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Jumping out of an Airplane: A TA's Perspective on Teaching Effectiveness

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Abstract

*Graduate students interested in pursuing a career in teaching can benefit tremendously from serving as a teaching assistant. For this article, graduate students with experience teaching one or more psychology courses were interviewed. Their specific successes and challenges are discussed in broader terms of professional development. Additional perspectives on effective teaching strategies are provided.*

The development and improvement of effective teaching methodologies has long been a mainstay of postsecondary education (e.g., MacLeod, 1971; Shannon, Twale, & Moore, 1998). Although for many graduate school is a period of intense research, it is also the prime time that future faculty members begin to gain teaching experience. Given the myriad roles that graduate students are often required to tackle as part of their master's and doctoral programs, it is not surprising that the emphasis on how to be an effective instructor takes second seat to the demands and pressures to conduct and publish scholarly research. As a result, for graduate students who are interested in pursuing teaching careers, seeking out and gaining teaching experience often receives less emphasis (Gray & Buerkel-Rothfuss, 1991; Sykes, 1988). Boyer (1991), for example, noted that graduate students entering into their first year of a teaching profession are often ill-prepared for their instructional responsibilities (see also Anderson, 1992). For teaching assistants (TAs) in particular, it thus becomes even more important to be cognizant of the ways to become an effective instructor (Ottesen, 2007; Simpson & Smith, 1993).

The role of a teaching assistant can take many forms (e.g., Prieto & Meyers, 2001). There is much diversity across disciplines and across institutions in the forms that a TA will take. This range of responsibilities can range from grading papers and preparing lecture materials for the instructor, assisting the instructor in delivering lectures or proctoring exams, teaching the lab component of a larger course, to taking on full responsibility for a course (Goodlad, 1997; Park, 2004).

Within this context, much research has investigated the manner in which teaching assistants can be effective in the classroom, with particular emphasis on the necessity of assessing the outcomes of effective teaching (Edwards & Protheroe, 2007; Johnson & Reiman, 2007; Murray & Stotko, 2005). However, the majority of this research is from the perspective of faculty members or administrators (e.g., Espinoza-Herold & Gonzalez, 2007; Meyers & Prieto, 2000). Although many of these same principles can be applied to graduate student teaching assistants, there is still a noticeable lack of perspective from TAs regarding these very issues.

The present essay and illustrative cases reflect on the role of a TA in a traditional setting to explore how TAs can be the most effective in the classroom while properly balancing other responsibilities. It is also discipline-specific in that only psychology TAs are discussed, although many of these principles can be easily applied to virtually any other discipline.

### *Interview Protocol and Description*

In preparation for this article, ten graduate students who had served as a teaching assistant for one or more courses in psychology at a large, public university in the Southeast were approached by the author about participating in this study. Of these, seven agreed to participate. (The reasons provided by non-participants were unrelated to the study). Approximately half were female, three were non-Caucasian, and the number of courses taught as a TA ranged from one to six courses, thus offering a good representation of graduate student teaching assistants. Participants were initially provided with a consent form and a list of interview questions for them to reflect on in advance. Approximately one week later, all participants were again contacted to schedule a one-on-one interview session.

At the beginning of the interview session, all participants completed a brief demographic form which inquired about their race, gender, current student status, and current or past TA assignments, and were again provided with the interview questions. The interview prompts contained ten questions developed for this study, including, for example, their past and current responsibilities as a TA, how they interacted with students and their mentors, their likes/dislikes about teaching, their teaching philosophy, examples of positive and negative teaching-related

situations, and what advice they would provide for future TAs. Using this list as prompts, the author interviewed each TA in individual sessions for approximately 60 minutes. These conversations were tape-recorded and later transcribed for qualitative analysis. All materials and study procedures were approved by the host university's internal review board.

### *The Roles of the TA*

Given the varying levels of responsibilities and duties that are given to TAs for different courses and at various institutions, it is not surprising that it is becoming ever more difficult to define a "typical" TA experience. Consistent with past research (e.g., Prieto & Meyers, 2001), a wide range of responsibility was given to the TAs interviewed for this study. Most included the administrative responsibilities involved with teaching a course, such as keeping a grade book and making copies for the professor. Some were more involved with assessing student performance, such as grading exams or papers for the professor. Some were also given more responsibility for establishing the context for the course, as in coming up with a syllabus and lesson plans, developing problem sets for homework, developing grading rubrics for assignments, as well as guest lecturing. In general, teaching assistants supplement the course material and are there to interact with students on more of a one-on-one basis than what the professor is capable of doing in larger classes. As described by one of the advanced TAs,

*I was there to make sure the students had a solid foundation. I was responsible for the students being familiar with the practical side of the information, methods, and techniques that they were learning. I served to facilitate the students so that they could apply their knowledge (3<sup>rd</sup> year Asian-American female who had served as a TA for three courses).*

### *Factors That Can Influence TA Teaching Effectiveness*

Although one participant had majored in secondary education as an undergraduate and received specific teaching instruction, most TAs had received little or no formal training on how to be an effective teacher. Consistent with the TA experiences reported by Bomotti (1994), many students felt that they were simply "thrown" into the classroom without the proper amount of preparation. Meyers, Reid, and Quina (1998) similarly reported that first-time teaching assistants at other institutions felt they had received only minimal training in the duties they were assigned. Even though all the TAs for this study had gone through a teacher orientation program at the beginning of the year, many felt that this information was too abstract to properly digest due to their lack of prior teaching experience. For example,

*Sometimes I wish that I would have had more clarification going in at the beginning, as far as teacher expectations. I sort of had to find out as I went along as situations came up. But, that's part of the learning process (first year Caucasian female who had served as a TA for two courses).*

However, many students felt that their own personal experiences had given them some idea of what might work well in the classroom. For example, many were able to draw on their own experiences as being undergraduates and take from that experience what seemed to work well for them in terms of classroom management and knowledge transmission. Relying on colleagues is also another informal manner of obtaining teaching instruction:

*We don't specifically get training in teaching but we do have a lot of experience being students. So, it's not explicit instruction, but you can get it from the people around you, from people who have taught the courses before; you can learn from their experiences (3<sup>rd</sup> year Asian-American female TA).*

A topic of great importance to many of the TAs concerned the interaction between the TAs and the professors or teaching mentors. Several studies have demonstrated that constant and open communication between well-established educators and their mentees serves to augment the learning of specific skills and techniques necessary for proper teaching (e.g., Darling & Staton, 1989; Myers, 1998; Prentice-Dunn, 2006). However, not all TAs have the fortune of frequent collaboration with a professor or advisor. As stated by an advanced graduate student who had served as a TA for several courses, including both undergraduate and graduate courses:

*One of the things that I felt I was lacking and would have liked to have had more of was a consistent schedule where I met with my professor for whom I was teaching so that we could discuss not only the topics that needed to be covered, but also the more logistic side of teaching, such as how to deal with problem students, issues with grading, and establishing boundaries between me and the students (who were very close to my age and background). I think more contact with the professor would have alleviated a lot of the stress that I was feeling at the time (3<sup>rd</sup> year Caucasian male who had served as a TA for four courses).*

Several interviewees, though, even those who did not meet regularly with their professors, pointed out that teaching resources are available. For example, the host university regularly provides workshops and roundtables where teaching issues are discussed, graduate seminars in college teaching and learning, as well as a teaching certificate program in which students can enroll. Taking advantage of these resources is still the responsibility of the TA, however. Although they are available, participation in them is not (yet) mandatory. Arguably, making these types of teaching improvement activities mandatory could serve to strengthen the overall quality of instruction provided by TAs to students (Prieto & Altmaier, 1994).

In terms of intrapersonal affect, many TAs reported being nervous on the first day in front of the classroom. TAs were intimidated by how their students might perceive them, unsure how to set up and enforce boundaries between the students and the TA, concerned with being able to communicate well with the students, and making sure that they were teaching correct information that did not contradict with the professor.

*I was concerned because I wasn't sure what the classes [here] were like. I come from a liberal arts college where everyone already knows each other. How would the students here act? Would they be respectful? Would they show up on time? I didn't really know how to gauge what sort of performance I should expect out of them. I was also nervous that I wouldn't be prepared or that they wouldn't understand me. I have a tendency to stammer when I'm nervous, and I was worried that I would get stuck and not be able to get my thoughts out (first year Caucasian female who had served as a TA for one course).*

Many students brought up the issue of how the students would respond to them:

*A lot of the anxiety I used to have in the classroom was based on that I was thinking too much of what my students thought of me. I hear this a lot—TAs will come back to their office and say, ‘they hate me.’ It’s part of the process. People want to be liked, but I think it would be easier not to think about that. One of the things that I do in class now is that I don’t worry too much about getting the students to like me. I focus on whether or not I teach well. I teach them concepts in a way that they can understand. Whether they like me or not is tangential. I think they can not like a course but like the way it’s taught (4<sup>th</sup> year Hispanic male TA who had taught six courses).*

These concerns parallel what Eble (1983) described as the “dullness” which accompanies uncertainty. Often, the desire to be well-liked can overshadow teaching effectiveness, thereby diminishing both qualities in the classroom. Although not discussed specifically by the participants interviewed for this study, another relevant concern for many TAs is the extent to which their race, gender, or cultural background might be perceived negatively by the students they are instructing (e.g., Barnes, 2006; Lal, 2000), particularly if the students themselves are largely homogenous in terms of demographics.

### *Scholarly Instruction*

Present and future TAs can benefit from the experiences faced by these individuals interviewed for this article. Their expectations, failures, and successes are quite common. For the last section of this article, I would like to put forth my own recommendations, based on my own experiences, as to how to be an effective teaching assistant. In essence, there are four pieces of advice: inform, don’t impress; start with what the students know, not what you know; be willing to say “I don’t know”; and recognize the TA assignment for what it is—a learning experience—and enjoy it. These are discussed in detail below and serve to complement the wisdom and experience already shared by the above-mentioned individuals.

