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Perspectives in Gifted Education: Diverse Gifted Learners

Institute for the Development of Gifted Education, Ricks Center for Gifted Children, University of Denver

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Perspectives In Gifted Education: Diverse Gifted Learners

Institute for the Development of Gifted Education
Ricks Center for Gifted Children
University of Denver

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Perspectives in Gifted Education: Diverse Gifted Learners

Volume 4
Spring 2009

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Institute for the Development of Gifted Education
Ricks Center for Gifted Children
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Introduction

This is the fourth in a series of monographs published through the Institute for the Development of Gifted Education at the University of Denver. The first monograph contained different perspectives on the growth and development of young gifted children. The second monograph addressed the characteristics and needs of the twice-exceptional – those who are gifted and also have some type of disabling condition. The third monograph focused on the personality, spiritual, and character development of gifted children.

It is a pleasure to welcome Dr. Jaime A. Castellano as guest editor for this issue, which is focused on the needs of the diverse gifted learner. Dr. Castellano founded and directs JAC Gifted Education Consulting Services in Phoenix, Arizona. Throughout his career, he has served the needs of the diverse learner as a teacher of special needs, gifted, and bilingual students and as an administrator, professor, and educational consultant. He has assumed a variety of national leadership positions and contributed to multiple articles and books, working to further the understanding of gifted and bilingual education.

Dr. Castellano's expertise and assistance have been invaluable in this project, for which we are most grateful. It is our hope that this monograph provides helpful information both for understanding of the issues presented and for application in the field, reaching to touch the lives of gifted children.

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Preface

Within the field of gifted education there is a general consensus that giftedness transcends race, ethnicity, language, geography, labels of disability, and sexual orientation. These inclusive perspectives allow us to expand our understanding of the diversity of learners found in classrooms for gifted programs and inform how to best honor their individual strengths and talents. In this monograph on diverse gifted learners the authors explore giftedness in specific underrepresented populations—American Indians, English language learners, Hispanic/Latino students, those that are culturally different, the twice-exceptional, and those students that are gay/lesbian/bisexual/transgendered. One additional manuscript focuses on teacher preparation. All of the submissions offer a perspective of advocacy and promise, promoting the idea that diversity in gifted education should be viewed as an asset to the field.

In order to provide appropriate educational experiences for all students and to develop an understanding of multiple perspectives in K-12 gifted education settings, teachers should be informed about the role diversity plays in cognitive and affective development. Elizabeth Shaunessy and Michael S. Matthews focus their article on the preparation of culturally competent teachers while promoting a divergent perspective on preparing teachers to work with culturally and linguistically diverse gifted students. This timely and relevant topic further provides a coherent balance to the paper written by Ford, Whiting, and Hopkins. Multiculturalism and cultural competency go hand-in-hand and this tandem of research and effective pedagogy, resources, and case studies is valued and needed.

The action-research led by Kay L. Gibson and Anh Tran is grounded in the belief that engaging, motivational, and cognitively stimulating pedagogy can facilitate the identification of English language learners and Hispanic/Latino students who are gifted and/or who demonstrate potential. The finding of their research, which involved a group of sixteen teachers enrolled in a university course on the assessment of English to Speakers of Other Languages (ESOL), indicated that teachers’ knowledge of gifted characteristics and research-based teaching strategies enhanced their ability to more appropriately instruct, identify, and refer
English language learners and Hispanic/Latino students for gifted education programming.

Researchers and practitioners in the field of gifted education acknowledge that equity and access continues to be a challenge, with the largest demographics of culturally and linguistically “different” students remaining under-identified and under-served. This is the tenet of the article written by Donna Y. Ford, Gilman W. Whiting, and Angelina Hopkins. The two questions that guide the authors’ work are: How can we effectively recruit and retain more culturally and racially different students in gifted education? (and) How can we ensure that gifted education programs/services and AP classes are both excellent and equitable? It is also important to note that Ford, Whiting, and Hopkins have chosen to use the term “culturally different” rather than culturally diverse to express the idea that every individual and group has a culture. They maintain that problems or cultural clashes occur when students’ culture “differs” from those in position of power and authority.

Harvey A. Rude and Stuart N. Omdal write that the guiding principles of balance and harmony between Western and Native cultures provides the motivation for successful education that can positively support the education of gifted learners found within schools and educational organizations that educate American Indian students. Attempting to place a square peg into a round hole will never work, ever! The same is true when we attempt to impose Western constructs of giftedness to our American Indian population. If we are to be successful in meeting the needs of gifted youth from this subgroup, with hundreds of years of history, we need to mindful of that history. This article provides a relevant framework for becoming more culturally competent and empowers us to do a better job in educating gifted American Indian students.

Most Hispanic/Latino students in the United States are placed in less demanding mathematics classrooms because of misperceptions about language and culture which are viewed as deficits rather than potential strengths. The premise of the article written by Eliana J. Rojas is that mathematical promise, in fact, recognizes itself as being influenced by cultural and educational experiences. As such, math classes need to become centers of interaction where the discourse concentrates on stimulating the discovery of students’ individual strengths and challenges,
reflecting upon them, and to accommodate and communicate mathematics at a pace that builds upon our gifted students’ prior knowledge.

In their provocative article, Becky Whittenburg and Alena R. Treat assert that gifted youth and sexually diverse youth share some unique characteristics that other populations of young people usually do not. Sexual orientation remains a hot button issue for many Americans despite the fact that G/L/B/T youth “come out” at a much earlier age than in past generations. So much so that schools are being required to take action to protect these students. Implications for counseling and emotional support during the school year are necessary if this population of gifted students are to develop fully. Whether we advocate for sexually diverse gifted youth, or not, our responsibility as educators is to teach them to the best of our ability. This article will help do just that.

Gifted students with physical impairments are a niche area in the field of gifted education that perhaps does not get the attention it deserves. As such, this article by Sandra Manning and Frances A. Karnes does serve a purpose by adding to the perspective of diversity that this monograph is advocating. Specifically, characteristics of these students and best practices for meeting their needs are also presented. Furthermore, the unique combination of gifts and talents coupled with physical disabilities in these individuals may contribute to the depth of determination not typically exhibited by their non-disabled gifted peers.

In a very personal account, Kathie Carwile Morgan examines the methods and strategies employed to educate her own grandson—a gifted child who is also blind. Attention and encouragement of the giftedness, as well as early and immediate intervention for the handicapping condition is an overriding emphasis of this article. Of particular interest was the need for parents of twice-exceptional children to meet and discuss their successes and challenges and to serve as the primary advocate for their children by not allowing the disability to overshadow the giftedness of these unique individuals.

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PREPARING CULTURALLY COMPETENT TEACHERS OF THE GIFTED: THE ROLE OF RACIAL CONSCIOUSNESS

Elizabeth Shaunessy, PhD
University of South Florida

Michael S. Matthews, PhD
University of North Carolina at Charlotte

In order to provide appropriate educational experiences for all students and to develop an understanding of multiple perspectives in K-12 gifted education settings, teachers should be informed about the role diversity plays in cognitive and affective development. Developing teachers' cultural competence, then, is a critical dimension of professional growth. The recently-developed Knowledge and Skills Standards for Educating Gifted and Talented (National Association for Gifted Children, 2007) emphasizes the importance of cultural competency for developing educators' understanding of difference through a series of the ten standards. While some literature has addressed an array of skills related to multiculturalism, the emphasis of these works has been focused on informing teachers of the characteristics and educational needs of gifted students from culturally diverse backgrounds—especially learners who are underrepresented in programs for the gifted (Ford & Trotman, 2001). Though efforts to increase racially, linguistically, and socioeconomically under-represented learners in gifted education settings have been widely disseminated in the literature (e.g., Baldwin, 1994; Belcher & Fletcher-Carr, 1999; Boothe & Stanley, 2004), ethnic identity and cultural competence development among gifted students has been less prominent (Ford & Whiting, 2007). These prior works reflect an ongoing concern about teacher preparation and the development of foundational underpinnings in teachers' understanding of diversity; however, the extant literature does not address the need for teachers of the gifted to prepare students from majority populations to recognize the perspectives of those from backgrounds different from their own (Howard, 1999)—a critical consideration of responsive education in a pluralistic society.
Accordingly, teacher preparation programs in gifted education should address a variety of diversity issues throughout endorsement, certification, and advanced degree programs so that educators become aware of the interconnectedness and broad scope of diversity. This requires going beyond stand-alone courses devoted to examination of research about underrepresented and minority populations (National Association for Gifted Children, 2007). Introductory courses in gifted education, for example, may frame discussions around various dimensions of intelligence, creativity, leadership, motivation, affect, achievement, and curriculum according to these distinct groups (i.e. Black, Latino, Native American, English Language Learners, and Impoverished gifted) (de Valenzuela, Copeland, Qi, & Park, 2006; Ndura, Robinson, & Ochs, 2003; Zurawsky, 2004). While understanding the history of research in the field about these populations is important, perhaps more salient to effective teaching practice is the ability to facilitate mutual respect and recognition of differing views in classrooms comprised of primarily diverse learners, White learners, or a combination of these populations.

Cultural competency must be developed among teachers in gifted education as a precursor to fostering the same skills in our K-12 learners. Teachers of the gifted may hail from a variety of educational, socioeconomic, and cultural backgrounds; thus, each functions at a different point in his/her cultural competence development trajectory, so we outline here a continuum of skills, arranged from novice to accomplished practice. We outline several strategies for fostering meaningful dialogue, heightening awareness, and self-assessing cultural competence. We present these practical strategies with the understanding that they should be applied as appropriate given the setting, time available for development, and developmental levels of the individuals engaged (National Staff Development Council, 2006). Specifically, effective strategies for developing cultural competency should accomplish the following: (a) initiate and sustain conversations with colleagues, students, parents, administrators, and community members about diverse learners, multicultural education, and cultural competence; (b) encourage individuals to share views about various cultural beliefs during these conversations; (c) provide a specific focus to guide discussion of complex issues; (d) connect with relevant literature and data from a
variety of disciplines and sources, including education, public policy, sociology, and psychology.

To promote cultural competence among K-12 students, the importance of modeling respect for others’ views—especially those different from one’s own beliefs—in all classroom activities, cannot be underscored enough. Though general dialogue with others is the single most effective method to develop cultural competence, regardless of the teacher or school’s ethnic, cultural, linguistic, socioeconomic, or political composition, there are also specific strategies that may be used for this purpose. These strategies and recommendations are based on the premise that all teachers of the gifted, regardless of the demographics of one’s K-12 classroom, neighborhood, or community, should continually engage in self-evaluations of personal and professional expressions, feelings, and biases about different cultural groups (Cross, & Jones, 2006).

