as when the course is taught and the nature of other courses within a teacher education program often influence the content of educational psychology courses. Rocklin

also suggests the dual influences of class size and instructors' college and pre-college (i.e., K-12) teaching experience on course content.

We believe that the wider school-community context can influence course content by insisting teacher education programs prepare teachers for specific realities of classrooms. For example, if graduates from a teacher education program primarily teach in districts that focus on guided discovery, then educational psychology instructors are pressured to craft constructivist-based curricula. Conversely, if local school districts tend to employ traditional direct instruction (e.g., only phonics-based reading instruction), then teaching a constructivist approach in an educational psychology class may pose some practical conflicts. Similarly, if local K-12 teachers tend to use extrinsic motivators, this may pressure instructors to improve practical application through the inclusion of behaviorist theories. It is important, therefore, for educational psychology instructors to reconcile these potential conflicts in order to best prepare future teachers for the realities of the school environment.

How to Teach Educational Psychology?

The content of educational psychology syllabi relates to defining the best practices for teaching those courses. We believe that as changes occur within educational psychology curriculum, there should also be changes in the methods by which curricula are taught. The media, therefore, should reflect the message. In fact, some educators argue that pedagogy has a greater influence on the relevancy of educational psychology to teacher education than does content (see Rocklin, 1996; Timm, 1987). In choosing pedagogical techniques, instructors sometimes begin with a general question, "Is it more effective to present the information using more teacher-centered (i.e., lecture) or student-centered approaches?" When dispensing information to a large number of students, lecture formats prove the better choice (Timm, 1987). In addition, lecture remains popular among higher education faculty. Yet, the best method of information dispersal does not necessarily equal the best method for information comprehension and understanding. The educational psychology instructor, as a result, must resolve the tension between best effective practices for learning and teaching, and the context of their university environment.

What is the Purpose of Educational Psychology?

Defining the goals of educational psychology naturally builds on the issues of best content and pedagogy. Traditionally, teacher education programs used educational psychology courses as a means of providing preservice teachers with foundational knowledge that aids their classroom teaching (see Anderson et al., 1995; Dewey, 1896). These programs called preservice teachers to apply their knowledge of educational psychology during their methods courses and student teaching. Other conceptions of educational psychology's role reflect a more constructivist approach. For example, Shuell (1996) suggests that educational psychology should facilitate preservice teachers' abilities to make professional pedagogical judgments. Furthermore, Hoy (1996) states that the course should produce specific classroom-based actions by teachers. These educators and scholars emphasize that educational psychology should prove useful and have practical implications for classroom decision-making. This goes beyond simply encouraging students to apply educational psychological concepts to describe classroom phenomena. These positions find their basis in educational psychology, serving as a tool – an artistic tool in the classroom.

The artistry of teaching has no greater application than the transformative nature of teaching. In other words, we believe that the art of teaching proves most useful when teachers must negotiate the socio-cultural factors that impact their teaching, their curricula, and their school. Marylyn Cochran-Smith's (1995) notions of teaching against the grain as well as Gloria Ladson-Billings' (1995) descriptions of "culturally relevant" teaching both provide excellent examples of the creative and transformative aspects of teaching. Cochran-Smith (1995) describes how preservice teachers develop an awareness of the politics of teaching. Although she does not teach educational psychology, her method and content apply to all teacher education courses. In her language and learning class, she challenged preservice teachers to find creative ways to meet the demands of social justice as well as the realities of school politics. Gloria Ladson-Billings (1995) descriptions of exemplary teachers of African American students in *The Dreamkeepers* highlight the practical application of this creative decision making. For example, Ladson-Billings describes teachers who promote literacy in nontraditional ways. Realizing that the basal readers failed to inspire student reading, these teachers made connections with students by using alternative texts, such as rap lyrics and language found on

everyday products. In this way, they challenged common notions of what constitutes and how to develop literacy. These teachers' creative decisions, however, reflect actively assessing and problem-solving in a manner that goes beyond what theory can predict and what conventional teachers would prescribe. Their active problem solving transformed the cycle of reading failure and redefined literacy so that students could succeed.