To begin, the goal of a teaching assistant should be to inform the students, *not* to impress them. The main purpose why students are in the classroom is to learn concepts and materials that the professor thinks will supplement the overall course. From this perspective, the role of the TA is to assist with the dissemination of knowledge, or as discussed by one of the participants, to be there for the “practical side of the information, methods, and techniques that [the students] were learning”.

Often, however, the topics that the TA will be asked to cover, particularly in introductory courses, do not receive the same breadth and attention that the graduate student will likely have covered. As such, there may be a natural tendency to try to transmit as much information as possible, and to make it clear to the students that the TA knows more information than is necessary to be taught. However, this approach serves neither to inform the students nor create a favorable impression of the TA (see Eble, 1983).

Second, in lectures or class discussions start with what the students know, *not* what you know, to introduce new material. Buskist (2000), for example, describes how TAs often begin lectures quite abruptly with highly technical information garnered from their own advanced training. What this approach fails to take into account, however, is the differential starting points of the teacher and student.

Consider the following scenario: for the next class you are supposed to cover Maslow’s hierarchy of needs. Given the fact that you have probably covered this topic in some detail as

part of your own studies, you set up the context of the topic and start your lecture with the “big picture”. You discuss the phenomenological approach and how it ties into humanistic psychology. You discuss its hierarchical structure and define each element (e.g., physiological, social, self-actualization), and so forth. In other words, you have adequately placed this topic into context, defined its components, and perhaps thrown in a few examples. Although this approach is a good review for students who have already covered this material, for the novice student it is likely to be overwhelming.

A better strategy to adopt would be to start with knowledge that the students already possess, and to build from that common denominator up to the specific topic at hand. For example, because Maslow’s hierarchy forms a pyramid, you could begin your discussion of how the ancient Egyptians went about constructing their great pyramids, pointing out the very practical issue of starting with the largest base at the bottom, and then building the next higher step only after the first one is complete. Should any of the lower building blocks crumble or fall into disrepair, the above layers are likely to crash down. You can then apply this same principle to how individuals go about fulfilling their basic needs. They start with physiological (food, water, safety, etc), and after those needs have been met, they can then progress to fulfilling the next higher order of needs (safety). This goes all the way to the top. At any point should any of the lower needs not be met, then the above ones will be affected. You can then end your lecture stating how theory was developed by Maslow, discuss him somewhat, and illustrate how this concept fits into the phenomenological approach.

Using this approach it is less likely that the students will be overwhelmed with unfamiliar concepts and are unable to understand how these principles are relatively straightforward. In other words, by starting with general knowledge that the students possess, it reassures them before expanding their knowledge base. This approach also is helpful in promoting and encouraging student participation, as it allows students to discuss information which they already know (Buskist, 2000).

Third, a successful instructor should be willing to say “I don’t know” when the occasion arises. Teaching assistants, and especially beginning TAs, are often under pressure to regulate their performance in the classroom to promote themselves as best as possible. This can include projecting an image of wisdom and of sound knowledge. However, the stresses associated with being in front of a classroom and the “spotlight effect” can often impel the beginning teacher to over-extend his or her true knowledge. In other words, the fear of not knowing an answer can lead a TA to want to compensate for it by either redirecting the question or coming up with an answer on the spot that may or may not be correct.

Whereas the stress associated with being in front of the classroom for the first time will obviously dissipate with time and greater familiarity (Slevin, 1992), the pressure to appear knowledgeable will likely always remain present. Again, in these cases it is important to consider what is in the best interests of the students. Although it may be uncomfortable, students are best served when they are told the truth. In other words, TAs (and professors alike) should be willing and able to admit the limitations of their knowledge in lieu of trying to project an image of infallibility. Telling the students that you will follow up on their question and revisit it later can actually increase student confidence and respect as opposed to diminish it (e.g., Davis, 1991). The only difference is the perspective taken.

Finally, and perhaps most importantly, the best approach towards serving as a TA is to recognize the experience for what it truly is—a learning experience, and to enjoy it. Serving as a TA can be thought of as a double-edged sword: you are above the level of the students you are teaching but are still not quite the professor (Park, 2002). This means that your position is much more flexible and not quite as rigid as would be expected of the full instructor. Although we



may not like to admit it, our students are certainly aware of our status and as such are much more dependent on us to establish for them what the norms and atmosphere of the class should be. This fluid status can be beneficial if used appropriately. In other words, the students will appreciate an ongoing conversation about why you are teaching in a certain style as well as to hear your feedback regarding the effectiveness of each approach. The learning process does not have to be totally one-sided, and it would be a shame to miss out on the opportunity now to experiment with various teaching techniques and skills before being hired as a full instructor or assistant professor where the pressure to have a solidified teaching style is immense.

### Conclusion

Although the demands of graduate training are immediate and extensive, it behooves graduate students who are interested in pursuing teaching careers to seek out and receive as much teaching experience as possible before going on the job market. As Perlmutter (2008) discusses, such experiences serve to introduce future faculty members to the demands and expectations of working in an academic culture. As evidenced even by the TAs interviewed for this study, both good and bad experiences serve a useful function in preparing individuals for their future careers (Sprague & Nyquist, 1991; Staton & Darling, 1989).

Specifically, it is important for teaching assistants to take an active approach towards learning and developing the skills that are necessary to be an effective instructor. Several self-assessments are available to TAs to track their progress as a beginning instructor. Angelo and Cross (1993), for example, developed the Teaching Goals Inventory to assist TAs in forming a teaching philosophy to help guide them in their instruction. Similarly, the Self-Efficacy Towards Teaching Inventory-Adapted (Prieto & Altmaier, 1994) covers 32 specific teaching-related activities which TAs can use to chart their progress in developing the confidence necessary to be an effective instructor. Ideally, these self-assessments could be shared with a teaching mentor to receive additional feedback or constructive criticism. Conversely, for TAs who do not receive much interaction with their mentor, these self-assessments could serve as a useful substitute for instructional feedback. Regardless the context in which they are used, however, such self-assessments have been demonstrated to be highly effective in improving efficacy towards professional development activities (de la Torre Cruz & Arias, 2007).

As discussed in this essay, although teaching may “come naturally” for a select few, teaching well requires specific skills that for many simply have to be learned, practiced, revised, and continually revisited.

*Being a TA is not enough. It helped me learn what is effective in small groups, but it's not going to help me get a job and it's not necessarily going to help me teach a course. You have to teach your own course to really understand and learn what it takes to be an effective professor (2<sup>nd</sup> year Caucasian female who had served as a TA for four courses).*

Even with some of the minor difficulties and jitteriness associated with being in front of the classroom for the first time as an authority figure (e.g., Feezel & Meyers, 1991), the TA experience does provide an excellent opportunity to have an impact on the lives of others:

*I like teaching. I like light bulb moments when something that you say actually makes sense and clarifies some difficult point that they were having trouble with (3<sup>rd</sup> year African-American male who had served as a TA for three courses).*

*I really like the interactions with students. It's nice to be a part of a person's life for a while (2<sup>nd</sup> year Caucasian female who had served as a TA for four courses).*

Perhaps the overall teaching experience is best summarized by the following anonymous student:

*It's one of those things where there's only so much you can do to prepare yourself for something if you've never done it before. It's like jumping out of an airplane—there's only so many things you can do on the ground.*

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Correlations Among the Quick Picture Reading Test,  
The Shipley Institute of Living Scale, and the Slosson Intelligence Test-Revised-R-3

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Abstract

*The purpose of this study was to appraise the potential interrelatedness of three instruments of potential use to school and educational psychologists. This study examined intercorrelations among scores on the Quick Picture Reading Test-Research Edition (QPRT), the Shipley Institute of Living Scale (SILS)- Research Edition, and the Slosson Intelligence Test Revised-3 (SIT-R-3). A sample of 120 children and adults with ages from 7 to 82 completed each test. The results demonstrate correlations between the SIT-R-3, the QPRT, and the SILS vocabulary standard scores were relatively high, while the other correlation coefficients obtained were slightly lower. These results suggest that while the tests may measure some common aspects of reading ability and intelligence, they are also each measuring some particular dimensions of intelligence, providing unique information about the participant.*

**Keywords:** Shipley Institute of Living Scale, Slosson Intelligence Test, Quick Picture Reading Test, Intelligence Testing.

### *Shipley Institute of Living Scale*

The Shipley Institute of Living Scale (SILS) was developed in 1940 by Walter Shipley for the purpose of assessing general intellectual functioning, primarily in adolescents and adults. While generated almost 65 years ago, the Shipley “survives today as an often-used technique for the brief estimation of IQ” (Weiss & Schell, 1991). In fact, the SILS is one of the few published tests that does not require oral individual administration in order to yield a quick, overall standard score of intellectual functioning. Administering and scoring the test takes relatively little training, although as with all standard instruments measuring intellectual functioning, advanced education is required for interpretation. In sum, because the SILS is one of the few available quick screening IQ tests, it enjoys popular contemporary use.

Retzlaff, Slicner, and Gibertini (1986) found a modest correlation between scores on the Wechsler Adult Intelligence Scale-Revised (WAIS-R) and the SILS ( $r=.46$ ) among non-clinical research participants. Klett and Watson (1986) used a psychiatric population, finding a correlation of .79 between WAIS-R scores and the patients’ scores on the SILS. Weiss and Schell (1991) estimated WAIS-R standard scores from SILS scores in a psychiatric population. Their results indicate that the score on the WAIS-R was highly correlated with the obtained SILS IQ ( $r = .86$ ).

Bowers and Pantle (1998) assessed the comparability of the SILS and the Kaufman Brief Intelligence Test (K-BIT), an instrument used to screen overall intelligence levels in adults. The obtained results indicate that even within two diverse groups, the K-BIT and the SILS yielded comparable scores. Particularly, they found correlations of .77 in a college sample and .83 in a forensic sample.