CONFRONTING THE COLORBLIND APPROACH

Race and culture have long been hot-button issues, which educators have avoided in the interest of minimizing confrontation in the classroom. Educators from majority backgrounds may believe having conversations about race might suggest that the speakers are racist; to avoid this label, majority teachers have avoided discussions about color, especially in classrooms with students of color (Singleton & Linton, 2006). Additionally, teachers may avoid talking about race in order to maintain the perception that they are fair, unbiased, impartial, and objective individuals (Nieto, 2004). When teachers of the gifted are confronted with these difficult conversations, individuals who have not received guidance in how to engage in this dialogue may steer conversation away from these topics. Some teachers may have been urged to avoid sharing their perspectives with one another or facilitating constructive discussion among their students, for fear of the consequences of emotionally charged debates or heated responses from students or their parents. However, if teachers and their students are not taught how to share ideas and to agree to disagree in school, where, then, are they to develop these skills? We suggest that these practices are especially important for teachers who work in gifted program settings, because it is vital that
colorblindness is not perpetuated in their classrooms in the name of equity (Howard & del Rosario, 2000). Students in gifted programs often are described as having a heightened sensitivity to issues of equity and fairness, so such discussions have the potential to be especially productive in these settings.

Ignoring race or color, claiming not to see these distinctions—hence the term colorblindness—has become a safe strategy adopted by many teachers to deal with these differences. In order to become more culturally competent, or “racially conscious” (Gordon, 2005), and to instill in our K-12 gifted learners the ability to recognize multiple perspectives, teachers must make a conscious choice to see the shades of color represented in their classrooms and to begin to talk about how life is experienced by different groups (Black American, Native American, Latino/a American, White American). Although some educators may espouse a desire to refrain from distinctions surrounding color, the reality of our K-12 students’ lives—regardless of color—is that they do live in a world of color, and to suggest to them that colorblindness is even an option is misleading, devaluing, and unethical (Nieto, 2004).

At some level, each person has individual biases and no one is completely objective. We are each informed by many different life experiences, whether directly or indirectly, that affect how we relate to color, race, and culture. Failure to acknowledge the existence of color is a form of denial that also invalidates the identities of students of color. Colorblindness is a choice to disregard differences, leading to the valuation of only one frame of reference, that of the dominant mono-racial and mono-cultural society, which historically in the United States, has been recognized as that of the White, middle class, heterosexual experience. The challenge with colorblindness is that regardless of how much race and color are disregarded, both will always be part of the conversation in schools, regardless of whether or not individuals choose to acknowledge their roles or even their existence (Cross & Jones, 2006).

To initiate conversations about colorblindness, educators should focus on race and consider why it is an important construct, especially in its local context in relation to the racial demographics of the school. Facilitators may explore with
teachers the history of racial tension in the school and community, differential representation of learners in gifted and special education programs, trends in drop-out rates, and changes in community demographics. Then, group conversations about the role of race in schools can be facilitated with attention to accessibility, student participation, discrimination, and prejudice. Finally, school groups can engage in conversations about the racial/cultural climate of the school and how specific beliefs are put into practice within their particular educational setting.

CULTURE, THE SELF, AND THE OTHER
In order to provide K-12 learners opportunities for constructive conversations about diversity, teachers must first engage in self-exploration of their own beliefs, beginning with defining their own culture(s) and identifying how they feel about those who do not identify with this background. In order to understand the central role of culture in life, teachers should begin by chronicling significant life events that have shaped their identities. This can be done by examining the multiple facets of one’s identity, categorizing these, and considering how these elements have evolved over the course of one’s lifetime. Critical questions to ask in this process are (a) Who are my people? (b) What regional, linguistic, political, economic, moral and religious assumptions are part of how I view the world? (c) How have these perspectives and beliefs changed, if at all, over the course of my lifetime? (d) What events have effected these changes or solidified my personal beliefs? (Cross & Jones, 2006).

Teachers should also discuss the role of privilege and disadvantage in their lives and how these have shaped who they are and how they view others, especially those who are different from themselves. Quezada and Romo (2004) recommend readers embark on a “Privilege Walk” through their universities, schools, or communities, noting during this process the privilege and position they hold and how cues about both are transmitted (p. 8). Likewise, to understand how students identified as exceptional (gifted students and learners with disabilities) are viewed by peers, teachers and students may also engage in a “privilege walk” focused on these groups.
RECOGNITION OF OTHER CULTURES
Whether an individual identifies few or many aspects of his/her culture, the next step in cultural competency development is acknowledging the presence of individuals from cultures that are different from one's own. In this stage one asks, "What racial, ethnic, linguistic, political, religious, or other perspectives exist? How have I come to know these? How have these interactions affected my perspectives and identities?" Guided discussion in small groups can be an effective means of implementing this step.

DYNAMICS OF CULTURAL INTERACTIONS
Beyond simply naming the cultures that differ from one's own, individuals should progress to a discussion of how others might respond to their points of view, beliefs, attitudes, and identities. This can be achieved by reflecting on intercultural interactions that teachers have experienced. Where did these exchanges happen? Who was involved and in what way? What were the circumstances, the outcomes, and the takeaways for all, including both participants and observers? This step requires a self-monitoring process that extends one's empathy to others.

STEREOTYPES
An essential consideration in teacher education and in K-12 classrooms is the role stereotypes play in how culture and cultural differences are perceived. Research indicates that culturally responsive educators engage their students in careful consideration of stereotypes and related myths about various ethnic groups (Shneidewind, 2005). While teacher preparation in gifted education should include readings and discussions about special populations, teacher educators must be circumspect in the presentation of such discussions. Teacher educators will likely engage teachers in discussions about over- and underrepresented learners in gifted education (e.g., Frasier, 1991). The manner in which such discussions are framed can have the unintended effect of fostering stereotypes about various groups (see for example, Slocumb & Payne, 2000, and a critique of Payne's work by Gorski, 2006/07).
Additional considerations of stereotypes may be examined by analyzing media (Neuharth-Pritchett, Reiff, & Pearson, 2000), including local and national newspapers as well as popular culture such as television programs, music videos, films, and videogames. Handled with sensitivity and empathy, a conversation on stereotypes about gender, ability, race, class, and privilege may set the stage for an informed conversation that moves beyond talk of differential representation to develop understandings of why and how stereotypes and assumptions might be reinforced in the practices of gifted education screening, identification, and service delivery.

Some Questions for Reflecting about Stereotypes.

- What stereotypes have been developed about individuals from the cultural background(s) with which you identify? With others?
- How were these stereotypes initiated? Sustained?
- How has your own thinking promulgated or been shaped by stereotypes?

WRITING AND READING TOOLS FOR EXAMINING CULTURE

Writing about one's life and sharing personal experiences can draw individuals into conversations about issues that many may find initially uncomfortable to discuss. As noted previously, the majority of practicing and pre-service teachers hail from middle-class White backgrounds. Similarly, the K-12 education system and early childhood teacher preparation programs have traditionally viewed all learners' achievements, mannerisms, and behaviors through this cultural lens (Gollnick & Chinn, 1998). Teacher educators must engage teachers of the gifted in critical examination of this point of view to prevent (or at least to minimize) inaccurate perceptions of culturally diverse students as at-risk or dysfunctional (Larkin & Sleeter, 1995). Below we present some reading, writing, and discussion-based strategies that we have found useful in our own teaching practice with educators who work with gifted learners in K-12 settings. Table 1 also lists additional selected resources for teaching about diversity and related issues.
### Preparing Culturally Competent Teachers of the Gifted:  
The Role of Racial Consciousness

Table 1: Selected Resources for Discussion and Reflection about Culture, Race, and Ethnicity

<table>
<thead>
<tr>
<th>Title and Year Released</th>
<th>Distributor</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Eyed (1996)</td>
<td>California Newsreel, Order Department P.O. Box 2284 South Burlington, VT 05407 phone: 877-811-7495, fax: 802-846-1850 e-mail: <a href="mailto:contact@newsreel.org">contact@newsreel.org</a></td>
<td>A teacher recounts an activity she used to show her students the effect of racism. The divisive outcome of the activity, the reflections of the students (now adults), and the long-term impact of the experience are discussed. 93 minutes.</td>
</tr>
<tr>
<td>Ethnic Notions (1987)</td>
<td>California Newsreel, Order Department P.O. Box 2284 South Burlington, VT 05407 phone: 877-811-7495, fax: 802-846-1850 e-mail: <a href="mailto:contact@newsreel.org">contact@newsreel.org</a></td>
<td>55-minute film traces the historical origins of racism and stereotypes of Blacks in the United States.</td>
</tr>
<tr>
<td>Commitment to Combating Racism (checklist)</td>
<td>Available online at <a href="http://www.janeelliott.com/commitment.htm">http://www.janeelliott.com/commitment.htm</a></td>
<td>A 19-item yes/no list of statements addressing actions about racism.</td>
</tr>
<tr>
<td>The Angry Eye (2001)</td>
<td>California Newsreel, Order Department P.O. Box 2284 South Burlington, VT 05407 phone: 877-811-7495, fax: 802-846-1850 e-mail: <a href="mailto:contact@newsreel.org">contact@newsreel.org</a></td>
<td>An updated, shorter version (35 minutes) of the Blue Eye/Black Eye experiment focusing on skin color and involving young adults and conducted by Jane Elliott. Students' responses to the experiment are included.</td>
</tr>
<tr>
<td>More Than Meets the Eye (lesson plan)</td>
<td>PBS: <a href="http://www.pbs.org/wgbh/globalconnections/mideast/educators/types/lesson1.html">http://www.pbs.org/wgbh/globalconnections/mideast/educators/types/lesson1.html</a></td>
<td>Lesson Plan for Students in Grades 9-12. Includes activities to explore the concept of stereotypes, with related readings, websites, and extensions.</td>
</tr>
<tr>
<td>In the Mix: Overcoming Obstacles and Stereotypes</td>
<td>PBS television program: dates of program, transcripts, clips of show available through <a href="http://www.pbs.org/inthemix/shows/show_whatsnormal.html">http://www.pbs.org/inthemix/shows/show_whatsnormal.html</a></td>
<td>Reality show for teens examining difference. Issues include sexuality, disability, and language.</td>
</tr>
<tr>
<td>Do You Speak American?</td>
<td>PBS: <a href="http://www.pbs.org/speak/speech/prejudice/attitudes/">http://www.pbs.org/speak/speech/prejudice/attitudes/</a></td>
<td>Website, classroom guide for educators, links to readings, and a discussion of research results about where “American” English is spoken in the U.S.</td>
</tr>
</tbody>
</table>
REFLECTIVE WRITING

Thinking about one's thinking is a metacognitive strategy encouraged in the development of gifted learners, and should be an essential component of teacher education programs (Quezada & Romo, 2004). Teachers should be encouraged to engage in continuous, purposeful review, consideration, and meaning-making about their own teaching practice and cultural competence development. Deliberate efforts to engage in thinking back through the events of the day should be undertaken if growth is to occur, and one way to begin this process is through regular reflective writing (Milner, 2003).

Reflective writing is a strategy that can allow teachers to think independently about the cultural significance of situations or practices initially perceived to be routine. Such practices might include how students are grouped, how educators deal with conversations about race, or even the language that is used to describe these practices. Examination of lessons, classroom activities, and conversations with students, colleagues, and parents can be used to develop and explore myriad other connections to diversity. Though purposive writing and reflection about race requires sustained, protected time, such engagement is necessary in developing awareness of one's perceptions, assumptions, and behaviors in responding to issues of diversity.