The above examples illustrate how a transformative instructional attitude and approach benefits teachers, students, and their school communities. The described actions not only reflect an integration of psychological theory and educational practice, but also include creative problem solving. Robert Sternberg strongly advocates such an approach in his Triarchic Theory of Intelligence (1999a, 1999b, 2000). He suggests that each person processes information in three ways: analytically, practically, and creatively. Analytical processing involves a critical examination of information, text, events, or activities. Practical processing requires finding the relevancy of information and applying that knowledge to a real situation. Finally, creative processing necessitates generating new ideas or knowledge. Sternberg's description of the analytical process parallels the theoretical roots of educational psychology. In traditional educational psychology courses, instructors encourage preservice teachers to approach teaching analytically, based on best practices from existing research. The practical patterns in these courses naturally relate to the practical emphasis of traditional educational psychology. Therefore, instructors provide preservice teachers with strategies portrayed as effective teaching methods. Yet, Sternberg's Triarchic theory of Intelligence demands more than simply providing strategies. It emphasizes the importance of encouraging preservice teachers to employ creative decision making.

Our emphasis on the creative process derives not only from the theoretical and practical parameters of Sternberg's triarchic theory, but also from the sociocultural need for social justice. That is, teachers must be creative decision-makers in order to serve as change agents who, when necessary, critique and challenge the status quo. Therefore, instructors should consciously bring a social justice emphasis to a subject area that historically rigidly perpetuated social inequities.

The remainder of the manuscript explains how we combine Sternberg's Triarchic Theory of Intelligence with educational psychology content in order to bring an understanding of social justice to teaching and learning. We design our own educational psychology courses to meet

the theoretical versus practical balance by including an analytical (theoretical) and practical components in our construction of instructional activities. This is a common endeavor for instructors who teach educational psychology to preservice teachers. We, however, add a creative decision making component designed to facilitate a transformative approach to teaching for social justice.

A Case Example of a Creative Focus in Educational Psychology

In this section, we would like to share how we emphasize the creative aspects of teaching in our educational psychology course. To facilitate understanding of what we do, we will begin with a description of the context in which we teach. The first author of this paper teaches elementary school (multiple-subjects) preservice teachers and the second author teaches secondary school (single-subjects) preservice teachers at San Diego State University. Both types of courses are typically situated in what is called a "block" curriculum. That is, educational psychology is a part of a block of courses (i.e., methods, classroom management, professional seminar) that a cohort of 20 to 30 students takes together throughout their programs. There are about eight cohorts running during any one semester. Most blocks run for one academic year at the end of which students earn a preliminary credential.¹ Educational psychology is usually taught first in the sequence of courses.

Each cohort block has a leader whose responsibility is to schedule classes, coordinate the curriculum, and place students in their student-teaching assignments. The entire faculty, however, generally decides most of the program requirements. In designing our courses, we work with other educational psychology instructors to decide what should be the core content within the courses. In addition, our decisions are influenced by the demands of each block leader and the entire teacher education faculty, the California Commission on Teacher Credentialing, as well as the local school communities. Because San Diego County, the area which we serve, is diverse geographically (urban, rural, and suburban), ethnically, economically, and linguistically, all of our classes are charged to address diversity in all its forms. In addition, the California Commission on Teacher Credentialing requires that our courses address the Teacher Performance standards. These standards provide relatively specific content that all teacher credential programs in California must integrate within their coursework. Faculty members

within our department have also insisted that lesson planning be introduced in educational psychology courses.

Since all instructors ultimately get to construct their own courses, we have embraced the challenge of incorporating the aforementioned influences in a way that enables us to facilitate an analytical, practical, and creative understanding of teaching and learning that is social justice oriented. Our educational psychology courses focus primarily on contemporary theories while assessing and challenging preservice teachers' prior beliefs about teaching and learning. In our courses the social justice perspective is best exemplified with our focus on lesson planning, ethnic identity development, and collaborative learning. As we discuss these three components of our courses, we will delineate how we facilitate an artistic and creative approach to teaching (i.e., Sternberg's analytic, practical, and creative processing).

We operationally define Sternberg's processing in the following ways. For analytic processing, we view this as comprehension and analysis of relevant concepts and constructs related to educational psychology and teacher education. The practical process comes to the forefront when students learn specific, often traditional skills and instructional practices associated with educational psychology and teacher education. Finally, we define creative processing or creative decision making as the transformative aspect of teaching. This is where preservice teachers are encouraged to use their analytic and practical processing skills to generate non-traditional instructional practices that transform the classroom into an equitable learning environment that focuses on social justice.