Tamkin and Jacobsen (1984) found that generally SILS scores tend to decline continuously through lifespan decades, except for an unexplained small spike when patients are in their 70’s. Their sample consisted of veteran psychiatric inpatients. Harnish, Beatty, Nixon, and Parsons (1994) criticized the SILS test for norm deficiencies in middle-aged and older adults. They further indicated that most of the published information about the SILS from non-clinical populations used college students, children, and nursing students. Dalton and Dubnicki (1981) found some relatively minor racial differences in SILS scores among inpatients in alcoholic treatment.

### *Slosson Intelligence Test*

The Slosson Intelligence Test (SIT) was developed in 1963 and is an untimed, individually administered test, intended to be utilized as a brief screening instrument, assessing mental ability in children and adults (Campbell & Ashmore, 1995). In its original edition, the SIT was relatively atheoretical. Questions were comprised based on their psychometric loading vis-a-vis the overall composite score and similar to ones used in previously published IQ tests. Hammil (1969) reported that the SIT could be administered successfully by teachers with no prior course work in testing procedures. Because of its relatively brief time for administration and reported concurrent validity with other IQ tests, as Stone (1975) noted, the SIT has had the reputation of being the busy practitioner’s workhorse.

According to Harris and Reid (1991), the most recent edition of the SIT is not truly a revised test. It has no new test items because the present items either were selected from or are similar to items from the 1960 Stanford Binet. The SIT has many critics, and Campbell and Ashmore (1995) summarize some of the problems: a lack of clearly stated theoretical rationale, the utilization of an independent standardization sample, and minimal evidence of reliability and

validity. Bohning (1980) adds that the item analysis sheet included with the test has no reported psychometric properties.

Carney and Karfgin (1971) reported a .92 correlation between SIT and WAIS scores in forensic psychology populations. Hammill (1969) showed a .81 correlation coefficient between SIT scores and the Peabody Picture Vocabulary Test (PPVT) among children without mental retardation. Among candidates for special education, however, Covin (1976) reported lower correlations ( $r=.41$  and  $r=.51$ ) with the PPVT. Hale, et al. (1978) reported only moderate correlations between composite SIT scores and Wide Range Achievement Test (WRAT) scores for children referred for psychological evaluations. Namely, they reported correlations of .37 for Reading, .32 for Spelling, and .40 for Arithmetic.

Using gold standard IQ tests such as the Wechsler scales and Stanford-Binet, published literature has shown variable results, but overall, that the SIT seems relatively robust. Nicholson (1970) expected correlation coefficients between the SIT and SB to be generally high due to categorical inter-correlations among the SIT's domains by age levels, although differences would be expected to level-out by around age 15. Ritter, Duffy, and Fischman (1973) reported a correlation of .92, using the SIT and SB, in children 4-12 years of age who were referred for evaluations by their teachers. Stewart and Myers (1974) showed correlations of .83 for the Wechsler Intelligence Scale for Children (WISC) and .84 for the Stanford-Binet, L-M (SB) when comparing overall composite scores. Children in their sample were being screened for special education purposes. Using a population of low achieving students, Prewett and Fowler (1992) showed a correlation of .75 between students' scores on the SIT and WISC-R. The results are similar to a more recent study by Blackwell and Madere (2005), showing a correlation of .89 between the scores of 234 children (ages 6-16) when comparing WISC-III scores with the children's SIT-R-3 scores.

In short, three decades of research with the SIT shows a pattern of relatively strong correlations among a number of widely-accepted instruments. Nonetheless, the SIT is not without significant critics. For example, Stewart and Jones (1976) recognized the SIT's value as a general screener, but warned against categorizing students with the test. Other than very broad and general categories, such as below average, average, and above average, they advocate that the Slossen is inappropriate for finer distinctions such as range-levels of mental retardation. Harris and Reid (1991) claim that the SIT overestimates IQ scores, particularly with gifted individuals and use of the test with specific populations—particularly learning disabled students—is questionable. They cite potential ethical concerns in utilizing the instrument with populations outside of typical or psychometrically normal.

### *Quick Picture Reading Test*

The Quick Picture Reading Test (QPRT) is a product being developed by Western Psychological Services (in press) in order to provide a brief screening assessment of reading abilities. Among other potential applications, the test is expected to be useful for psychologists administering test batteries where a general screening level of reading aptitude is desired. The test presents 35 pictures to be matched with 26 phrases. It is intended to assess reading ability in a timely manner, with results being quickly scored and yielding an overall standard score.

Although the QPRT is a newly developed instrument, a precursor to the test, Borgatta and Corsini's (1964) Quick Word Test (QWT), showed apt psychometric properties with respect to reading and general aptitude abilities. Particularly, Martin, Blair, and Vickers (1979) reported respectable correlations among the QRT, SIT, and Wide Range Vocabulary Test (WRVT).

Using undergraduate psychology students in their sample, the researchers found the following coefficients: QWT—SILS=.68; WRTV—SILS=.73; and QWT—WRT=.81

The QPRT is highly loaded relative to verbal intelligence. This occurs since students are required to identify the meanings of words as they relate to pictures they readily should recognize, if they know the apt meanings of words. This general type of activity sometimes comprises subtests in a standardized IQ test. Moreover, these activities often highly load into the overall composite IQ score. Consequently, in cases where a general screening or overall gist of students' IQs are desired—rather than a complete, comprehensive assessment of intelligence—using the QPRT might prove to be a useful alternative for those cases. Additionally, the QPRT can be administered by teachers and other personnel without a psychology license. Its use may provide breadth of potential use—in addition to standard IQ tests often utilized by school psychologists.

With respect to construct validity (Thordike, 1997), the three tests share the shared construct of verbal intelligence. In classic conceptualization, IQ tests often focus both on subjects' verbal and non-verbal abilities (Murphey & Davidshofer, 1998). The Wechsler scales, for example, report scores in terms of verbal and performance measures, as well as full scale indexes that combine these domains. From a construct validity standpoint, the tests we selected for the present study, a priori, would be expected to share similar, strong verbal loadings in generating standards scores. While obviously each test would be expected to measure differing elements of verbal ability, we would anticipate them to share correlative measures when administered to the same individuals.

Our present research project builds on this rich history of concurrent validity assessments. Only one study in the literature specifically compares the SILS with the SIT. Martin, Blair, Stokes, and Lester (1977) administered the instruments to 40 undergraduate psychology students. The students were administered the tests twice, with a 45 day interlude separating the administrations. The correlation coefficient between the SILS and SIT for the first administration was .46. The second administration's coefficient between the SILS and SIT was .54. The test-retest reliability coefficients of .83 and .80 (respectively) also were reported.

In short, 30 years have transpired since any correlative measures between the SILS and SIT have been obtained. The tests have continued, of course, to be used with wide popularity among psychologists. Consequently, we believed it was time for reporting updated data on these instruments. The version of the SILS used in the present study is the research edition with an expected publication in the near future by WPS. Since it soon will be the "new Shipley," we utilized it rather than the old (current) version. Although we believe results from the present study may be useful to the new Shipley manual, none of the present researchers are employees of WPS.

The sample of this study was drawn from a non-clinical population. We selected this population since many of the validity and reliability studies previously conducted have taken their samples from atypical or psychiatric populations. The primary purpose of this study was to determine the degree of correlation between scores on the SIT and SILS on a normal population, ages ranging from 7 to 80+ years. A secondary purpose was to assess potential correlation between the scores of the QPRT and the SIT as well as determine the degree of correlations between the QPRT and SILS sub-scores.

Results from our present study are intended to be useful for both clinicians and researchers. That is, we believe our findings help psychologists who use these instruments with clinical utility and ecological decisions when selecting instruments for use in psychological testing batteries. In addition, the findings also contribute to the larger body of research knowledge relative to the instruments studied. The purpose of this study was to appraise the



potential interrelatedness of three instruments of potential use to school and educational psychologists. Since the QPRT, SILS, and SIT-R have similar potential uses in educational settings, educational specialists will benefit from better knowing their correlative relationships. Consequently, our aim was to provide empirical data relating to the tests inter-correlations and to discuss the implications that these relationships have in educational settings.

### Method

A total of 120 participants (53 males and 67 females) were included in the comparative study of the QPRT, SILS, and SIT-R-3. Their ages ranged from seven years old to eighty-two years old. For both children and adults, we obtained a relatively even distribution of age ranges across targeted age categories. These included 50 children, 19 teenagers, 19 individuals between ages 20 to 50, and 22 individuals between 51 and 82. The majority of the participants (93% or  $n = 112$ ) were Caucasians. The sample of children who participated in the present study consisted of elementary through high school students. The adults in the study were drawn from volunteers living in a mid-sized Midwest city who agreed to be tested, without compensation or extrinsic incentives. Data were collected during a 15-week time-frame.

The conjoined QPRT and SILS, and SIT-R-3 were administered to the individuals during one sitting. The SIT-R-3 was administered in a one-on-one setting to each participant by a test administrator, while the QPRT and SILS were administered collectively to the respective age groups. The lead researcher is a licensed psychologist, experienced in IQ testing, and the research team who administered the instruments were rigorously trained in standardization procedures. This included administering tests under supervision and administering tests flawlessly prior to engaging in data collection.

### Results

Table 1 presents the intercorrelations of the QPRT, SILS and SIT-R-3 standard scores. All the Pearson Product-Moment correlation coefficients were significant at the .01 level except for the correlation between the SILS Vocabulary score and the SILS Block Pattern score ( $r = .20$ ,  $p < .05$ ). The correlation between the QPRT and the SILS was considered high for the SILS Vocabulary standard score, with a coefficient of .58, and was slightly lower for the SILS Abstraction and Block Pattern standard scores, with coefficients of .37 and .30, respectively.