Ideally, the next step in this process would be sharing these writings with professional colleagues who have been noting their own reactions, thoughts, and questions about daily teaching experiences. The facilitation of such gatherings need not be structured formally or in large groups, and may in fact function more effectively in smaller learning communities. However, developing an atmosphere that moves examination from negatively venting toward purposeful awareness may require the guidance of a facilitator, whose task is to promote group trust but also to challenge individuals to move beyond their current mindset into a more open-minded place.

Teachers of the gifted are encouraged in turn to provide experiences for their K-12 students that develop students' thinking and encourage the recognition of multiple perspectives. Among teachers, however, dialogue about culture and
race often focuses more on student performance than on individual teachers' cultural competence. Reflective thinking and guided sharing of these realizations can be helpful for school settings in which there are widely different beliefs about learners in gifted education. Teachers in various classroom settings are encouraged to consider their biases and actions related to opinions about gifted education, and to share these beliefs with others in a forum that promotes respectful, thoughtful exchanges between educators.

PERSONAL NARRATIVES

The personal narrative offers another useful method for examining individual connections to identity. Participants develop descriptions of their lives in written form for purposes of individual reflection, small-group development, or large-group exchanges. Regardless of the forum where these are showcased, in all cases the writer reviews personal life experiences to understand their relationship to his or her views toward and interactions with the world. The personal narrative process has been recommended as an ideal approach for initiating internal dialogue, cultivating awareness, and, in some cases, engendering individual change (Clandin & Connolly, 2000; Leonard & Leonard, 2006; Luwisch, 2001; Smith, 1998). Through the development of autobiographical writing, teachers can learn more about how their life is framed, how they understand the world around them, and how their identities are dynamic (Boone & Chan, 2005).

Neuharth-Pritchett and colleagues (2000) recommend that teacher educators consider differences within their teacher education course(s) through sharing biographical information with classmates about hometowns, family structures, gender, settings in which they teach and/or live, learning style preferences, religious affiliations, etc. This can be especially effective when student groups initially appear to be homogenous, as learners in this type of setting may assume that all share the same perspective until guided discussion highlights their differences. Developing and sharing these biographies provides a foundation on which to build further experiences developing cultural competence.
A related approach is offered by Gay (2003), who utilizes the narrative genre effectively with her students to discuss pivotal life experiences related to culture. Writers are encouraged to begin personal narratives focusing on race, recounting how they understand their own racial identity. Providing students a prompt in the early stages to start this thinking process may be helpful, and such prompts also can be used to generate ideas for other possible personal narratives to be developed at a later date. In Appendix A we have provided samples of students' responses to a prompt given at the beginning of a teacher education course in gifted education. These examples illustrate the power of this strategy in facilitating discussion, providing ideas for later development, and highlighting how students' life experiences differ.

As learners think further about potential personal narrative topics, they can begin by jotting down a specific early life experience, including significant elements of the event as it unfolded and notes about this event's meaning for them and their self-image as a member of a particular race(s) or culture(s). Writers should expound upon a specific event and flesh it out in vivid detail so that the audience (and writer) can revisit the experience and (re)connect with the feelings, sensations, emotions, and resonance of the situation. Offering specific details about a particular event is preferable to giving vague platitudes about one's family origin, current geographic location, or political affiliation. Sharing these narratives within a caring classroom climate can also build group cohesiveness, as writers selectively share personal information and respond to guidance in how readers respond to these pieces.

TEACHING CASES
Teaching cases offer yet another way teachers may engage learners in critical thinking about gifted students, multicultural education, and culturally competent pedagogy. The inclusion of case studies is a pedagogical strategy embraced in several varied disciplines including medical and legal education (Williams, 1992), business (Barnes, Christensen, & Hansen, 1994), and education (Nieto, 2004). Drawing on this rich tradition, teaching cases provide scenarios that challenge readers to examine issues, actions of characters, and possible outcomes (Foley & de Montes, 2006).
Teaching cases can and should be developed by both university faculty and practitioners. Effective teaching cases are rooted in concepts/issues that are relevant to course objectives; they concern a few identifiable (though not vilified) characters and settings, and offer complex challenges that are fleshed out through the description of a specific situation (Epanchin & Colucci, 2001; Wasserman, 1996).

Teaching cases offer educators the opportunity to engage in thinking practices that model recommended strategies for instructing gifted learners, including awareness of multiple perspectives, ongoing engagement in problem solving, and the use of collaboration (Landrum, Callahan, & Shaklee, 2001). As Nieto (2004) notes, cases can serve to provide educators glimpses of diverse learners, though such cases are neither intended as—nor are they capable of being—fully representative of a group's experience. Rather, cases should provide a rich variety of snapshots of students who are "both typical and atypical of their ethnic, racial, linguistic, or social group" (p. 7), in order to challenge readers' assumptions and foster dialogue. Because educators may have limited experience working with students from backgrounds different than their own (Banks, 2002), case studies can greatly inform teachers' understanding of diverse learners. A sample case developed for use in an online graduate class in gifted education is provided in Appendix B. Some suggested questioning strategies, which also can be modified to fit other teaching cases, are provided in Appendix C.

CONCLUSIONS

We conclude that offering a variety of exchanges about "difference"—in its many aspects including cultural, racial, political, socioeconomic, religious, and ability—is an essential component of quality education programs for teachers of the gifted (National Association for Gifted Children, 2007). Cultural competency is critical for the development of teachers of the gifted education as well as K-12 gifted learners. Given the multitude of perspectives represented in our increasingly diverse society, the expectation that individuals will become skilled in recognizing and responding to different understandings is now an expectation.
of students who are effective communicators. To foster this development in understanding, practice, and pedagogy among teachers of gifted students, we identify several strategies, including meaningful dialogue, building awareness, and self-assessment. These strategies are intended to guide educators in their own development and can serve as tools in purposeful exchanges with colleagues, students, parents, administrators, and community members.
References


Perspectives in Gifted Education: Diverse Gifted Learners


Preparing Culturally Competent Teachers of the Gifted: The Role of Racial Consciousness


Appendix A: Examples of Personal Narratives by Gifted Education Teachers

Prompt:
Consider the role that diversity has played in your life. Write about these thoughts in a personal narrative, which you will share with your classmates.

Purpose:
The purpose of this activity is for you to think about your attitudes and to learn more about your classmates' attitudes toward diversity. Don't share any information that you are not comfortable putting out there--stay where you feel safe, but let us know a bit about how you've come to understand diversity.

Content: Please write about:
A. Your background and upbringing,
B. How your familial context and geographical location may have shaped your views about diverse groups (economic, race, ethnic, religious, geographic, language, sexual orientation, ability, exceptionality, etc),
C. Experiences you've had with people who are different from you.
D. Your knowledge of the values of these different groups and your attitude(s) toward them. In what ways might you grow as an individual in your attitude toward diverse groups?

Excerpts from student responses:
• When I was eight years old, I was put into my first full time gifted classroom. There were thirteen of us. I was the only girl. I would not have any encounters with gifted girls my own age until the fifth grade. There were four of us then out of a class of twenty. Being the only girl in a classroom of boys had both advantages and disadvantages. I was often given preferential treatment by teachers because they were trying so hard to make me feel a part of the group. I got first dibs on the good research topics; I was always first in line; nobody was allowed to pick on me; and I was always seen as the "good" child because I was female. On the downside however, I had few female friends. I played boys' games and acted (still do) in many ways like a boy. To this day, I don't have many female friends, and I am frequently seen as intimidating and too aggressive. In short, I don't play well with the other girls.

• I am the second born in a middle-upper class privileged family with four children. My parents were both first generation in America. My father's parents had a forbidden marriage due to religious barriers. My grandfather was a "German" Jew and my grandmother was an "Italian" Catholic, both from extremely large conservative families. My mother was also a product of a less than acceptable circumstance in terms of marriage for the times. My grandfather was Ukrainian and my grandmother was a Polish immigrant.

As if the confusion that my parents grew up in was not enough, I was enrolled in private catholic school for K-12 and to make matters worse, "all girls" Catholic schooling from 9-12 in Erie, PA with a Jewish last name. I was surrounded with privileged, upper class, predominantly White, Catholic females for most of my academic career.
My outlook on the world was not defined by my environment, which I am not proud to admit was filled with bigotry, racial jokes and disrespect for physically/mentally handicapped persons. Apparently, this is what made me unique in my own environment! Most of my reprimands in life have been due to the fact that I never thought like the general majority as I always embraced diversity, this created conflict in my family for a greater part of my life! .... I, against the wishes of my parents, dated many boys from the public schools and had many different groups of friends from all SES backgrounds, races, and ability levels. I was always known to be accepting of everyone, perhaps this is what made my own family most nervous!

• I was five when my parents split. My father was an abusive Vietnam veteran, alcoholic, Lucky Strike-smoking accountant and she was a battered, broke and broken RN who'd do anything to protect and provide for us two kids. Mom remarried when I was seven and that man has been my real hero, my dad, for the past thirty years. I changed the spelling of my nickname long ago not only to be unique but also to somehow shed some of my affiliation to the man who failed me and my family in so many ways. My early years, then, were spent in the company of my step-dad and, mostly, mom's families. Can you hear the polka music at the weddings? Accordions at gatherings spilling out into the garage? Taste that German potato salad, polska kielbasa with horseradish, and Braunschweiger and onion sandwiches? Smell the pipe tobacco and stale, Old Style beer? Feel the pain of another failed sports team's season? These have been my primary senses since 1969.

In the classroom I was a typical clown. When I took a rare break from trying to impress everyone, though, I tended to shine academically. I loved spelling and creative writing. Teachers told me I was bright with math, as well, but I just tolerated it, as it tended to just come easily. My first girlfriend turned out to be more of a semester-long crush. She was the only black girl in my first grade class. We watched Roots on TV together that year (1977), with our families. I remember telling her dad that I wanted to know more about her heritage, since we were going to be married someday. We were 7.

Part of my background that I really want to explore: I have shared my life with many different types of people, which is a phrase that looks awkward even as I type it. I have enjoyed years of friendship (and they have influenced me greatly) with people who are, on paper or at the surface, supposed to be very different from me: my best friends are uniquely or a combination of Jews, gay, affluent, and foreign citizens (in the Netherlands, Germany, and Australia). While I count my blessings that I have been exposed to and accepted by so many different and beautiful people, the aspect I yearn to better understand is this: my mother's family, with whom I have spent so much time and understandably by whom I have been greatly influenced, is full of bigots, racists, and fundamentally ignorant people. That's right: justifiably, I just bashed my grandparents, aunts, uncles, and cousins on the distaff side. Let me point out that only a small handful of them have educations beyond high school. Toss that around a bit as I shamefully admit that
my loved ones purposefully, bitterly, and regularly bash gays, Jews, and blacks. Usually via “sports failures,” you can hear family members, slurs and all, shift blame onto minorities for things going wrong on the field of play. It's hard to protect my daughter from this at gatherings like Super Bowl parties; I suppose she is going to grow up to think what she wants, but I'd like to think that I have the responsibility to keep those people and their ignorant remarks at a distance. My mother endured the comments through the years (by being around these relatives) and does not display such unfortunate qualities. I credit her for keeping my thought processes and experiences open to diversity and differences.