Emphasizing the Art of Lesson Planning

We designed the major topics in our courses to facilitate an analytical, practical, and creative understanding of teaching and learning, using lesson planning as the cornerstone through which we address each of these topics. This approach allows us to make practical connections within our courses. Through that format, other more theoretical issues of educational psychology can be illuminated, including motivation, development, and assessment. Therefore, the first topic in our course involves the investigation of the purpose, form, and function of a lesson plan. We begin the discussion with an analytic exercise; we ask students to share their preconceived notions about the purpose and form of a lesson plan. Students' responses mainly focus on the function of a lesson plan, such as helping teachers' prepare for instruction or providing a

recipe of instructional steps. We also ask students to engage in a practical exercise to design what they think would be key components of a lesson plan format if, for example, they were teaching 5th grade students about metaphors in poetry. Some lesson plans designed by students resemble the five or six step lesson plans typically prescribed by many teacher-education instructors. Other times, however, formats look very different and include additional features, like a focus on students' prior knowledge or ability levels. Invariably our students' plans assume that their instructional activities will easily engage all students. We challenge preservice students' beliefs by encouraging them to think about the effectiveness of the lesson plan in terms of their students' diverse backgrounds, especially with language and ethnic backgrounds that are different from the teacher.

Our line of questioning generally raises the level of ambiguity and tension about the form and function of a lesson plan. The goal is for students to construct a sense of purpose as well as knowledge about lesson plans in a way that will increase utility. In other words, we want students to focus less on what the lesson plan looks like and focus more on designing their own lesson plans that consider the needs of the students and curricula. This approach proves extremely useful whenever students encounter instructors who require differing lesson plan formats for their respective classes. In such instances students would often become confused by all the variations in lesson plan formats until we helped them focus more on the function of the lesson plan versus its form. With such guidance students are able to view each type of lesson plan format in terms of benefits it offers them in creating meaningful lessons for their students.

Motivating Students Creatively

Classroom management is perhaps the most worrisome skill that preservice teachers must develop and implement in student teaching. As such, educational psychology typically addresses this concern by focusing on motivational theories (Joram & Gabrielle, 1998). Yet, effective classroom management is rooted in effective and relevant learning activities (Newby, 1991; Kohn, 1993). In other words, the best way to manage a class is to create meaningful and relevant learning activities for students. We attempt to design an analytical, practical, and creative process for preservice teachers to learn the importance of preparing a lesson plan, especially for poorly motivated and low-performing students.

We begin this instruction unit with the entire class engaging in the analytical process of reflection and critique of preservice teachers' preconceptions of motivation. We ask our students to brainstorm some strategies for motivating students and sort them into groups that best exemplify either extrinsic or intrinsic strategies. Such sorting usually reveals that there are roughly three times more extrinsic than intrinsic strategies listed on the board. We ask preservice teachers to surmise reasons for such an outcome. They usually state reasons such as having more familiarity with extrinsic motivational strategies and students, the ease by which to implement extrinsic strategies, and effectiveness of extrinsic strategies in producing immediate results. Then, as a class, we consider some challenges and complexities to using extrinsic rewards (Deci, Koestner, & Ryan, 2001). Some students confess that they are aware of the many pitfalls of extrinsic rewards, but do not know how to engage in more intrinsic strategies.

From this point, we have students engage in a practical and analytic exercise to explore and illustrate other possible ways of motivating students to approach school tasks (Linnenbrink & Pintrich, 2002). They do this by reviewing excerpts from Mike Rose's (1995) *Possible Lives* and Gloria Ladson-Billings (1995) *The Dreamkeepers* that describe teacher environments and instructional practice. Students identify and evaluate the motivational strategies demonstrated by teachers in these case studies as well as generate additional techniques to evaluate as a class. Preservice teachers' analyses of these excerpts reveal strategies that help students feel capable to do the task, including creating clear directions and providing help when appropriate.

Another practical aspect of the motivational unit encourages students to use what they learned to actually plan a lesson. Students have found scenarios useful because they provide a contextualized way to consider practical educational knowledge (Hoy, 1996). Although Anderson et al. (1995) make the point that scenarios are limited in their ability to generalize across a variety of events and behaviors, we argue that scenarios are a useful tool to help preservice teachers develop their creative decision making skills. Therefore, we present our students with scenarios of classroom phenomena and ask them to work in groups to problem-solve instructional possibilities. In addition, we provide our students with sample lesson plans and ask them to work in small groups to develop ways to motivate students to engage in that lesson. For example, what would they say or do to help students feel capable of completing the task successfully.