Table 1  
*Intercorrelations of the QPRT, SILS and SIT-R-3 Standard Scores*

	SILS Voc.	SILS Abst.	SILS Block	SIT Total
QPRT	.58	.37	.30	.52
SILS Vocabulary		.30	.20	.47
SILS Abstraction			.28	.36
SILS Block Pattern				.29

The correlation between the SILS standard scores and the SIT-R-3 total standard score, like the QPRT, was high for the SILS Vocabulary Test, with a coefficient of .47 ( $p < .01$ ), and slightly lower for the SILS Abstraction and Block Pattern standard scores, with correlations of .36 ( $p < .01$ ) and .29 ( $p < .01$ ), respectively. Compared to the intercorrelations with scores on other tests, the correlation between the SILS subtest standard scores were relatively lower with .30 between the SILS Vocabulary score and SILS Abstraction score, and .20 between the SILS Vocabulary score and Block Pattern score.

### Discussion

The results of this study provide updated validity information of the tests involved. Among all three tests, the SILS has the longest history. Research from the literature suggests it as the most apt assessment tool with established validities and reliabilities and can serve as an external criterion for the validation of the other two instruments while both the SILS and SIT can be used as external criteria the more recently developed QPRT. The correlation coefficients of .52 ( $p < .01$ ) between the QPRT and the SIT-R-3, and .58 ( $p < .01$ ) between the QPRT and the SILS vocabulary standard score can be treated as the concurrent validity coefficients for the QPRT. These evidences suggest that the QPRT may be particularly adept for some simple verbal ability purposes. That is, clinicians may be able to obtain a quick and rough estimate of reading ability that moderately correlate to general intellectual ability in situations where taking the time and money to administer an entire SILS or SIT-R-3 is not feasible. The correlation coefficients were not high enough to suggest that the QPRT may be used to obtain the detail and accuracy of the information gained from the SIT-R-3 and the SILS, or that the QPRT accurately can be used in place of either of the two tests.

Although the correlations between the SILS and the SIT-R-3 all were significant at the .01 level, the correlations were not high enough to suggest that these tests measure identical constructs. The SILS and the SIT-R-3 may be measuring different dimensions of general intelligence. The correlation between the SIT-R-3 total standard score and the SILS vocabulary standard score was the highest of the three correlation coefficients obtained for the SIT-R-3 and the SILS. This suggests that both tests may provide similar measures of verbal dimension. The lower correlations between the standard scores for the SIT-R-3 and the abstraction and block pattern standard scores suggest that the SILS may measure several dimensions of intelligence that the SIT-R-3 does not. While we believe these tests are both useful screening tools for estimating intelligence, one test cannot replace the other to obtain the same information.

In sum, the SIT-R-3 and SILS have uses for clinicians wishing to obtain quick screening of general intellectual ability. The milieus (e.g. forensic or school settings) for the tests' uses often are similar, but we advise clinicians to select the SIT-R-3 or SILS deliberately, and with the clinicians' particular objectives in mind. Verbal intelligence seems to show significant overlap between the two instruments, although enough difference exists to indicate the two tests should not be considered interchangeable for practical use.

In school settings, the findings from the present study have particular implications for educators. First, teachers may find the QPRT to be a useful measure of verbal abilities in students whom they suspect struggle with reading difficulties. Obviously, teachers should not use the QPRT for diagnosing students with reading deficiencies, but it might provide useful data on which potential referrals to school psychologists might be based. In other words, having some objective data to supplement classroom observations and impressionistic hunches can be particularly useful to educators.

The SILS does not require the professional to individually administer the instrument to students. As such, the test can be included as part of a larger test battery. The Slosson, in contrast, requires individual administration by a trained professional (e.g., school psychologist, special education teacher, etc.). Consequently, since the tests reasonably correlate, the selection of either instrument in educational settings might depend somewhat on pragmatic factors—such as the amount of time a given teacher or school psychologist has for testing the particular student at the time when the data is needed. However, knowing the significant psychometric similarity between the two tests can help provide needed confidence that school personnel can achieve similar measures from either instrument.

### Limitations and Future Research

All good research possesses limitations and researchers do well to report them when known (Murnan & Price, 2004). First, our sample consisted mostly of Caucasian individuals. Obviously, minorities were not screened out of the study; they simply were not available (including signed parental permissions for children) during the 15 period available for data collection. Future endeavors should replicate the present study, including larger proportions of minority individuals. Additionally, future researchers may wish to replicate the study using all minority students—comparing the present those findings with the present ones representing Caucasians. External validity of the overall construct under investigation in this study would be significantly enhanced (Johnson & Christensen, 2004).

Second, we used the research editions of the QPRT and the SILS. At the present moment, these instruments are not available to the general public for purchase. However, given the amount of time likely for the present article to see print and the publication intentions of WPS, we believe that this data will be very timely. Using a version of the Shipley that likely would be out of date shortly after the article's publication simply did not seem to be the best use of our research efforts.

A third limitation involves our sample's size and normalcy of participants. While we believe that 120 individuals provided enough power to sufficiently detect differences (Kraemer & Thiemann, 1987), obviously having more participants in our sample would have increased the study's power. The decision to use 120 subjects was driven by the trade-off between apt sample size and time allotted for data collection. In short, having the data collection completed in a 15 week period enabled us make the study reasonably feasible to conduct and reduce historical effects as a potential threat to internal validity. Additionally, a limitation relating to our sample was that we used normal (non-clinical) population group. The research literature suggests that variability may exist between clinical and non-clinical groups—so our findings may not generalize as strongly to atypical populations as well as they do to non-clinical ones.

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### **Abstract**

*Literature advocates the use of learning centers for early grades, but often this learning format is rarely used above middle school level and certainly not at the university level. Learning centers enable students to escape the role of passive learners by taking responsibility for their own learning. This instructional method provides a social setting in which students collaborate with their peers and increases the possibility of enhanced learning. This article describes the use of learning centers in two college classrooms as a means of demonstrating an instructional strategy that could be used by practitioners in the field and contrasts this format with an independent learning activity. The description is followed by an examination of pre-service teachers' perceptions of the effectiveness of both strategies.*

*It's Thursday afternoon in a classroom where students are actively engaged in learning, working on pre-designated tasks. There is a busy hum in the air as students agree/disagree and work together to solve problems and complete tasks. Where's the teacher? Traditionally, one would expect to see the teacher in front of the class presenting information while students sit in rows facing the teacher and listen carefully. However, in this classroom, the teacher acts as a facilitator, moving around the room observing, monitoring, and occasionally being asked to provide information or feedback.*

As you picture these students, what grade level are you imagining? Would you be surprised to discover that this scene is set in a college classroom? These college students work in centers to learn the content that usually would be taught by a professor in a lecture format.

### **Purpose of the Article**

This article describes how learning centers were used in two different college classroom settings and contrasts this format with an independent learning method used within the same two classrooms. The description includes preparation for the learning center lessons, the presentation of the learning centers in the classroom, and reactions and comments from the authors and students. Experiences of both authors are included and are labeled "Professor One" and "Professor Two". Findings are reported in regards to students' perceptions of the effectiveness of both instructional strategies and numbers of responses to specific questions about the learning experiences. Although this study shares some common features with research methodology, it is not intended to be presented as a true experimental research design.

One purpose for the experiences described was to model the use of learning centers as an alternative instructional method to traditional learning formats. However, it is the authors' intent to not only encourage teacher educators to model effective instructional strategies but to teach using these themselves. By doing so, teacher educators "practice what they preach." The authors believe it is not enough just to explain a strategy; teacher educators must actually use the strategy to teach their students.

### **Review of Literature**

**Learning centers.** Literature advocates the use of learning centers for early grades (Sloane, 1998/1999; Morrow, 2001; Tompkins, 2002; Roe, Smith, & Burns, 2005; Harp & Brewer, 2005), but this format is rarely used above middle school and certainly not in university classrooms. Students at the university level need to be as actively engaged as students at other levels. Being actively engaged means students are motivated to learn and are involved in learning activities. Learning centers can provide the format for active engagement as students interact with other group members, work on assigned activities, find ways to solve problems about group and individual learning, and take responsibility for their own learning.

**Small groups.** Since small groups of learners rotate through the learning centers, the information related to advantages of using small groups is discussed here. In order to meet the needs of different learning styles, it is important to use a variety of grouping configurations, such as whole class, partners, and small groups. One of the most effective grouping arrangements is the small group (Alvermann, Dillion, & O'Brien, 1987; Readence, Bean, & Baldwin, 2004). When small groups are used, learning and achievement are enhanced as students work collaboratively. Several affective advantages result from the use of small groups and are identified below:

- Motivation to learn is enhanced as students cooperate rather than compete with each other.
- Students' attitudes toward instruction and the teacher become more positive.
- As students help each other learn, they get a more thorough understanding of content.
- As students become more confident about their learning, dependence upon the teacher for all learning decreases.

(Berghoff & Egawa, 1991; Readence, Bean, & Baldwin, 2004).

Piaget (1969) and Vygotsky (1978) purport that learning occurs within a social context and through social interaction. As students interact with classmates in learning centers, they learn things they might not learn independently. (Tompkins, 2002).

**Adult learning.** Andragogy is “the art and science of helping adults learn...” and purports that “adults have different learning characteristics and requirements than children” (Clardy, 2005, p. 4). There are six basic assumptions of andragogy: “a self-concept and self-direction; a higher level of life background and experience; the need to understand the reasons for learning something; a learning motivation based upon personal need; a pragmatic orientation; and an internally driven motivation to learn.” Two androgogical assumptions seem to have direct import for this study. One of the assumptions is a self concept of autonomy and self-direction. As people age, most adults develop a self-concept of independence. They want to be perceived as capable of being responsible for themselves. As a result, the adult learner strives to have control and autonomy over the learning experience. This assumption could pose problems for instructors of pre-service teachers as they try to present their instruction using methodology that is successful with children. If adult pre-service teachers have already developed a learning style with which they are comfortable, it may be difficult for them to learn effectively using a style, such as the learning center approach, that differs from their own learning styles. A second assumption, learning motivation based upon personal need, also seems to be relevant to this study. Adults are ready to acquire new information as they perceive a need in a real-life context. Preservice teachers are motivated to learn course content because they realize they will need to know how to use instructional strategies in their future classrooms.