• I remember coming home from summer camp one year. I was about twelve years old. I had met a friend at camp and wanted her to come over to my house. I talked with her on the phone incessantly. Finally, I convinced my mom to let Mary spend the weekend with us. I wrote down directions to her house, and gave them to my dad. He looked over the directions and told me that I had to be mistaken. I didn't understand why; I knew that I had written them correctly. We called Mary back up on the phone, and my dad talked with her dad to clarify the directions. When my dad got off of the phone, he asked, “Is there something you forgot to tell me about Mary?” I had no idea what he meant. We talked for a while, and he finally came out and asked me if Mary was black. I said she was. I didn’t understand why it was an issue. My dad had a peculiar smile on his face, but he said that it wasn’t an issue at all. Mary came over for the weekend, and we had a great time.
Appendix B: A Teaching Case in Gifted Education

Ana: A Gifted LEP Elementary Student

Juanita Perez, has been teaching for 3 years in a program for students with Limited English Proficiency (LEP). As the resource teacher, Juanita attends Mrs. Langer’s fifth-grade classroom daily to work with LEP students. Ms. Langer recently shared with Ms. Perez her concerns for one of the students served in the LEP program.

"Ana needs to be encouraged to speak English because she gets nothing but Spanish at home."

"My job is to make her transition as easy as possible and I am doing the best that I can," replied Ms. Perez.

A few weeks after this exchange, Ms. Langer noticed that Ms. Perez was still speaking Spanish to Ana.

"Ana is doing poorly in all subjects, including math word problems, which comprise most of the test. Her reading comprehension, science and social studies in class and on standardized test reflect that she is operating on a first grade level in these subjects. She has inadequate receptive English language skills and verbal language skills. In math, she can only do strict numerical problems and she is inept with word problems that cover the test. She actually has to draw pictures to try to show comprehension."

Ms. Perez responded to Mrs. Langer’s evaluation: "Ana seems to be an advanced speaker and reader of Spanish."

Ana was identified as intellectually gifted last year (in fourth grade) with an I.Q. of 147 (on an IQ assessment given in Spanish), but she lacks proficiency in English language skills. She has been in America for 2 years. Ms. Langer feels that Ana should focus on learning English rather than continue in the gifted program. The gifted resource teacher, Mr. Smith, feels differently; he thinks that Ana should remain in the gifted program, regardless of her English skills. Ana attends the gifted class for 45 minutes 4 times a week. Mr. Smith has seen Ana perform exceptionally well in algebra and other advanced math concepts. Ana has scored in the 99th percentile in math on a standardized math test administered by Ms. Perez. Though Mr. Smith agrees with Ms. Langer that Ana should spend more time learning English to help her excel academically, he doesn’t think she should have to leave the gifted program to achieve this goal.

According to Mr. Smith, "Ana has made almost perfect scores in the class tests that are strictly numerical and she requires very little verbal instruction. She can learn mathematical processes rapidly by seeing me do it just once."

Ana has few friends in her predominantly monolingual regular education and gifted education classrooms, but she desperately wants to fit in. She recently told Mrs. Langer that she wanted “to be white.” Ms. Langer was visibly stunned by this remark.

Once, when Ana had a doctor’s appointment, her mother dropped her off late and she and Ms. Langer were able to have an impromptu discussion with the help of a bilingual administrator. She relayed the conversation to Mrs. Perez and Mr. Smith in the teacher’s workroom:

“Ana’s mom is often unable to attend meetings with teachers because she and Ana’s father only have off on Sundays and they work more than 12 hours daily. Her father is a gardener making slightly above minimum wage and her mother is a housekeeper at a local motel, earning even less than her father.
Perspectives in Gifted Education:
Diverse Gifted Learners

They are both monolingual in Spanish. They are depending on Ana to make a
difference in their lives here. Her mom said that Ana was the main reason her
family moved to the United States, to create a better life for Ana. Her mom
explained that Ana was at the top of her class in their home country and she
received many honors. Her father expects her to go to college to become a
doctor, but her mother thinks this is not a realistic goal, especially if Ana remains
unhappy. She fears Ana will drop out of school early because she is not
succeeding academically and she feels disliked by her peers and teachers. She
even cries herself to sleep at night because nobody likes her."

The teachers worry about Ana’s future in school, but are unsure of how
to address her current needs, especially given her lack of academic progress.
Ms. Langer’s class celebrates Hispanic Heritage month, and she earnestly
believes that her students should all be proud of their communities’
accomplishments, but she firmly believes all of her students’ academic
success—including Ana—is her top priority. She does not want to play into Ana’s
insecurities about her ethnicity, nor does she want to leave the girl ill-equipped
for the future.
Appendix C: Guiding Questions for Teaching Case Discussion

- What are the issues presented in this case related to
  - diversity
  - cultural competence
  - multiple perspectives
  - gifted education?
- How would the issues in this case be different if character identities were modified:
  - Student is middle class and White attending an urban school
  - Student is an urban African American learner attending a suburban school
  - Learner is Asian
  - The teacher is from a different group (racial, social, linguistic)?
- What are the biases presented by the characters?
- What are your biases and how do they relate to this case?
- How can the challenges presented in this case be addressed?
- What risks does the teacher face if she/he changes his/her behavior?
INCREASING IDENTIFICATION OF LINGUISTICALLY DIVERSE GIFTED STUDENTS

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Reflections of teachers in English for Speakers of Other Languages (ESOL) graduate endorsement classes at Wichita State University in Wichita, Kansas, frequently mentioned a concern about classroom teacher inappropriate referrals of ESOL students to special education services. In particular, these referrals were made for learning disabilities and speech services. These teachers observed that their colleagues underestimated the intellectual abilities of ESOL students because of the children's limited English language skills. At the same time though, we wondered why other teachers were able to recognize intellectual abilities and provide learning environments that foster the academic success of ESOL students who demonstrate characteristics associated with giftedness.

These reflections and a review of relevant literature inspired us, a professor of ESOL and a professor of gifted education, to consider how we might enhance ESOL teachers' understanding of giftedness in linguistically diverse students and increase referral rates. We believed that the integration of strategies for teaching gifted students into ESOL teaching practices would help challenge, identify and develop the gifted potential in ESOL students. Realizing the impact of the multidimensional perspectives of intelligence on curriculum development and instructional strategies, we also felt that the integration of Gardner's Theory of Multiple Intelligences into classroom practice (Armstrong, 1994) would create more appropriate ESOL practice.

This paper begins with a literature overview of the under-representation problem, followed by a description of research-based strategies for identification and instruction of gifted ESOL students. Two sessions are detailed. They were designed to increase teachers understanding and identification of gifted ESOL students. Finally, the research findings are discussed with recommendations for future sessions.
OVERVIEW OF THE UNDER-REPRESENTATION PROBLEM

There are a growing number of students entering United States schools who do not speak English as a first language. One way to recognize such students is with the Home Language Survey (HLS) and an English language placement test that assesses the new student’s English proficiency. If the test indicates a need for English language services, the student is placed in the English for Speakers of Other Languages (ESOL) program, commonly known as English as a Second Language (ESL). Students attending such a program are called ESOL students.

In this paper, we chose to use the term ESOL student when referring to a student who does not speak English as his/her first language. However, when reporting research findings from the literature, we used the researcher's language such as an English-as-a Second-Language (ESL) student, a Limited English Proficient (LEP) student, a Linguistically and Culturally Diverse (LCD) student, or simply an English Language Learner (ELL). Therefore, acronyms ESOL, ESL, LEP, LCD, or ELL are terminology used in this paper to indicate a student who does not speak English as a first language.

Researchers point out a number of factors that contribute to the problem of under-representation of ESOL students in gifted programs. First, there is a lack of identification procedures that take into account linguistic diversity (Castellano & Diaz, 2002; Raupp, 1988; Renzulli, Reis, & Smith, 1981). Secondly, recognizing ESOL students' strengths and talents is difficult because of the reliance on a deficit-based paradigm (Ford & Grantham, 2003; Frasier et al, 1995). Thirdly, traditional standardized assessment instruments are linguistically and culturally biased (Frasier, 1997; Naglieri & Ford, 2005). Finally, in initial teacher preparation programs, teachers are not provided substantial training about the identification of gifted students (Frasier et al, 1995; Kitano & Espinosa, 1995; Peterson & Margolin, 1997).

In the last two decades, some progress has been made to overcome test biases. Current identification procedures, mostly for Hispanic bilingual students, use qualitative instruments or case studies (Garcia, 1994; Granada, 2003; Reyes, Fletcher & Paez, 1996). The procedures include such instruments as teacher
checklists of student behaviors, parent interviews, culture-specific or culture-sensitive checklists, gifted indicator matrices, autobiographies and portfolios. However, other facets of identification have not been dealt with as successfully.

A number of ways to improve identification procedures were suggested in the research (e.g., Ford, Harris, Tyson, & Troutman, 2002; Frasier, 1997; Sarouphim, 2005). From her work at the National Research Center for Gifted and Talented, Mary Frasier (1992) emphasized nine points as best practice for the identification of gifted students from minority populations. Five of these are of particular relevance to our research. They are

(a) Professionals and nonprofessionals who represent various areas of expertise and who are knowledgeable about behavioral indicators of giftedness should be involved, (b) identification should occur as early as possible, (c) special attention should be given to the different ways in which children from different cultures manifest behavioral indicators of giftedness, (d) data should be gathered from multiple sources, and (e) both objective and subjective data should be collected (Tran & Gibson, 2007, p. 10).

Research findings of McIntosh (1995), and Cross and Donovan (2002) supported Frasier's best practice point that identification of gifted students in the primary grades was critical. Aguirre (2003) emphasizes the importance of using "pregifted programs" with potentially gifted LEP students. Such programs allow for students to demonstrate their giftedness in the early years of schooling that is critical for best practice in identification of gifted ESOL students.

Sarouphim (2005) investigated alternative data sources that could be used to identify gifted minority students rather than data from traditional assessments. Her research examined the effectiveness of DISCOVER, a performance-based assessment developed by Maker, Nielson, and Rogers (1994), that measures linguistic, logical-mathematical, and spatial intelligences of Gardner's Multiple Intelligences Theory (1983). Sarouphim found that the assessment instrument, though limited to three intelligences, provided a valid and reliable way to identify culturally diverse gifted students.
Another aspect of identification of gifted ESOL students that was found in the literature related to the education of school personnel. The provision of training to heighten the awareness of administrators and staff about possible gifted potential in Limited English Proficient (LEP) students was emphasized (Cohen, 1990; Office of Educational Research and Improvement OERI, 1998). The training not only included providing knowledge of other cultural and linguistic groups, but also increasing awareness of LEP students' gifted potential and the different ways giftedness is manifested (Frasier, 1997; Naglieri & Ford, 2005; Peterson & Margolin, 1997).