A creative aspect of this lesson is to have students think of new approaches to motivate students in the classroom. In particular, we have our students consider socioeconomic backgrounds of their students when constructing a motivation plan. We encourage them to search for tools within the local community and cultural lives of their students that might facilitate students' motivation to participate in the learning task. By doing this, preservice teachers engage in creative decision making that considers a number of issues, most importantly, the lived experiences of the students. Moreover, we encourage preservice teachers to consider redefining learning tools to incorporate items found around the community and each child's home. We also encourage our students to consider and evaluate creative and nontraditional teaching methods, such as using mediational devices as motivation strategies or bringing cultural tools from children's home environments as motivators to the lesson. Through these practices, we help preservice teachers consider how their instructional practices promote a transformative learning environment that empowers and intrinsically motivates students. As preservice teachers make discoveries, we label their own thoughts using educational psychological terms and theories. As a result, students gain notions of knowledge about motivational construct (analytic), instructional practices that can facilitate intrinsic motivation (practice), as well as the support in developing creative decision making to articulate a variety of methods to promote intrinsic motivation (creative).

Addressing Diversity Issues Creatively

In a multicultural and multilingual school environment, it is essential to consider students' ethnic identity development as it pertains to learning and motivation (McAllister & Irvine, 2000). Specifically, we raise the notion of how ethnic and language backgrounds of students can affect intersubjectivity between the student and the teacher regarding each lesson (Chizhik & Chizhik, 2002b). Therefore, we devote one unit to children's identity development that also encompasses an analytic, practical, and creative component to learning educational psychology.

Before mentioning identity development, we engage students in an analytic process by asking our classes to brainstorm our individual privileges. Each student responds by stating, "I can..." (McIntosh, 1990). We model with an example, such as "I can move around our university without searching for specific, out of the way paths that can

accommodate a wheelchair.” Since privilege ties strongly to the theory of ethnic identity development (Chizhik & Chizhik, 2002a), we can move into an expansive view of majority and minority identity development that subsumes ethnicity. We transition, however, with Helms’ (1995) notion of differential identity development for members of the ethnic majority as opposed to ethnic minorities. Ethnic-Identity Development theory predicts that both ethnic-minority and ethnic-majority people go through particular stages of development, although these stages are different for the two groups (see Tatum, 1992).

We engage students in discussing how the hegemonic structure of decision-making in the United States provides little incentive or need for majority group members to go beyond the contact stage of ethnic-identity development. This is the initial stage during which people with advantaged identities do not need to and often do not see their privileges. For example, according to Ethnic-Identity Development theory, European Americans begin their ethnic-identity development at the stage of not recognizing their white-skin privilege within the hegemony of the United States of America. Conversely, according to this theory, people in minority groups begin their identity development by not recognizing the oppression facing them within the same hegemony, but who inevitably find themselves in an encounter through which they recognize oppression against their minority group. At that point, people in minority groups are more likely to gravitate to others who have shared similar experiences to learn what it means to be the specific minority in the United States (Tatum, 1997). As a result, people in minority groups are often forced to move into the immersion stage of their minority identities; during this stage an individual tends to avoid people with the advantaged identity while gravitating toward symbols of their own disadvantages identity. Our goal is to help all of our students realize that they have minority and majority group identities that have each differentially developed in accordance with Ethnic-Identity Development theory. Moreover, we push our students to practically explore how their own privileges may effect choices they make in the classroom that might privilege some students while disadvantaging others.

Based on the theoretical (analytic) notions of minority and majority group-identity development, we ask our preservice teachers to engage in a practical and creative exercise in which they consider creative ways to relate to their students with a realization that students may view them through the lens of minority and majority group membership. To assist

our students' empathy of ethnic identity issues, we encourage them to participate in a simulation that occurs one class session before this unit (practical). Students have the option to wear a button with an upside-down pink triangle during the week between class sessions (Chesler & Zúñiga, 1991). At the time of handing out the buttons, we inform our students that the Nazis forced homosexual men to wear upside-down pink triangles on their clothes in their communities (and concentration camps) and wearing this symbol today can be a way to indicate that one opposes such oppression. Those students who choose to wear the pink triangles lead the discussion on how they perceive that they were perceived by others when wearing a gay rights symbol, whether or not they are homosexual. From these preservice teachers' experiences, the class breaks into small groups to generalize how each teacher can creatively approach each future student, especially those in the immersion stage of minority-group identity development. To move toward creative decision making, we encourage students to work together in groups to generate possible ways that their instructional practices can intentionally or unintentionally affect students' ethnic identity development. Through this discussion, we hope our students become much more explicit and, therefore, transformative about their instructional choices (both pedagogical and curricula) in ways that support the learning of their students. By the end of this unit, students often encourage each other to incorporate these notions into planning for each lesson.