### **Definition of Terms**

**Learning centers.** Learning centers can be defined in several ways. One definition is a physical area set aside for specific learning purposes where students are given a prescribed activity to do or an amount of information to learn (Tompkins, 2006).



Tompkins further describes learning centers as activities that are both purposeful and meaningful at which students work in small groups. For the purpose of this article, learning centers are defined as a set of carefully constructed activities designed to guide groups of students as they acquire specific skills. In the usual arrangement, several learning centers are utilized simultaneously, and small groups of students rotate through the centers in an organized progression (Bear, Invernizzi, Templeton, & Johnston, 2004). This is the model that was used by both authors.

**Independent learning method.** Author One used a study sheet with questions developed from the textbook chapter. Students were to read the chapter and answer the questions. Author Two used a reading guide that accompanied an assigned chapter from the textbook.

### **Participants**

The participants were 51 upperclassmen in a teacher preparation program at a regional university in southeast Texas. Twenty-nine students in one classroom were preparing to become elementary teachers, while 22 students in the other classroom were preparing to become secondary teachers.

### **Preparation for Using Learning Centers - Professor One**

Preparation to teach a lesson about selecting and using textbooks included a review of the chapter objectives in the course textbook and selected portions of the chapter that covered the desired objectives. The professor chose five topics and developed five learning centers based on those topics: censorship of textbooks, the textbook adoption cycle, how to do a readability estimate, how to conduct a checklist of qualitative factors to evaluate textbooks, and an activity defining and using essential vocabulary terms.

**Materials for each center.** Readability estimate center – computation directions from course and content area textbooks; Qualitative checklist center – checklist from course and content area textbooks; Censorship center - course textbook and newspaper articles about textbook censorship; Textbook adoption center – course textbook and information organized about the specific workings of the textbook adoption process in the state; Vocabulary center – five vocabulary words essential to understanding the concept of readability, definitions within the context of the course textbook and book glossary.

**Organization.** The class was divided into five small groups based upon the students' content areas. This grouping enabled them to share commonalities in content knowledge and textbook organization, thus better assisting them in helping each other learn center content. Two groups had five members, and three groups had four members. For each section, the professor wrote both literal and experience-based questions and developed directions that led students through reading the text and responding to questions. Questions and directions were provided for every student at each center. An example of one of these is included.

Textbook Censorship Articles

Skim the section in your textbook "Censorship" on pages 53-54.

Discuss the information you read on these pages.

Distribute the articles about textbooks and peruse those. On your own paper, answer the following questions:

What are some issues in textbooks that groups or individuals protest about and want to censor?

Are adoptions of textbooks in Texas a high cost item? Why or why not?

Do publishers ever change the contents of their textbooks based upon pressures brought upon them by special interests groups? Give an example to support your answers.

Students recorded their responses individually and turned in their notes at the end of the center time. Each of the groups rotated through the centers at twenty-five minute intervals.

Before beginning the activities, the professor led the whole class in a chapter preview, reviewed the objectives for the chapter, and presented an introduction to the topic of textbook use and selection. Students began to work in their assigned centers after each center was described, and the rotation schedule was explained.

### **Independent Learning Activity**

In contrast, the professor used an individual study sheet for the chapter about young adult literature. The introduction to the lesson included a power point that encompassed the major ideas students were to learn. The study sheet used for this activity had questions regarding information from the chapter that would not be covered in a whole class format. Students worked individually to respond to the questions after the introduction. Vocabulary terms, response to a reading attitude survey, how to determine students' reading interests, sustained silent reading and possible responses to literature, such as journal writing, were topics covered by the questions. Information obtained from the comparison of these two instructional methods is included later in the article.

### **Preparation for Learning Center – Professor Two**

Following is an example of learning centers that the second professor used in a Reading Methods Course. Before the center activity, the professor conducted a five minute lesson on book introductions for the whole group, explained what would be done at each center, divided the class into groups, and showed them the signal that would be used when it was time to change centers.

**Materials for each center.** Book introduction demonstration center – six books of different levels; Book introduction writing center – 16 books at different levels and paper; Listening center – tape recorder and audiotape of a Reading Recovery expert speaking about book introductions; Prompting center – page with scenarios, sheet of prompts, and paper.

**Organization.** At the book introduction demonstration center, the professor demonstrated four example book introductions with books on various levels. At the book introduction writing center, students paired up to write a book introduction which they presented to the rest of their group. At the listening center, class members listened to the book introduction audio tape. At the prompting center, students were given a page with scenarios of children's reading with miscues and were instructed to write down prompts

that could be used to help the child correct the miscues. Students spent 15 minutes at each center before rotating.

### **Follow-Up Activity**

As a follow-up activity, the second professor divided the class into five groups. Each group read a chapter of the phonics textbook and created a learning center to go with their chapter. They met together the next week to plan their learning centers, and the following week they set up their learning centers for the whole class to visit. There were five centers with approximately six students in each group. Groups visited four centers for fifteen minutes each. At one center, students read cards about teaching phonics using children's literature and were instructed to do a practice phonics lesson for their group using one of four children's books provided. At another center, the students played a variety of phonics word games. The next center contained a poster with definitions of phonics terms. The participants were given a laminated phonics quiz that they had to answer as a group using the information on the poster. Another center had dictionaries, and students looked up certain words and wrote them phonetically. At the last center, the students were given examples of invented spelling and practiced reading them. They were also given directions for Elconin boxes and practiced using them with a partner.

### **Independent Learning Activity**

The second professor conducted a contrasting learning activity to compare center work with individual work. Each student was given a reading guide to go with an assigned chapter from the textbook with instructions to define and take notes on various assessment tools discussed in the chapter: readability formulas, informal reading inventories, word recognition tests, and phonics tests. They read the chapter before they came to class and worked individually to complete the reading guide.

### **Feedback from Students about Learning Centers: Both Authors**

After the students had visited all the centers they were asked them to respond to the following questions:

What was the best thing about using the learning center format?

What was the worst thing about using the learning center format?

Why did the teacher use this format?

The top five responses for each question are reported, and the tables reflect this information, listed in order from the statement receiving the highest number of responses to the one with the lowest. "Total number of responses," given below each chart indicates the total number of responses to each question. Not all students responded to every question. Included under each chart are sample comments that are important in understanding the numerical responses.

### **Question #1 – What was the best thing about using the learning center format? \***

<u>Response</u>	<u>Number</u>
Learn from peers	10
Work together	9
A variety of activities	7

Everyone could participate	5
Teacher can instruct one small group at a time	5
* Total number of responses: 49	

### **Student Comments**

“The best thing about using the learning center format is being able to talk to the group to get help when needed.”

“I am very introverted, and working in centers helps me communicate and open up more than I would working alone.”

“It was fun. I like being able to learn from my peers.”

“The best thing about using learning centers was that you got to see examples and apply them.”

### **Question #2 – What was the worst thing about using the learning center format? \***

<u>Response</u>	<u>Number</u>
Too noisy	12
Off-task behavior	10
Not enough time to complete activities in some centers	6
Difficulty in transitions between centers	4
Different amount of time required to do different centers	3
* Total number of responses: 49	

### **Student Comments**

“Some groups finished before others, and that could be looked at as wasted instructional time.”

“I wasn’t able to complete one of the activities during the time allotted and had to try again outside of class.”

“The worst thing about the learning centers was trying to stay on task. The noise level was too loud and made it hard to concentrate.”

“The worst thing about learning centers is the ease with which we drifted off the topic.”

### **Questions #3 – Why did I (the teacher) use this format? \***

<u>Response</u>	<u>Number</u>
Learn how to use learning centers	17
Work together in groups	7
Learn a different learning style	5
Teacher can work with a small group	3
Introduce several aspects of the topic	2
* Total number of responses: 50	

### **Student Comments**

“I believe that you used the format so that as future teachers, we could experience what a class might be like for our students.”

“I believe you did learning centers with us to give us a feel for how learning centers work and understand the pros and cons.”

“Teacher used this format because it is a good format to use in the classroom, and it allows us to feel how it works from a student’s point of view.”

“This method was used to help us pool our knowledge and complement each other.”

“Teacher used this format as an example of how learning centers can be used.”

“To show us how it is an effective teaching tool.”

“So you (teacher) can work with a small group while the rest of the class is doing something.”

**Question #4 – Which format did you prefer? (learning centers or individual) \***

<u>Response</u>	<u>Number</u>
Preferred learning centers	13
Preferred individual work	20
No preference	7

\* Total number of responses: 40

**Student Comments**

“With individual work there is no immediate feedback like there is with group work.”

“I feel like I learn more from being able to discuss in our group. I also feel more confident with my answers when we discuss them in the group.”

“I enjoyed working alone. I get easily frustrated when the people in a group are going too slow or playing around.”

“I would not prefer one over the other because each has its own benefit. When production counts, I prefer individual work. Otherwise, I prefer group activity because I retain the information better.”

“Both are great. It all depends on the situation and the students.”

“I feel that I am more efficient in reaching the goal when I work by myself.”

**Findings**

The following findings are reported from observations of student interactions and readings of their comments.

**Engagement in the task.** The learning center format engages students in active, purposeful learning (Tompkins, 2002). For the majority of center time, most students actively participated in the learning experience. The involvement in the task varied with the make-up of the group and also the time in the rotation when they visited centers. The first groups who went to a particular center seemed more highly engaged with the tasks than subsequent groups.