**Characteristics of Gifted and ESOL Students**

Giftedness is a psychological construct and as such is recognized through culturally specific behaviors. Frasier et al. (1995) identified ten attributes of giftedness in six minority student populations that included Latino, African-American, Native American, Native Hawaiian, Native Alaskan and low socioeconomic status white groups. In her study, ten traits, aptitudes and behaviors (TABs) were identified as cross-cultural indicators of giftedness. Later, Gibson (1998) added another attribute to Frasier's list: inter/intrapersonal ability, from her research with gifted urban Australian Aboriginal students. The eleven TABs are:

1. Communication – Highly expressive and effective use of words, numbers, symbols
2. Motivation – Evidence of desire to learn
3. Memory – Large storehouse of information on school or nonschool topics
4. Interests – Intense (sometimes unusual) interests
5. Inquiry – Questions, experiments, explores
6. Insight – Quickly grasps new concepts and makes connections; senses deeper meanings
7. Imagination/Creativity – Produces many ideas; highly original
8. Humor – Conveys and picks up on humor
9. Problem-solving ability – Effective, often inventive, strategies for recognizing and solving problems
10. Reasoning – Logical approaches to figuring out solutions (Frasier, 1995)
11. Inter/Intrapersonal – Unusually heightened understanding of self and others (Gibson, 1998)

All eleven of the TABs are related to characteristics representative of Linguistically and Culturally Diverse (LCD) gifted students (Aguirre, 2003) and those representative of LEP students with high potential (Robisheaux, 2002). The fact that these attributes are cross-cultural indicators of giftedness is confirmed by other research such as the study carried out by Kent State University in 1992 (as cited in Castellano, 2003), the research on Native Americans by Skenadore and Taradash (1994), and the findings of Irby and Lara-Alecio (1996) related to Hispanic students.

In Kansas, gifted education services fall within special education state laws and regulations. All special education services operate with a state definition and a mandate for identification and provision of services. The state definition of giftedness as defined in K.A.R. 91-40-1(cc) is “performing or demonstrating the potential for performing at significantly higher levels of accomplishment in one or more academic fields due to intellectual ability when compared to others of similar age, experience and environment” (Kansas State Department of Education, n.d.). This level of accomplishment may be demonstrated by exceptional performance due to general intellectual ability or by excellence in one or more specific academic fields (Wichita Public Schools, 2004). The state definition reflects the revised definition of the U.S. Department of Education (1993) that recognizes the presence of giftedness in “children and youth from all cultural groups, across all economic areas of and in all areas of human endeavor” (p. 26). For this research project, we used the state gifted definition in conjunction with Frasier’s core attributes (1995) plus one additional attribute (Gibson, 1998).

Research based teaching strategies
A review of the literature revealed a number of research-based approaches for the teaching of ESOL gifted students. Kitano and Espinosa (1995) and Burnette (1999) advocated practices that are standard in effective teaching especially for culturally and linguistically diverse learners. Granada (2002) emphasized the
Increasing Identification of Linguistically Diverse Students

application of gifted education strategies in standard bilingual and multicultural teaching practices.

Similarly, Robisheaux (2002) asserted that in addition to effective second-language teaching strategies, the use of gifted education methods to teach ESOL students fosters the full development of their giftedness. Instead of drill and practice, ESOL students need to be motivated and challenged with generative instructional strategies, learning options, curriculum choices, differentiated assignments, and student goal setting.

Our research explored the role of gifted education instructional pedagogy in challenging and identifying gifted ESOL students. The study was based on research findings previously discussed: the benefits of early identification, the necessity of school staff training, the characteristics of gifted and potentially gifted students, and instructional strategies appropriate for gifted ESOL students.

METHOD

Participants

Participants in this research were sixteen teachers, who were graduate students in an ESOL assessment class at Wichita State University. All signed written consent forms to participate in the research project. However, because two of the teachers did not complete the post survey, only fourteen of the participants' data were included in this research.

These fourteen participants had been teaching from two to thirty years, with five of them teaching three or four years. Half (7) of the participants taught in elementary schools, five in middle schools, one in a high school and one in a college. One of the participants was from overseas, one taught in a school district in the Wichita vicinity, and the other twelve taught in the Wichita public school district.
Instruments

**ESOL - Gifted Survey.** The ESOL-Gifted Survey was adapted from the Office of Educational Research and Improvement (OERI) self-assessment guide. Participants were asked to respond to twenty statements (see Tables 1-4) using a five-point scale with "5" indicating "always" and "1" indicating "never", and a column for optional comments. The statements were evenly divided into two sections: Awareness, Philosophy, and Understanding; and Action and Implementation. Statements in the first section were designed to gather data related to communication and collaboration between school personnel in gifted and ESOL/bilingual programs. Statements in the second section, Action and Implementation, sought to ascertain data about the participants' knowledge of appropriate identification, commitment to a multidimensional view of ability, and effective pedagogical instruction to achieve proportionate numbers of ESOL students in gifted services.

A post-survey was administered 8 months after the Pre-Survey. This survey contained the twenty statements identical to those on the pre-survey with four additional items included to determine the number of ESOL students referred for gifted programs, participants' understanding of gifted characteristics, and the type of research-based strategies that participants were continuing to use.

**Focus groups.** One week after the second session, three focus groups were conducted during a class session to gather data concerned with the effect of the sessions on the teachers' daily classroom practice. The discussions were taped and participants took turns responding to five guiding questions. They were asked (1) Which research-based strategies from the sessions did you implement? (2) How did those strategies help you to be more aware of ESOL students of high potential? (3) How effective were those strategies? (4) Did you expect more ESOL students to be identified as gifted students as the result of continued use of those strategies? and (5) Have you identified ESOL students with high potential due to the broadened knowledge provided by the sessions?
Increasing Identification of Linguistically Diverse Students

**Written reflections.** Following the focus group discussions, participants continued to implement the research-based gifted strategies with ESOL students in their classrooms for another week. Afterwards, participants individually documented in a written reflection their use of the strategies by responding to three guiding questions that were similar to the focus group questions. The questions included:

1. How did the sessions increase your awareness of high ability potential in the ESOL students? Give examples.
2. Before participation in the sessions you may have identified one or more ESOL students with gifted potential. After Session I in which we discussed gifted characteristics, do you feel more confident in identifying gifted ESOL students? Explain.
3. What are the research-based strategies that you learned from the two sessions and implemented with your ESOL students? List them. Then answer the following questions about the strategies:
   a. How did those strategies allow the high ability ESOL students to demonstrate their potential?
   b. How effective were these strategies in your teaching and learning settings?
   c. What are some of the ways they were especially effective? Give examples.
   d. What were the difficulties you experienced in implementing these strategies?

In the written reflection, participants also were asked to record the number of referrals they had made from Fall Semester 2003 to Fall Semester 2005. This data was used to determine any trends in referral rates before and after the two sessions.

**Procedure**
The research project was explained in the ESOL Assessment class at the beginning of the 16-week semester. Sixteen participants signed a consent form.
After consent was obtained, the pre-survey was administered in class to all sixteen participants.

As a purposive sample, participants were observed at least once in their classroom before Session 1. During the observations, we recorded the participants' use of instructional strategies that research indicates are effective for the identification and teaching of gifted ESOL students. Although the participants stated in the pre-survey that they were using a number of effective strategies, we determined, through the observational data, that their actual practice did not support this notion. The observations helped us select the content for the two 3-hour sessions that were provided to the participants during weeks 12 and 13 of the semester class.

Session I and Session II. The participants attended Session I in the twelfth week of the semester after observations were completed. The session presentations and discussions included an overview of the issues of under-representation and identification, the meaning of giftedness; the characteristics of gifted students; and techniques for identifying giftedness in culturally and linguistically diverse students. Figure 1 shows agenda items for the first session. Participants were provided with the following handouts (a) the Session agenda, (b) the ESOL-Gifted Survey, (c) the Response Sheets for questions 1-6, (d) a copy of the Kansas State Definition of Gifted (Kansas State Department of Education, n.d.), (e) a copy Gagne's Differentiated Model of Giftedness and Talent (Gagné, 2003), (f) a list of the eleven attributes of the gifted with definitions and examples of each (Frasier et al., 1995; Gibson, 1998), (g) a copy of Bloom's Taxonomy, (h) a chapter, ESL Students in Gifted Education, by Aguirre (2003), and (i) a chapter, The Intersection of Language, High Potential, and Culture in Gifted English as a Second Language Students, by Robisheaux (2002).
SESSION I
ESOL & GIFTEDNESS
AGENDA

1. Explanation of the Research
2. Consent Form
3. Pre-Survey
4. Write your own definition of giftedness. Write your answer on response sheet #1.

Examine the Kansas State Definition of Giftedness.
5. Describe an ESOL student who you think may be a gifted student. Write your answer on response sheet #2.
6. What is it about this student that makes you think s/he is gifted? Write your answer on the response sheet #3.
    Compare your responses for #2 and #3 with three other people in the class. How are the responses similar, and how do they differ?
8. Discuss Frasier's Traits, Aptitudes, and Behaviors (TABs) (Frasier, 1995).
9. Look at Bloom's Taxonomy. What does this tell you about creating curriculum for gifted ESOL students?

Break

10. What do you do to help high ability ESOL students to maximize their potential? Write your answer in the response sheet #4.
12. Write the strategies, activities, and approaches you are currently implementing in your classroom on response sheet #5.
13. Distribute chapters to be read for Session II: *ESL Students in Gifted Education* and *The Intersection of Language, High Potential, and Culture in Gifted English as a Second Language Students*.

Prior to Session II, complete response sheets #5 and #6 (What strategies, activities and approaches described in the readings might be viable in your teaching context to help gifted learners maximize their potential? Why?).

Session II, in the thirteenth week of the semester, was devoted to strategies for teaching gifted, potentially gifted, and ESOL students (see Figure 2). This information was based on two book chapters (Aguirre, 2003; Robisheaux, 2002) distributed in the first session along with handouts related to specific topics for discussion such as curriculum compacting. Participants completed activities designed to heighten their awareness of giftedness in ESOL students, and to
provide opportunities for them to reflect on how they could integrate into their
daily practice this new knowledge of giftedness and research-based teaching
strategies. Participants were asked to implement in their classrooms until the
end of the school semester two of the strategies that they had not used
previously.

Figure 2: Session II agenda

SESSION II
ESOL & GIFTEDNESS
AGENDA

1. Research-based identification practice
   Activity: Using the TABs, classify gifted characteristics discussed in Handout
   Chapter 2 ESL Students in Gifted Education, and Chapter 8 The
   Intersection of Language, High Potential, and Culture in Gifted English
   as a Second Language Students. Look at the student whom you
described as gifted in Session I. Label the characteristics which you
described for that student. Share your student’s characteristics and how
you labeled them.

2. Activity: In groups of three, review Chapters 2 and 8 to locate strategies for
teaching gifted ESOL students. Individually list the strategies. Describe
one way or give an example of how you could implement these
strategies in your specific educational setting.

Break

3. Do you currently use some of those strategies? (Prior to Session I, since last
   2 weeks, or since reading the given chapters?)
   Activity: On your list of strategies, star those that you have used.