Developing Creative Assessments

Although this is the last unit from our courses that we will discuss in this paper, we teach assessment at the beginning of the semester, along with teaching how to develop learning objectives. Based on realities of standards-based curriculum, we believe that developing learning objectives may not often involve creative decision making. We teach preservice teachers that learning objectives should be measurable and useful skills that are not context bound. For example, children should be able to identify literary themes in a variety of literary works, not only the ones specifically taught in class. We believe that assessment of skill mastery, however, is ripe for creative decision making.

We begin this topic by engaging students in a practical exercise that gets our students to develop a learning objective and, then, to come up with assessments for that objective. Preservice teachers quickly realize

that there are infinite possibilities for assessing each objective. So, where to begin? Moreover, we challenge our students' notions by encouraging them in an analytic process to consider the wide range of students' academic and linguistic ability in classrooms. This is where educational psychological notions can assist teachers' making creative decisions regarding assessment. Specifically, we present the notions of bias (Popham, 2000) and multiple intelligences (Gardner, 1999; Sternberg, 1998; 2000). In other words, how can a teacher be sure that he or she is truly assessing the learning objective and not some other skill that is a hurdle for students before they even have a chance to demonstrate their mastery of the learning objective.

To equip our students with tools to make creative decisions regarding assessment, we teach our students Sternberg's (1997; 1999a) Triarchic Theory of Intelligence that organizes the present paper as well as Gardner's (1999) theory of Multiple Intelligences. Gardner postulates, based on brain-based research, that people have between seven and nine (depending on interpretation of empirical evidence) independent intelligences (e.g., Logical-mathematical, Musical, Bodily-kinesthetic, Spatial) in which each person has relative strengths and weaknesses. The notion of independence means that strength in one form of intelligence does not predict strengths in any other form of intelligence. The notion of independence is similar to Sternberg's three independent intelligences (practical, analytical, and creative). We ask students what inferences they can make from an assessment that requires all students to write new words to an existing song in order to explain, for example, the process of osmosis. Students quickly come to a realization that, in this case, musical intelligence can mitigate results on the assessment and, therefore, limit inferences that can be made regarding each student's meeting the learning objective (in this case, being able to explain the process of osmosis). The rest of the unit on assessment becomes an endeavor to design creative assessments that not only measure mastery of learning objectives, but also are not biased by diverse intellectual make up of each student. In this unit especially, we encourage preservice teachers to search for ideas beyond typical conventions.

Conclusions

Students respond positively to our approach to teaching educational psychology. Comments on course evaluations are always positive with students' emphasizing that they have learned to make critical

instructional decisions. This, in itself, encourages and supports our efforts. We also get comments that remind us of efforts to challenge and transform the educational landscape. During review sessions at the end of each course students often share that they have enjoyed the class and learned a lot. They also indicate that our courses did not mirror instructional practices they were seeing in K-12 classrooms. In other words, should educational psychology content focus on pedagogy that is most prevalent in actual classrooms?

This is a challenging question to answer because the answer is both "yes" and "no." Yes, students should be informed as to what is practiced in the classroom. No, students should not be restricted to reproduce only what they see. Ideally, teachers should be able to make appropriate decisions about their teaching that considers the contexts of their school environments as well as research on the array of instructional practices. In short, students should not solely focus on what is taught in the classroom but rather focus on why the teaching method may produce desired results.

The question reminds us of the transformative nature of our teaching. Although our curriculum is designed to support local learning structures, our examples may reflect practices that are not widely taught by local teachers. While teachers' experiences are important to our own instruction, our primary goal is to provide future teachers with choices so that they may make creative decisions in their classrooms. We believe that our future teachers should not have to become "what was" or "what is" but have the potential to exercise "what could be" in teaching.

NOTES

1. In California, teacher candidates are credentialed to teach in K-12 public schools with a preliminary credential, but must complete a few remaining courses for a clear credential during their first three years of instruction.

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