**Logistics of using centers.** From watching the students interact, the professors gained an appreciation for the difficulty of the task and also for how much time each task required. The time students took to work in some of the learning centers didn’t mesh with the allotted time. Students worked through some centers more rapidly than anticipated, while

other students took longer in the same center. This discrepancy in time allowed some students to engage in off-task behaviors, such as talking about un-related topics. To avoid this situation in the future, centers should be aligned so that each one takes approximately the same amount of time.

Some of the students complained about having to move from center to center because they had to carry their materials. Although attention was paid to this comment, it is recognized that movement between centers enables students to be more alert and perhaps more attentive to the learning task as a result.

**Student recognition of purpose.** From responses to question #3, it is evident that students weren't clear as to why the authors used the learning center format. Over one-half of the students did not recognize that the professors were modeling the use of learning centers as an instructional technique for them to use in the classroom. In the future the professors agreed that a direct link needs to be made between previous discussions of learning centers and the implementation of this instructional format.

**Structure of the centers.** For professor one, the lack of experience with doing a readability estimate caused some confusion, and groups took longer than the allotted time to complete the center. To avoid this problem, how to conduct a readability estimate would be taught to the whole class and not included as a center activity. Taking this activity out of the center rotation would ensure that the other centers take the same amount of time.

The recommended role for the teacher during center activity is that of consultant (Readence, Bean, & Baldwin, 2004). This role enables the teacher to move around the room to monitor students' engagement in the task, as well as provide assistance if students request it. Findings from professor two's experience confirmed that this teacher role was the best one for center activities. Professor two demonstrated book introductions to each group as one of the center activities. Later, it was reported that some students were not on task at the other centers while the professor was demonstrating the book introduction. Consequently, in the future, a demonstration of book introductions will be videotaped and placed in the center. This will enable the professor to serve as a facilitator rather than as an instructor during center time.

**Preference of learning style.** Both methods, learning centers and individual seatwork, enabled students to take charge of their own learning. Half of the respondents preferred individual work rather than working in learning centers. From their written comments in response to the questions, it is evident that their preference was directly linked to their individual learning styles (Clardy, 2005). Thirteen out of forty respondents preferred the learning center format over individual work, while 7 said they could learn from both styles. The comments from those 7 students indicated that preference was linked to the task they were asked to do. In response to the fourth question regarding preference of the learning center format to individual seatwork, 2 students out of 40 indicated that they preferred working individually as opposed to working in the learning center format. As adults, these students had already developed a preferred learning style (Clardy, 2005). They recognized that they needed to retain the information presented in the learning

center format, and their responses indicated that they would have preferred to learn the information in a way that best suited their own learning styles.

There was a noticeable difference in learning style preference between students in the two settings. Thirteen elementary pre-service teachers preferred the learning center format, and twenty of the secondary pre-service teachers preferred individual study sheet work. It is possible that differences in responses between the two groups is reflective of their learning experiences in other college classes as well as preference in learning styles. Elementary preservice teachers have had more exposure to the learning center format and small group work than secondary students have had.

### **Conclusion**

Preservice teachers are accustomed to passive learning and working independently on assignments since the lecture format and individual work are the predominant modes of teaching in college classes. Most professors of education want their students to exit teacher preparation programs having a repertoire of strategies that include more than just the lecture format. The lecture mode of instruction is teacher-dominated and helps perpetuate the myth that students cannot learn without the teacher's direct involvement. However, in regard to the benefits of working in a small group in the learning center environment, student responses to Questions #1 and #4 indicated they did learn from one another (Alvermann, Dillon, & O'Brien, 1987; Berghoff & Egawa, 1991; Readence, Bean, & Baldwin, 2004). If teachers view themselves as dispensers of knowledge, the teaching methods they employ encourage students to be passive learners. Students should be actively engaged in structuring their own learning and should be given the opportunity to work with peers (Piaget, 1969; Vygotsky, 1978). Student responses to Question #1 revealed that the best thing about the learning center format was that they worked together and learned from their peers. Preservice teachers need to learn about and experience how to use instructional methods, such as learning centers, that actively engage students in learning and contributes to the social construction of knowledge. The professors in this study believe that teacher educators should incorporate these methods within their own instruction in order for preservice teachers to understand how these strategies work in the classroom. Learning centers can be one of the teaching tools along with whole group instruction, partnered activities, and individual assignments used in order to meet the needs of all of teacher preparation students to encourage their use of various learning formats in their future classrooms.

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Preparing Teacher Candidates with Disabilities: A Growing Experience

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Abstract

*This paper explores one institution's challenge in preparing effective classroom teachers via field practicum experiences. An assessment of the traditional system proved to both serve and hinder the preparation of teacher candidates with disabilities. Lessons learned from the assessment are shared along with the improved procedure that may be generalized to other teacher preparation programs with a similar vision. The goal is to create an "inclusive model of teacher preparation." (Reynolds, Scott, & Williams-Smith, n.d.)*

## Preparing Teacher Candidates with Disabilities: A Growing Experience

With the advent of federal legislation such as the Individuals with Disabilities Education Improvement Act (IDEA) and No Child Left Behind, students with disabilities are included in the general education environment in numbers greater than ever before. Public schools in the United States are accountable for the achievement of ALL learners and high expectations are no longer just for those who are “typically developing.” The implications of this powerful reform for teacher preparation programs are significant. This paper examines, perhaps not an altogether unanticipated, but largely overlooked consequence of recent advances for students with disabilities in our public schools. That is, the more successful such students are in elementary, middle, and high school, the more likely they will be to enroll in postsecondary education. From that group of college-bound students comes a significant number of individuals who, because they want to emulate a beloved teacher, or because they want to be a role model for others; or because of some other, personal reason; apply to teacher education programs. In this decade, the number of students with identified disabilities going to college is rising (Hurst & Smerdon, 2000). Inevitably, some of these students will pursue a career in education. Unfortunately, if the paucity of professional literature in this area is any indication, teacher education programs may be failing to anticipate this occurrence and thus are not prepared to adequately meet the diverse needs of teacher candidates with disabilities. Moreover, although experiencing success at ever higher rates, many students with disabilities are still not fully equipped to meet the challenge of higher education, let alone the demands of a professional teaching career.

The purpose of this paper centers on detailing the selected university’s process of assessing whether a traditional teacher preparation program accurately serves teacher education candidates with disabilities and reviews current educational procedures.

### *Description of Teacher Preparation and Wright State University’s Current Process*

#### *Philosophy*

*Better Teachers, Better Schools*, the subtitle for John Goodlad’s book, *Educational Renewal* (1994) identifies the need for highly qualified educators. Few would argue that better prepared teachers lead to better schools and stronger student achievement. Most would agree that imperative to better teachers is a strong teacher preparatory program. The fact remains that not every education candidate is well suited for the demands of teaching. There are at least three reasons to explain why some individuals stumble during pursuit of teacher licensure. First, the candidacy pool has changed. Historically, the teaching profession attracted extremely competent individuals (the majority of whom were female). As opportunities for women increased in other, more financially lucrative fields, the tide of most promising prospective pre-service educators began to recede (Gutek, 1991; McNergney & Herbert, 1998). Secondly, while academic strength certainly contributes to success in teacher preparation, it is not the only competency required of good teachers; even the most scholarly may not achieve success when faced with the rigors of a profession in education. Finally, with the advent of standards-based education and other reform efforts, many teacher preparation programs are mandating new and more strenuous requirements. Contrary to what some may believe, learning to teach can be a monumental task, one that demands high levels of knowledge, skill, and the right dispositions.

### *Phases*

A sound teacher preparation program includes careful planning, accountability, and definitive follow-up procedures as critical ingredients to the professional development (Darling-Hammond & McLaughlin, 1995) of their teacher candidates. The teacher candidacy program at this selected university has three phases. In Phase I, students attend, observe, and interact in different classroom assignments. During Phase II, pre-service teachers become familiar with the development of lesson plans and begin their implementation as they move from active observer to participant. This stage leads to a student teaching experience, which occurs during Phase III of the program.

### *Concern Conferences*

A specific strategy used to mentor teacher preparatory candidates during any of the phases is the “concern conference.” This conference results in a written clarification of a specific concern and establishes an educational plan for candidate growth. The concern conference is used throughout the teacher preparation program, but is particularly useful when addressing issues related to field practicum and student teaching.

University faculty and staff follow several steps in mentoring a practicum candidate through the concern conference procedure. Field supervisors or clinical teachers are most often the first to voice a need for a conference; however, students or others may initiate. The individual identifying the concern leads the discussion. The conference facilitator explains the definitive issues and asks each key player to provide an interpretation of the situation. Critical elements of the conference include:

1. The concern must be clarified.
2. Interventions to assist the supervisor and clinical teacher in mentoring the pre-service educator must be extrapolated.
3. Objectives for the pre-service teacher are written in observable, measurable terms.
4. The pre-service teacher is required to take responsibility for self-improvement.
5. The pre-service teacher does not move forward until objectives are satisfied.
- 6.

### *Analysis of Traditional Teacher Preparation Program for Candidates With Disabilities*

#### *Data*

Field practicum evaluations are based on state licensure standards and have proven reliable as a time-tested instrument (Danielson, 1996; Pathwise, 2003). Therefore, university faculty believes the process is fair and unbiased. Unfortunately, the frequency of conferences for candidates with disabilities indicates otherwise.

According to the database, common concerns raised by classroom teachers, principals, and supervisors regarding candidates with disabilities include issues of classroom management, discipline, student safety, communication, lesson delivery, and grading. While these concerns surface in the beginning phase, they are often left unexplored or underplayed by cooperating teachers and university supervisors, who “didn’t want to make things harder” for these candidates, as one supervisor wrote in an electronic mail correspondence how “sorry” she felt for an identified candidate (with a disability) and all he had been through. The danger is that professional teacher educators respond to teacher candidates’ disabilities with pity and benign

neglect rather than the rigor that should be required of pre-service educators. The business of training competent educators mandates that all program completers can assume the awesome responsibility of teaching children. There is no room for compromise. Nor do people with disabilities deserve any less than the high expectations provided for all teacher education candidates. Being held to lower standards does not serve; it only diminishes capacity and opportunity, as Diane Knight asserts:

Expectations and standards regarding task completion and timeliness should not be waived or lowered...Preservice teachers should assume a full teaching load, as well as handle any discipline problems that may occur in their classrooms. They should be required to follow the expectations for field placement suggested by professional accrediting agencies and documented in the educational institutions' guidelines for such experiences (1996, p.315).