4. Discussion of handouts related to curriculum compacting
   (Reis, Burns, & Renzulli,
   1992), academic acceleration (Davis & Rimm, 2004), and enrichment
   (Davis & Rimm, 2004).

5. Handout Gardner’s MI Theory and Bloom’s Taxonomy Matrix
   Activity: In the matrix, place at least five classroom activities that you use to
   challenge high ability ESOL students. How many of the activities require
   the higher levels of Bloom’s Taxonomy? How many different
   intelligences are incorporated in those activities?

6. On an index card, write two strategies that you will incorporate in your class
   until the end of the semester?
Post-session focus groups and written-reflections. Following the two sessions, three focus groups were conducted to collect feedback on the implementation of the two new teaching strategies chosen by each participant. Five questions were used to guide the taped discussions in each focus group. During the week after the focus group discussions, participants wrote an individual reflection in more detail on the implementation of the strategies in their own classroom. A post-survey was conducted eight months after the pre-survey, to ascertain long-term use of the research-based strategies for teaching and identifying gifted ESOL students. Fourteen of the original participants completed and returned the post-survey. Therefore, results from the study reflect only data from those 14 participants.

RESULTS

Pre- and post-surveys, focus group discussions and written reflections were used to collect data to determine if the research-based gifted teaching strategies component of the course would increase the representation of ESOL students in gifted programs. Results were analyzed to determine the effect of the sessions on the participants' knowledge and classroom practice regarding the teaching, identification, and referral of gifted ESOL students.

Pre-and Post-Surveys

On the pre- and post- survey a five-point rating scale with "5" indicating "always" and "1" indicating "never" was used to respond to twenty statements. These statements were analyzed and grouped into 4 categories: (1) under-representation, (2) identification through communication, (3) identification through instruction, and (4) identification through philosophies and procedures. The rating on the pre-survey of each statement was compared to the rating on the post-survey to ascertain changes in attitudes, beliefs, and perceptions. The data for the four categories are shown in Tables 1, 2, 3, and 4 respectively.
Table 1: Comparison of Pre- and Post-Survey Results for Under-representation Statements (N=14)

<table>
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<th>Statements</th>
<th>Rating 5 Always</th>
<th>Rating 4</th>
<th>Rating 3</th>
<th>Rating 2</th>
<th>Rating 1 Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-/Post-</td>
<td>Pre-/Post-</td>
<td>Pre-/Post-</td>
<td>Pre-/Post-</td>
<td>Pre-/Post-</td>
<td>Pre-/Post-</td>
</tr>
<tr>
<td>1. Staff in bilingual education recognize opportunities for their students in gifted programs and believe gifted education has something to offer LEP students.</td>
<td>3 / 3</td>
<td>3 / 4</td>
<td>5 / 4</td>
<td>2 / 0</td>
<td>1 / 2</td>
</tr>
<tr>
<td>2. At present the ESOL student is under-represented in the Gifted Program.</td>
<td>5 / 6</td>
<td>3 / 1</td>
<td>3 / 3</td>
<td>0 / 1</td>
<td>1 / 2</td>
</tr>
<tr>
<td>3. Gifted and bilingual staff members have established a core committee that will lead a change effort to include and nurture proportionate numbers of LEP students in gifted education.</td>
<td>0 / 0</td>
<td>0 / 1</td>
<td>7 / 6</td>
<td>2 / 2</td>
<td>5 / 4</td>
</tr>
<tr>
<td>4. Distinct timelines for discrete goals have been established to increase the numbers of LEP students in gifted programs.</td>
<td>0 / 1</td>
<td>3 / 1</td>
<td>3 / 5</td>
<td>5 / 2</td>
<td>3 / 4</td>
</tr>
</tbody>
</table>

It can be seen in Table 1 that although ESOL teachers believed that gifted programs are beneficial for ESOL students (Statement 1), they acknowledged that ESOL students are under-represented in these programs (Statement 2). While the participants were aware of the under-representation problem, only one participant used a 4 rating in statement 3, “have established a core committee that will ...include and nurture... LEP students in gifted programs.” Furthermore, only one participant used a 5 rating in statement 4, “Distinct timelines for discrete
goals have been established to increase the number of LEP students in gifted programs." Even though, participants recognized the under-representation, little was being done to establish a systematic way to include and nurture gifted ESOL students.

<table>
<thead>
<tr>
<th>Statements</th>
<th>Rating 5 Always Pre-/Post-</th>
<th>Rating 4 Pre-/Post-</th>
<th>Rating 3 Pre-/Post-</th>
<th>Rating 2 Pre-/Post-</th>
<th>Rating 1 Never Pre-/Post-</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gifted and bilingual staff members meet on a regularly scheduled basis with community members, eliciting their feedback and support for inclusive gifted education.</td>
<td>0 / 1</td>
<td>1 / 1</td>
<td>3 / 4</td>
<td>8 / 3</td>
<td>1 / 4</td>
</tr>
<tr>
<td>2. Key staff members, including program personnel and administrators, have worked with community representatives to increase public awareness of LEP students and increase their role in gifted education.</td>
<td>0 / 1</td>
<td>0 / 2</td>
<td>3 / 4</td>
<td>9 / 1</td>
<td>2 / 4</td>
</tr>
<tr>
<td>3. The school board is fully cognizant of, and educated about, the effort to identify and nurture LEP students in gifted programs.</td>
<td>0 / 2</td>
<td>2 / 2</td>
<td>4 / 4</td>
<td>4 / 2</td>
<td>1 / 3</td>
</tr>
</tbody>
</table>

The first two statements in Table 2 are related to the ability of gifted staff, bilingual staff, program personnel, and administrators to communicate with community members. The combined number of responses for ratings of 3, 4, and 5 on the post-survey indicated that there was (a) more effort being made to gain support and feedback about gifted education (Statement 1), and (b) a greater number of key school personnel working to increase public awareness of gifted ESOL students (Statement 2). The result of statement 3 also showed an increase
in participants’ perceptions that school boards were fully aware of efforts to identify and provide appropriate services to gifted LEP students.

Table 3: Comparison of Pre- and Post-Survey Results for Identification through Instruction Statements (N=14)

<table>
<thead>
<tr>
<th>Statements</th>
<th>Rating 5 Always</th>
<th>Rating 4</th>
<th>Rating 3</th>
<th>Rating 2</th>
<th>Rating 1 Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Staff members use strategies that help to develop ESOL students’ critical thinking skills.</td>
<td>2 / 4</td>
<td>7 / 5</td>
<td>5 / 3</td>
<td>0 / 0</td>
<td>0 / 0</td>
</tr>
<tr>
<td>2. Staff members use strategies that encourage a creative approach to learning.</td>
<td>3 / 4</td>
<td>7 / 5</td>
<td>4 / 3</td>
<td>0 / 1</td>
<td>0 / 0</td>
</tr>
<tr>
<td>3. Staff members use strategies that are based on students’ interests.</td>
<td>3 / 1</td>
<td>5 / 8</td>
<td>6 / 4</td>
<td>0 / 0</td>
<td>0 / 0</td>
</tr>
<tr>
<td>4. Staff members use strategies that cater to a variety of learning styles.</td>
<td>3 / 1</td>
<td>5 / 10</td>
<td>5 / 1</td>
<td>1 / 1</td>
<td>0 / 0</td>
</tr>
<tr>
<td>5. Gifted and bilingual staff members communicate with each other about programmatic goals.</td>
<td>2 / 2</td>
<td>6 / 3</td>
<td>4 / 5</td>
<td>0 / 1</td>
<td>2 / 2</td>
</tr>
<tr>
<td>6. Evaluation plans to determine program success as well as needed refinements have been established.</td>
<td>3 / 2</td>
<td>3 / 3</td>
<td>4 / 4</td>
<td>2 / 2</td>
<td>2 / 1</td>
</tr>
</tbody>
</table>

Statements in Table 3 pertained to the participants’ use of research-based instructional strategies that (a) related to critical thinking skills (Statement 1), (b)
Increasing Identification of Linguistically Diverse Students

encouraged the creative learning approach, discussed in the sessions (Statement 2), (c) focused on students' interests (Statement 3), and (d) addressed a variety of learning styles (Statement 4). There was a slight decrease in the level of gifted and bilingual staffs' communication about program goals (Statement 5) and in the establishment of evaluation for program revisions (Statement 6).

A slight decrease in the combined number of responses for ratings of 3, 4, and 5 can be noted for all six statements in Table 3. However, this slight decrease was due to the fact that not all participants rated every statement in the Post-survey. Rating results across the first four statements showed a small decrease of one or two responses. There was no change in the combined number of responses for ratings of 1 and 2. As on the pre-survey, a majority of the participants rated themselves at 3, 4, or 5 on the first four statements indicating they believed they often practice the research-based strategies in their classrooms.

The statements in Table 4 can be grouped into three subcategories. The first subcategory deals with the philosophical belief that gifted programs should include linguistically diverse students (Statements 1, 2, 3, and 4). The second deals with the knowledge base of the school staff about the identification of gifted ESOL students (Statements 5 and 6). The third subcategory deals with the roles and responsibilities of school personnel in the identification process (Statement 7).

Responses to the statements in the three subcategories were scattered across the 5-point rating scale and did not reveal a major increase or decrease between the pre- and post-survey results. A slight decrease in the combined numbers of responses for ratings of 3, 4, and 5 can be noted for all but statement 2.

In Part 2 of the Post-Survey, two out of 14 participants stated that they referred ESOL students for gifted evaluation, with one of those indicating that the referral was as a result of her participation in the sessions. One of the participants in this
study who had not yet referred a student said, "I felt more knowledgeable in being able to present logical reasons why our district needs to look into this area of gifted program[s]."

Table 4: Comparison of Pre- and Post- Survey Results for Identification, Philosophy, and Procedures Statements (N=14)

<table>
<thead>
<tr>
<th>Statements</th>
<th>Rating 5 Always</th>
<th>Rating 4</th>
<th>Rating 3</th>
<th>Rating 2</th>
<th>Rating 1 Never</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Philosophical Beliefs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Staff members in gifted education are committed to multi-pronged identification procedures for students in gifted programs.</td>
<td>1 / 3</td>
<td>5 / 1</td>
<td>5 / 3</td>
<td>0 / 2</td>
<td>2 / 2</td>
</tr>
<tr>
<td>2. Gifted and bilingual staff members have a clear vision of gifted education that authentically identifies and nurtures LEP youth.</td>
<td>2 / 2</td>
<td>1 / 2</td>
<td>3 / 3</td>
<td>4 / 4</td>
<td>4 / 2</td>
</tr>
<tr>
<td>3. Gifted and bilingual staff members have a philosophical commitment to the inclusion and success of LEP students in gifted programs.</td>
<td>2 / 1</td>
<td>6 / 5</td>
<td>3 / 2</td>
<td>1 / 3</td>
<td>2 / 2</td>
</tr>
<tr>
<td>4. Gifted education staff members are committed to a multidimensional view of ability.</td>
<td>3 / 2</td>
<td>6 / 4</td>
<td>2 / 4</td>
<td>1 / 1</td>
<td>1 / 1</td>
</tr>
</tbody>
</table>
Table 4: Comparison of Pre- and Post- Survey Results for Identification, Philosophy, and Procedures Statements (N=14) (continued)

<table>
<thead>
<tr>
<th>Statements</th>
<th>Rating 5 Always</th>
<th>Rating 4</th>
<th>Rating 3</th>
<th>Rating 2</th>
<th>Rating 1 Never</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-/ Post-</td>
<td>Pre-/ Post-</td>
<td>Pre-/ Post-</td>
<td>Pre-/ Post-</td>
<td>Pre-/ Post-</td>
</tr>
</tbody>
</table>

6. School staff is aware of procedures in identifying gifted ESOL students.

2 / 1 2 / 4 4 / 2 5 / 4 1 / 2

7. Concrete responsibilities have been determined and have been assigned to gifted and bilingual staff, as well as other key district personnel.