The key to meeting these expectations, however, is the provision of adequate accommodations which "level the playing field" for the teacher candidate who has disabilities. These accommodations do not result in advantage to or excuses for the pre-service teacher; they do make it possible to demonstrate skill in teaching.

In contrast to these teachers who "felt sorry" for teacher candidates with disabilities, some of the professionals who worked with identified candidates appeared skeptical of their ability to teach, for reasons that seemed less than essential— a hallway problem of being unable to escort a class quickly from the classroom to gym or music, for example. University, K-12 faculty, and staff alike need to remember that people with disabilities do have protection under the law. Dialogue about "essential functions of the job" and "reasonable accommodations" must occur (Simon, 2001).

Teacher candidates have an obligation to their placements. They have responsibilities toward their own students and their cooperating teachers. They are charged with making sure they fulfill those obligations. Some candidates identified as having a disability were frequently absent from placements due to transportation, illnesses, appointments, and weather and while some absences are understandable, candidates need to realize the necessity of consistent attendance to a teacher's success. Candidates identified as having a disability are not required to use breaks and other free time to prepare, but it is essential for them to understand adequate teacher preparation takes time and effort (and perhaps more for them than for others). Faculty must guard against learned helplessness (Valas, 2001). Candidates identified as having a disability must fully participate in brainstorming possible accommodations that would serve their needs in and outside the classroom. These candidates must follow through with outside agencies for accommodations. Lack of self-determination skills will impact performance in the field and lead, at least in part, to failure in performing adequately during the student teaching phase. For a university student to be successful, he has to be a self-advocate, set goals, formulate action plans, and accurately self-evaluate (Duquette, 2000).

#### *Perspective of Office of Field Placement Director*

This select university is a relatively new institution of higher learning (established in 1967). It was designed to be a welcoming environment for students with diverse needs; our college experiences many opportunities to serve students with a multitude of disabilities. The Field Experiences Office task is to arrange practicum placements. The field office works with many pre-service teacher educators with disabilities. Some experience success; many do not.

Each pre-service student experiencing an unsuccessful experience forces teacher educators to examine program procedures.

Two issues surface when attempting to prepare individuals with disabilities: (1) a financial challenge confronts programs and (2) finding qualified staff to work with individuals with disabilities is sometimes difficult. These two issues surfaced in this teacher preparatory program. This select program is characterized as field-based. However, when students receive between a 3.0 - 4.0 grade point average in methods coursework yet fail the field practicum; it is questionable if the class assignments are carefully interwoven with the field activities.

The following suggestions were identified through program assessment. First, the student with a disability should disclose needs early in the program so the correct assistance may be obtained. Next, the program faculty must have expertise in special education and competency in mentoring students with identified disabilities. The public school teachers must be identified to work with the student. An appropriate person would be rich in content expertise as well as accepting of individuals with unique circumstances. Careful consideration for the most appropriate supervisor is also essential. The supervisor must be comfortable working with teachers with disabilities and believe that such individuals can be successful educators. The supervisor must be willing to spend the time necessary to properly prepare the teacher. Guidance must be provided for the individual in training and carefully documented.

The specific skills necessary for each phase of the teacher education program need to be identified and formative assessment must be conducted to track the individual's progress. It is critical that the teacher candidate understand what, if any, barrier his disability poses for the identified core skills. In addition, as with any educator who is cognizant of a personal liability, the individual must be willing to build bridges over the gap in skill performance, work longer if necessary to compensate, and most importantly guard against the results of learned dependency. Finally, teacher models with similar disabilities should be available to serve as an example.

### *Perspective of a Special Educator*

Special education teachers and supervisors come to higher education with firmly held beliefs about the rights of students with exceptional learning needs to all the educational opportunities afforded those who do not have a disabling condition. Inclusion is viewed as a right, not a privilege (Dorevanis & Hulssey, 2002) and the program instills graduate students with the knowledge, skills, and dispositions that will empower them to further the "mission" of inclusive education. Inclusion at all levels is the right thing to do; how to do it correctly must be determined (Paul & Ward, 1996).

Much to the chagrin of Intervention Specialist faculty, fulfilling this inclusive vision at the university is often a tremendous challenge. Equitable opportunity must be available to all; outcomes cannot be, and should not be guaranteed. Some people, with or without disabilities, simply do not have the skills, knowledge, and/or dispositions to become effective teachers. Reasonable accommodations can compensate for most physical limitations (rolling podium, microphone). However, loss in cognitive functioning (short term memory loss) for example is a more difficult disability to accommodate

Teacher preparation programs cannot guarantee everyone success, but they can critically examine practices to foster and maintain an equitable climate for every teacher candidate. To "get it right" universities should consider following what inclusive K-12 schools are beginning to do so well. Faculty must engage in a collaborative, problem-solving process aimed at creating optimal learning environments for all students. The programs, into which our teacher candidates

are immersed, must be the result of careful planning, assessment, intervention, and documentation. Attention applied early and sustained through graduation and beyond is the key to success.

Such a climate requires a commitment to transdisciplinary collaboration similar to that currently used in many highly effective K-12 schools (Ogletree, Bull, & Drew, 2001; Carpenter, King-Sears, & Keep, 1998). By incorporating the expertise of all stakeholders, especially that of the teacher candidate, and by conducting early and frequent ecological and individual assessments, teacher education programs can raise the likelihood of success for teacher candidates with disabilities and more likely avoid the unfortunate circumstances that lead to failure in student teaching. Those rare candidates who clearly do not have the developing skill to become proficient teachers will see and understand the evidence because they will have been an integral part of the assessment process from the beginning. The university can act in concert with the student, through career guidance and other counseling services, to arrive at the professional path by which the student can be successful.

### *Proposal for Transdisciplinary Collaboration*

The transdisciplinary method of preparing teacher candidates with disabilities is dependent on early and ongoing assessment, intervention, and documentation. Each member of the team has specific responsibilities and a crucial role to play in the collaboration.

### *Teacher Candidate*

Teacher candidates are the most essential element of the student teaching process. They have the ultimate responsibility for demonstrating that they are, as disability legislation mandates, “otherwise qualified” to do the job for which they are training. If candidates are to receive appropriate accommodations they must first understand their own unique strengths and needs and communicate both to others. Some teacher candidates’ disabilities may be visible, while other teacher candidates may have invisible disabilities. Disclosing their condition is a “highly personal process that is subject to numerous ongoing factors and that is always without completion” (Valle, Solis, & Volpitta, 2004). Nevertheless, they should disclose their disability early on to receive the services to which they are entitled. Students with disabilities should come to the university with a sound understanding of what it is they need to proceed through their studies. They should develop an early and close relationship with the Office of Disability Services. Strong students will also be informed as to the service agencies that are available to facilitate their successful transition to the adult world. The choice to use these services is the student’s; nevertheless knowledge of options is empowering in itself. Only when the whole team understands the issues can they put the proper supports in place. Successful teachers know how to assess situations, set goals, implement plans to achieve goals and evaluate their progress toward each goal. Such characteristics are even more critical for teachers who have disabilities; they must possess a high level of self-awareness and self-determination if they are to address the environmental, attitudinal, and other barriers that will surely face them in our traditional school systems.

*OPFE Representative*

The Office of Professional Field Experiences staff has the vital role of matching candidates with disabilities to schools and cooperating teachers who are flexible in attitude and action. The OPFE routinely collects evaluation data on its placements and meets regularly with steering committees in its various partner districts. The decision to place a teacher candidate with a particular cooperating teacher should be made with careful deliberation after getting to know the district and schools well. Focusing on schools that are implementing inclusive practices with their own students is a good idea. One can be reasonably sure that equitable learning environments are already a priority and the introduction of a student teacher with a disability is more likely to be perceived as an opportunity rather than a hardship. These are the schools with faculty and staff who understand the difference between “handicapism” and disability (Obiakor, Algozzine, & Utley, 1995). One can have a disability and not be “handicapped.” It is the environment, such as a school with an unenlightened faculty that essentially handicaps a student teacher who has a disability.

Looking for building administrators who have a background in special education might be another way to narrow the choice of school placements. While no guarantee, an administrator trained in special education should have fewer attitudinal barriers to overcome when considering an intern (or potential employee) with a disability. Finding a supportive administrator is almost as critical as finding a good cooperating teacher who will mentor but not coddle a teacher candidate. It is a good idea to begin to build a pool of potential placements even before a teacher candidate with a disability is identified. This will save time and energy that could best be spent later on arranging needed accommodations.

*University Supervisor*

This individual, also chosen or assigned by the OPFE, is a vital link between the university, the cooperating teacher, and the teacher candidate. This person must be chosen with care. Evaluating the individual’s attitudes towards persons with disabilities and their willingness to spend the time necessary to collaborate with the team are essential points to consider when assigning a supervisor. The supervisor will closely monitor not only the candidate’s performance, but also the perceptions of the cooperating teacher and the other school faculty and staff toward the candidate. The supervisor will mentor the student and also help the cooperating teacher and the student problem-solve when the invariable practicum challenges arise. The support of a good supervisor can make the difference between a successful and a stressful experience for all involved.

*Special Education Faculty/Supervisor*

This individual acts as a liaison to bring the fields of teacher education and disability together under the shared goal of serving teacher candidates with disabilities (Reynolds et. al., n.d.). The special education faculty member has a thorough understanding of higher education, K-12 schools, and disability services. She comprehends the need to maintain high standards for teacher candidates. She can commiserate with the cooperating teacher and school administrator regarding the intractable nature of public schools. The special educator also facilitates the brainstorming and planning processes that must take place between schools and disability service organizations such as the Bureau of Vocational Rehabilitation and assistive technology. Finally,

and most importantly, the special educator faculty member acts as an advocate and mentor for teacher candidates who have disabilities. She communicates high expectations while engaging in problem-solving and offering support in whatever ways needed.

### *Cooperating Teacher and School Administrators*

Cooperating teachers and administrators have as their first priority the education and wellbeing of their young students. Their responsibility to teacher candidates, with or without disabilities, is to provide the most optimal environment for practice teaching they can (which includes making reasonable accommodations) to model effective teaching practices, to offer constructive feedback and support, and to communicate timely formative and summative assessment results to the candidates' supervisors and the OPFE. It is not their responsibility to make sure that teacher candidates pass student teaching. They are not required to "make things easier" for their student teachers, or to alter the primary teaching duties typically assigned. They *are* required to follow the law with regard to equitable learning opportunities. One would hope, however, that K-12 and university faculty, staff, and administrators realize that "it is not enough to comply with the letter of the law regarding accommodations. It is essential that a major goal of all teacher preparation programs be to adhere to the spirit of true inclusion—that is, providing all students with the least restrictive environment." (Williams-Smith, Reynolds, & Scott, 2002). The danger is that cooperating teachers and administrators will fail to grasp the essential nature of inclusive learning communities and instead either pity their student teachers with disabilities while overlooking critical performance weaknesses; or perpetuate stereotypical biases, which result in potentially discriminatory practices. Either of these attitudes can be disastrous to teacher candidates and to the profession as a whole. Instead, effective school administrators and cooperating teachers distinguish between sympathy and empathy (Knight, 1996). What is more, they become models for their own students, demonstrating an attitude of respect. They let their young students know it is okay to ask questions (with permission) to explore unfamiliar equipment, and to initiate "normal" conversations (Knight, 1996, p. 316). This sends the message to the students that the pre-service educator is "in charge" as the lead teacher, which in turn paves the way for effective classroom management.

### *Office of Disability Services (ODS) Representative*

No transdisciplinary team will be fully functional without the addition of a representative from the Office of Disability Services. The self-determined teacher candidate who has a disability will have already contacted the ODS before beginning at the university. ODS will document the nature of the disability and inform the student of their rights under law, Americans with Disabilities Act and the Vocational Rehabilitation Act for example. The ODS provides invaluable support to college students with disabilities. They make sure students get the accommodations to which they are entitled for successfully pursuing their chosen concentration of study. The services of the ODS, however, reach beyond the student level. When asked, they are more often than not delighted to provide in-service and consultation to faculty and staff both at the university level and in K-12 schools. Early preparation of school faculty, staff, and students will help everyone feel more comfortable and less anxious (Knight, 1996). Information up front as to how to interact with someone who is blind, deaf, or who uses a wheelchair is an invaluable contributor to establishing a fear-free enculturation into the school. Topics of societal attitudes, disability awareness, individual accommodations, and disability rights are only a few



areas of expertise shared by those who manage the Office of Disability Services. Additionally, because many of the ODS personnel have disabilities themselves, they provide excellent professional role models for students and faculty alike. Finally, ODS can act as a liaison with other adult service agencies, such as the Bureau of Vocational Rehabilitation.

#### *Bureau of Vocational Rehabilitation (BVR) Representative*

The aim of the BVR is to assist persons with disabilities in gaining and maintaining employment. Toward that end, they provide services to college students in the form of ecological assessment, tangible interventions such as assistive technology or tuition, and as consultants and team members when requested. The BVR representatives can add essential expertise in the area of rehabilitation counseling to a transdisciplinary team. In the case of a teacher candidate, they are willing to visit the proposed practicum site and, with the student and cooperating teacher, analyze the site from a needs and strengths-based perspective. The key to this involvement is to be proactive, putting into place the necessary accommodations early enough so that the teacher candidate can begin a seamless experience.

#### *Transdisciplinary Approach vs. Concern Conference Approach to Field Practicum Experiences*

##### *Recommendations*

The goal of the concern conference is to “catch problems early” and prevent them from becoming a crisis later. Although well intentioned, the process remains primarily reactive—a response to something gone awry. In contrast, the transdisciplinary team takes a more proactive stance. Similar to the IEP process in K-12 schools, this process uses multiple means of assessment to ascertain strengths and needs, as well as preferences and interests of the student. Then the team devises an action plan from which to proceed, building in checkpoints along the way. It is more time intensive than the concern conference procedure in which the OPFE and others stand by “in case” something happens. Nevertheless, the number of teacher candidates with disabilities progressing through the program is not overwhelming and the time invested up front will be well spent. The following are suggestions for transdisciplinary teams to use in positively impacting the teacher education program for students with disabilities:

1. Among these are self-determination, awareness of one’s own abilities and weaknesses, an ability to clearly articulate what one needs to learn, and a willingness to teach others about one’s disability. The choice to disclose a disability belongs to the individual; however, to receive the maximum benefit from the university experience and the teacher education program in particular, one must be forthright from the beginning. The preservice educator with disabilities needs to assume a leadership role in making decisions not only about his own performance needs and strengths, but also in regard to the children he teaches. Designing and assessing learning experiences, managing classroom behavior, being part of a collaborative team, which are not suitable tasks for someone who is over-dependent on others.
2. Sometimes people decide they want to be teachers for reasons that fail to serve them well in the long run. Teacher candidates with disabilities need to think about the logistics and complexities of teaching from the onset of their university experience so they can begin to plan compensatory strategies to meet their individual needs. As Knight (1996, p. 316) explains, “Preservice teachers with disabilities have the major share of responsibility in

demonstrating that they are qualified and capable of performing a job; they must devise plans for solving a variety of potentially challenging situations before any occurrences in their classroom.”

3. Potential placements in schools with quality teachers and administrators sympathetic to the needs (and potential) of persons with disabilities should be identified early, before the need arises. This saves time and effort that can be better spent on specific preparation when a student with a disability actually enters the program.
4. Cooperating teachers, supervisors, teacher candidate, and others on the transdisciplinary team need to meet well before the practicum begins to clarify perceptions, expectations, and to establish a common communication system. The teacher candidate should lead these meetings with input from the other members.
5. The team should conduct an ecological inventory of the classroom and school environment and construct a task analysis of the skills the teacher candidate will be expected to perform in each practicum setting. This information provides the basis for discussion, planning, and problem solving.
6. The time commitment required of the cooperating teacher and the university supervisor will surpass that of others who are working with teacher candidates who do not have disabilities. Knight (1996), for example, recommends at least weekly meetings between supervisor and student teacher to allow for maximum feedback and opportunity to address constructive criticism. University administrators should note this fact when considering how to assign load and compensation to the professionals who will have the largest responsibility toward the teacher candidate who does have a disability.
7. Those who have not been trained in the area of disability, either through special education or vocational rehabilitation, may be understandably skeptical about the potential of persons with disabilities to become effective teachers. For this reason, and to provide role models and potential mentors for the teacher candidate, the university should search out practicing teachers in the area who do have disabilities. These professionals will have considerable insight into the process. Furthermore, “networking can put preservice teachers in touch with people who may provide emotional support, assist with access to resources, serve as sounding boards for daily ideas and experiences, and help relieve anxiety and apprehension (Knight, 1996, p. 314).”
8. Beyond exposure to classroom teachers with disabilities, university and K-12 school faculty and staff would benefit from training in disability awareness, disability law, and person-first language. Fortunately, most professional educators are open-minded individuals who have the best interests of the teacher candidate in mind. Some of these individuals may simply need the opportunity to engage in dialogue around the issue of disability, much as we do around other areas of diversity, such as race, ethnicity, and socioeconomic status.
9. It would be wise for university personnel to put in writing their policy and philosophy of transdisciplinary teaming as it relates to teacher candidates with disabilities and to have this document reviewed by the university attorney. The line between serving students with disabilities and discriminating against them is one we never want to cross, even with the best of intentions.
10. University faculty and staff cannot force someone to disclose his or her disability; nor can they demand a student accept help from the Office of Disability Services. They can outline the requirements of the teacher education program to the student and keep the informed of options. They can examine themselves for possible bias and maintain a

flexible attitude. Faculty cannot compromise the rigor of the program, nor can they make allowances for those who do not demonstrate proficiency in each required competency. However, if the teacher candidate is self-determined, and ready to take an active role in the planning and implementation of the program, university personnel can support these efforts in the myriad of ways listed above. Then, regardless of the outcome-whether the candidate goes on to be a teacher, or whether he or she decides at some point along the way that teaching is not the best choice, it will be an informed decision. No more surprises.

### *Conclusion*

The teacher education program at this select university is grounded in research-based practice and consistently produces high quality teachers in multiple content areas. A close examination, however, revealed the inadequacy of the traditional program for many teacher candidates with disabilities. A transdisciplinary process was designed and implemented by a collaborative team of university faculty and staff to better address the unique needs of these diverse students. Subsequent efforts of this alliance are beginning to produce encouraging results. Following the new proposal, IOPFE has taken the lead in scheduling team meetings whenever a teacher candidate discloses a disability and agrees to participate in the process. Timely input from the Office of Disability Services, the Bureau of Vocational Rehabilitation, special education, field supervisors, and cooperating teachers is now more common. As a result, multiple teacher candidates with disabilities have successfully completed the teacher preparation program at this university. At least one other is currently engaged in career counseling to determine a more appropriate field of endeavor; and another is currently struggling to be successful in Phase I of her placement. These outcomes appear to support the notion that while not all are meant to be teachers, those who are, including those with disabilities, can, with the appropriate supports be successful.

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