1 / 2 6 / 2 5 / 6 1 / 1 1 / 2

Table 5 shows the results for question 4 of the post-survey that asked participants to identify the research-based strategies that they used in the Spring semester following the sessions, and then to identify those that they were currently using in the Fall semester. It should be mentioned that some terms describing strategies overlap in Table 5 to honor participants' original terminology. For instance, some participants used the terms “problem solving,” “compare and contrast,” and “Bloom’s Taxonomy” which are forms of “higher order thinking skills.”

Participant usage remained the same for 10 of the 15 strategies. “Independent work” and “compare and contrast” were used more frequently in both the Spring and the Fall than any other strategies. The greatest change was for “higher order thinking skills” that increased from 8 to 11 participants.
Table 5: Summary of Strategies Used by Participants After the Two Sessions (N = 14)

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Number of teachers using strategy in Spring Semester</th>
<th>Number of teachers using strategy in Fall Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compare-Contrast</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Independent Work</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Bloom’s Taxonomy</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>Cooperative Grouping</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Discussion</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Individual Performance</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Communication *</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Higher Order Thinking</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>Skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple Intelligences</td>
<td>12</td>
<td>11</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Small Group</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Group Work</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Peer Sharing</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Simulation/Real Life</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Panel Discussion</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

* A focus on the development of four linguistic skills: Listening, speaking, reading and writing

Focus group

Focus groups, each with five or six participants, were held one week after the second session was conducted. The participants responded to five statements. In response to the first focus group question, participants identified research-based strategies from the sessions that they had implemented with their ESOL students in the 1-week period of time. The analysis of the discussions indicated that fifteen research-based strategies presented in the sessions had been implemented with ESOL students (see Table 6).
Increasing Identification of Linguistically Diverse Students

All participants reported the use of more than one strategy. Seven participants used the "compare and contrast" strategy, six used "higher order thinking skills", four used "small groups", and three participants used "problem solving." It can be noted that the number of participants reporting the use of each strategy in the focus groups is considerably lower than that in the pre- and post-survey results. This can be attributed to the format of the focus groups in which every participant did not necessarily answer each question and the fact that participants were describing strategies used only within a brief two-to-three-week time period.

From analysis of the focus group discussions, it was also noted that seven participants reported that these strategies helped increase their awareness of high ability potential in ESOL students through increased observational opportunities. Three participants commented that the strategies provided effective ways to understand and work with gifted students.

Written Reflections
During the week following the focus groups, each of the sixteen participants wrote individual reflections based on three guiding questions that were similar to the five focus group questions. The reflections provided data that documented their level of awareness of gifted ESOL students and the efficiency of the research-based strategies learned from the two sessions. In addition, participants were asked to record the number of referrals they had made from Fall Semester 2003 to Fall Semester 2005. As an example, a full text written reflection of one of the participants is included (see Inset 1).
Table 6: Summary of Strategies Used by Participants as Reported in Focus Groups (N = 14)

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Number of teachers reporting use of strategy in a two week period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compare-Contrast</td>
<td>7</td>
</tr>
<tr>
<td>Higher Order Thinking Skills</td>
<td>6</td>
</tr>
<tr>
<td>Small Group</td>
<td>4</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>3</td>
</tr>
<tr>
<td>Bloom's Taxonomy</td>
<td>2</td>
</tr>
<tr>
<td>Cooperative Grouping</td>
<td>2</td>
</tr>
<tr>
<td>Discussion</td>
<td>2</td>
</tr>
<tr>
<td>Communication *</td>
<td>2</td>
</tr>
<tr>
<td>Multiple Intelligences</td>
<td>2</td>
</tr>
<tr>
<td>Peer Sharing</td>
<td>2</td>
</tr>
<tr>
<td>Simulation/Real Life</td>
<td>2</td>
</tr>
<tr>
<td>Independent Work</td>
<td>1</td>
</tr>
<tr>
<td>Individual Performance</td>
<td>1</td>
</tr>
<tr>
<td>Group Work</td>
<td>1</td>
</tr>
<tr>
<td>Panel Discussion</td>
<td>1</td>
</tr>
</tbody>
</table>

*A focus on the development of four linguistic skills: Listening, speaking, reading and writing

Inset 1. The written reflection in its entirety of one of the participants who is in her second year of teaching 6th, 7th, and 8th grade math.

"Comparison and contrast of new information with prior knowledge has been proven to be one of the most effective means of teaching new material. This research-based strategy is the primary strategy I chose to target in my classroom instruction over the course of the last two weeks. I found the results to be quite impressive.

So as not to bore my students, I implemented the use of the compare/contrast strategy in a variety of forms. One of these which both my students and I really enjoyed was an activity called "Brainstorm and Categorize" incorporated with the cooperative learning structure of "Think-Pair-Share." I gave the students a list of vocabulary words relevant to the unit we were studying. I also gave them a graphic organizer on which they were to sort the words based on a common relationship. There was no right or wrong answer. Words could be used in more than one group. The only requirement was that the words they
Increasing Identification of Linguistically Diverse Students

listed in a group had to have a relationship for which they could make a valid argument. This activity required the students to compare and contrast the words and their meanings, their uses in math, and their relationships to one another. The activity was cognitively challenging to the students. By asking them to compare and contrast in this situation, they were also required to employ higher order thinking skills instead of the standard lower level Bloom's that are so easy to target. The task was made less daunting by having a partner with whom they could work. During the share and pair times, it was incredible to see the light bulbs coming on in their heads. It was like you could almost watch the connections being made. Their mastery of the vocabulary has increased and their comfort level with using the words and hearing them used has also increased. There was a distinct difference in the types of lists/relationships identified by my higher ability students. While language may still be a barrier in some instances, in this situation they were able to clearly demonstrate the depth of their level of understanding of the material. Most students identified fairly basic relationships between the vocabulary words, but my high ability students identified more complex relationships and were then able to explain these relationships to other students, using both English and Spanish. This activity was done as a precursor to a writing activity in which they had to use the words in a creative writing story. Final copies have not yet been handed in, but taking the concepts and applying them to characters in a completely different context than math has been a challenge. The kids are using higher order thinking skills, and the rough drafts I've seen suggest some impressive products will be handed in on Friday. The high-skilled students in the class seem, thus far, to have more creative ways of utilizing some of the vocabulary/concepts in the story because of their deeper, more comprehensive understanding of the ideas. This understanding of the relationships between the ideas, allowed them to weave the math concepts masterfully into their stories.

Another way in which I implemented the compare/contrast strategy was by utilizing the Frayer Model as a means of prediction. After the students recorded their prior knowledge and speculation as to the definition of principle, I gave them a new math-related definition. In a different color, we added the new information to the graphic organizer. We then compared and contrasted the definitions, contexts, etc. Finally, we drew a visual image to help them relate the old concept to the new. (The image was of their principal, Mrs. Q., holding money in front of a bank.) The discussion and graphic organizer were helpful, but I believe the visual representation which tied together the two definitions was most effective in helping the students successfully remember the word and its definition. In this instance, my higher-level student was the one who came up with the pictorial representation which tied together the two meanings together. He found a way to make the connection and then shared his ideas with the rest of the class. I have found a significant strength in this student's visual and spatial skills. When given the opportunity to represent any concept visually, he has excelled and stood out among his peers. He can make amazing connections and is able to teach the other students. I have seen the entire class benefit from his ideas and pictures which tie multiple meaning words together, connecting math vocabulary with their prior knowledge.
These are two specific examples of implementation of the compare and contrast strategy and the success I have seen. I have yet to encounter any significant difficulties. The strategies are benefiting my entire class, not just my high students.

One of the three questions asked participants how the sessions increased their knowledge of gifted characteristics and identification techniques, and how the sessions had enhanced their ability to recognize and refer more ESOL students. All participants stated that they benefited from the two sessions with a greater understanding of gifted ESOL students with comments such as "I believe that I could better identify ESOL students", "I do feel more confident to recognize gifted ESOL students" and "They [the sessions] helped me as an educator to be more aware of the students in my class who may be gifted."

Two participants were greatly influenced by the sessions. One wrote that, "Before taking this class I didn't even know that I could refer ESOL students for gifted. Assuming that gifted children had to be strong native English speakers, I now realize how wrong I was and how I had unknowingly been failing my students." The other participant stated, "I found the TABs [Traits, Aptitudes and Behaviors] descriptors to be very helpful in observing my own students. I have identified two students that I never considered to be gifted before this class."

Another participant spoke about her increased understanding of the importance of a multi-faceted approach for identification of gifted ESOL students, saying, "I know that many schools use IQ tests as the only indicator for entrance into gifted programs, but from this session I have realized that by only going off of one test score, we are failing many students. I have learned that giftedness comes in many forms and that by using the TABs [Traits, Aptitudes and Behaviors] teachers can identify and nurture giftedness in many different ways."

Participants' responses to the question related to the effectiveness of the research-based strategies that they learned in the sessions and applied to their teaching contexts revealed that all of the participants found the strategies to be effective. A participant stated, "[The sessions] really opened my eyes and made me aware of some of the strategies that I could use...." They commented that the
Increasing Identification of Linguistically Diverse Students

strategies were "very effective...to expand [the students'] thinking abilities", "very effective...especially discussions and small group problem solving... that allowed students to construct their own knowledge...through experience, peer sharing and cooperative groups" while another wrote that the Pair and Share strategy "wowed" her. This participant believed that "the pair and share strategy [had] been very effective [in pairing a high ability learner and low ability learner to enhance reading fluency and comprehension] and [I] will continue to use it."

Most of the participants reflected that they did not experience any difficulties in implementing strategies from the sessions and would continue to integrate them into their instruction. Such positive feedback can be seen in the comment, "I have used many [of the] research-based strategies in my class that I learned in the ESOL-Gifted sessions and from talking in discussion groups with other teachers."

When asked, only three participants identified minor difficulties in the form of "classroom noise level", "[some students'] limited English skills" and " SPED [Special Education] kids [who] have not been able to grasp many concepts as quick[ly] as others."

The analysis of the reflections revealed an increase in four participants' referrals of ESOL students with high ability potential during the time they were using the research-based strategies in the Spring semester immediately following the sessions. Table 7 shows the rate of referrals by semester for 12 of the 14 participants. Two participants were not included in the table because they were not teaching in an ESOL classroom.

Data are presented according to the participant's number of years of teaching experience (column one). Two participants with 30 years and 29 years of teaching experience had not referred any ESOL students during the three semesters prior to the sessions. Subsequent to the sessions, those two teachers made 4 referrals and 2 referrals respectively. However, among five participants, with less than 5 years teaching experience, only one made one referral after the sessions.
Table 7: Teachers’ Years of Experience, School Level and Number of Gifted Referrals (N=12)

<table>
<thead>
<tr>
<th>Teaching Career in Years</th>
<th>School Level</th>
<th>Fall 2003</th>
<th>Spring 2004</th>
<th>Fall 2004</th>
<th>Spring 2005*</th>
<th>Fall 2005**</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>Elem</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>29</td>
<td>MS</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>29</td>
<td>Elem</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>24</td>
<td>HS</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>14</td>
<td>Elem</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>13</td>
<td>Elem</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>MS</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>Elem</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>Elem</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>Elem</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>MS</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>MS</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Total referrals by semester: 0 4 1 8 0

*Semester in which candidates participated in ESOL-Gifted Sessions
** Decrease of referrals for teacher 2 and 15 may be attributed to the fact that the teachers moved to a new school or did not have ESOL students in their classroom.

DISCUSSION

Teachers who were enrolled in an ESOL Assessment class at Wichita State University often mentioned two concerns in their discussions about ESOL students who also demonstrate high academic achievement: (1) referrals of ESOL students to inappropriate special education services particularly in the areas of speech and learning disabilities, and (2) other teachers’ underestimation of the intellectual abilities of students with limited English proficiency which contributed to the under-representation of ESOL students in gifted programs. Our study arose in response to these issues.

We believed that the use of research-based strategies for teaching gifted ESOL students would help challenge, develop, and identify the gifted potential they possess. Therefore, two sessions were conducted in the ESOL Assessment class to (a) enhance the ESOL teachers’ understanding and use of gifted research-based strategies, (b) identify gifted ESOL students through the use of
Increasing Identification of Linguistically Diverse Students

such strategies, and (c) increase the teachers' appropriate referral of potentially gifted ESOL students.

The purpose of the pre-survey was to find out prior to the research-based gifted teaching strategies component of the course, how knowledgeable the participants were about identification of gifted ESOL students and the referral processes used to place these students in gifted programs. Pre-survey data indicated that the participants not only had limited knowledge of identification procedures but also knew little about the characteristics of gifted ESOL students.

The results also showed that almost all of the participants believed that they were already using a variety of research-based strategies that challenge gifted ESOL students. Prior to the two sessions, most participants assumed ESOL students could not be referred for gifted programs; and that "gifted students needed to be strong native English speakers" before they could be evaluated for gifted services. They agreed that they had let "some of [our] ESOL students slip through the [identification] cracks" when it came to providing them with opportunities in which students could demonstrate their gifted potential.

After participating in the two sessions, the results from the focus group discussions indicated that the participants added research-based strategies to their repertoire for teaching gifted ESOL students. Participants reported in the post-survey that they were continuing to use the strategies learned from the sessions which indicated to us that they gained confidence in the effectiveness of the strategies used.

Further, individual written reflections such as "[the sessions] increased my awareness" and "I do feel more confident to recognize gifted ESOL students" indicated that the sessions positively impacted the participants' abilities to identify gifted ESOL students. Part 2 of the post-survey revealed an increase in referral rates as well as the consistent use of research-based strategies learned in the sessions. This is evidence of the sessions' effectiveness in enhancing the participants' abilities to identify gifted ESOL students. The increased awareness
and confidence level of the participants resulted in their increased referrals of students for gifted services.

Data from the written reflections documented the participants' level of awareness of gifted ESOL students and the effectiveness of the research-based strategies learned from the two sessions. The reflections were also used to gain information related to the number of referrals of ESOL students each participant had made for gifted services from Fall Semester 2003 to Fall Semester 2005.

The data from the written reflections supported data from the surveys and the focus groups. All participants wrote that they benefited from the two sessions and had a greater understanding of ESOL students that demonstrate characteristics of giftedness and/or potential.

All participants also found the strategies to be effective. Most (11 out of 14) of the participants reflected that they did not experience any difficulties in implementing strategies from the sessions and would continue to integrate them into their instruction.

The three participants who identified difficulties considered these to be minor and indicated that they would continue to use the strategies. We attributed the three responses concerning difficulties to the fact that we had asked participants to identify difficulties. We felt that they probably would not have mentioned any problems if we had not asked the question.

CONCLUSIONS
Overall the research results indicated that participation in the 2 three-hour sessions positively affected the participants' abilities to recognize gifted ESOL students and increased their referral rates of these students for gifted education services. It is our belief that continued provision of these sessions will increase ESOL teachers' abilities to appropriately instruct, identify, and refer ESOL students for gifted education programs.
The research findings led us to suggest the following four recommendations of which the first three were previously proposed in another published article (Tran and Gibson, 2007, p. 13):

1. ESOL and gifted pedagogical sections should be a standard part of the curriculum in all teacher preparation programs.
2. Professional development about characteristics of gifted ESOL students should be required of in-service teachers.
3. Communication and collaboration should increase among teachers in ESOL and Gifted programs as well as other school personnel to enhance connectedness in identification and referrals.
4. General education teachers should use research-based strategies used for gifted students, with ESOL students in their classrooms.

IMPLICATIONS FOR FUTURE SESSIONS

Our research investigated the use of professional development sessions to provide instructional tools for teachers' with regard to gifted ESOL students. The design and content of the initial two sessions were effective in enhancing the teachers' understandings and abilities to instruct and identify gifted ESOL students. However, we believe that the effectiveness of the sessions would be increased if three changes were incorporated into future iterations.

First, collected data would be more conclusive if the sessions were scheduled in the first semester of the academic year so that the participants would have continuous semesters in which to implement the strategies learned, rather than being interrupted by the summer recess. Secondly, the two sessions should be conducted early in the semester for maximum impact on the teachers' classroom practice. Thirdly, for the pre-survey, a more useful instrument should be created, by modifying the adapted OERI (Office of Educational Research and Improvement) form.

Revision of the pre-survey has been completed and can be seen in the appendix. Survey items now are focused on the participants' perceptions of their individual awareness and knowledge.
References


Increasing Identification of Linguistically Diverse Students


The WSU Teaching English to Speakers of Other Languages (TESOL) program is committed to improving the preparation of ESOL teachers to maximize ESOL students' learning. We are asking that you complete this survey to better understand your perspectives about potentially gifted ESOL students. This survey should take approximately 10-15 minutes to complete. Please circle your answers or fill in the blanks, as it fits the questions below.

Completion of this survey acknowledges your consent for the researchers to use the data anonymously.

### Section I. General Information

1. What is the highest level of education you have completed?
   a. Bachelor's Degree
   b. Master's Degree
   c. Doctoral Degree

2. When did you receive your most recent degree?
   a. 2000-2005
   b. 1995-1999
   c. 1990-1994
   d. 1985-1989
   e. 1980-1984
   f. Prior to 1980

3. What level do you teach?
   a. Early Childhood Unified
   b. Elementary
   c. Middle School
   d. High School

4. What full endorsement(s) do you currently hold? Circle all that apply.
   a. TESOL
   b. Reading
   c. Library Science
   d. Special Education
   e. Other: ____________________
5. How long have you worked in your current teaching position?
   a. 1 year or less
   b. 2-5 year
   c. 6-9 year
   d. 10 years or more

6. Are you hired as an ESOL teacher?
   a. No.
   b. Yes, for 1-2 years
   c. Yes, for 3 or more years

7. What is the student population in your class?
   a. ESOL students only
   b. Mainstream students only
   c. Both mainstream students and less than 50% ESOL students.
   d. Both mainstream students and more than 50% ESOL students.

8. What level of training have you received in Multicultural Diversity?
   a. Extensive (more than 3 courses and multiple professional
      development experiences)
   b. High levels (1-3 courses with some professional development
      experiences)
   c. Moderate levels (1 course or a few professional development
      experiences)
   d. Low levels (less than above)
   e. No training received

9. What level of training have you received in Gifted?
   a. Extensive (more than 3 courses and multiple professional
      development experiences)
   b. High levels (1-3 courses with some professional development
      experiences)
   c. Moderate levels (1 course or a few professional development
      experiences)
   d. Low levels (less than above)
   e. No training received
### Section II. Gifted-ESOL Information

In this section, for each statement, please provide your level of agreement.  
SA = Strongly Agree, A = Agree, D = Disagree, SD = Strongly Disagree

<table>
<thead>
<tr>
<th>Statement</th>
<th>Levels of Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Limited English proficient students can be gifted.</td>
<td>SA  A  D  SD</td>
</tr>
<tr>
<td>2. At present, ESOL students are underrepresented in the Gifted program.</td>
<td></td>
</tr>
<tr>
<td>3. Students should exit from the ESOL program before they are referred to be evaluated for gifted services.</td>
<td></td>
</tr>
<tr>
<td>4. A standardized IQ or an achievement test is the most important data to consider when identifying gifted students.</td>
<td></td>
</tr>
<tr>
<td>5. It is important for children to speak English fluently before they can be identified as gifted.</td>
<td></td>
</tr>
<tr>
<td>6. Gifted education provides stimulating opportunities to ESOL students.</td>
<td></td>
</tr>
<tr>
<td>7. I collaborate with gifted education staff to identify gifted ESOL students.</td>
<td></td>
</tr>
<tr>
<td>8. In general, school staff in my building are aware of procedures to refer ESOL students to gifted programs.</td>
<td></td>
</tr>
<tr>
<td>9. I refer potentially gifted students for gifted services and follow up on the protocols with school personnel.</td>
<td></td>
</tr>
<tr>
<td>10. I am aware of the characteristics of gifted students.</td>
<td></td>
</tr>
<tr>
<td>11. I know of effective instructional strategies to use with gifted ESOL students.</td>
<td></td>
</tr>
<tr>
<td>12. I regularly use strategies that encourage critical thinking skills to teach ESOL students.</td>
<td></td>
</tr>
<tr>
<td>13. I regularly use strategies that cater to a variety of learning styles.</td>
<td></td>
</tr>
<tr>
<td>14. I use my students' interests in developing appropriate curriculum.</td>
<td></td>
</tr>
<tr>
<td>15. I develop appropriate curriculum to meet the learning needs of potentially gifted ESOL students.</td>
<td></td>
</tr>
</tbody>
</table>
Perspectives in Gifted Education:  
Diverse Gifted Learners

Section III. Teaching Applications

Please respond to the following five items:

1. List characteristics of students that are indications to you that the students may be gifted?

2. List the gifted education strategies, if any, that you have applied to your teaching of ESOL students?

3. List the gifted education strategies, if any, that you have applied to your teaching of non-ESOL students?

4. List any of the above-mentioned strategies that you found to be successful and explain why.

5. Please fill in the chart below with your information:

<table>
<thead>
<tr>
<th>Teaching Career in Years</th>
<th>School Level (Elem, MS, HS)</th>
<th>Number of ESOL students referred for gifted services by semester</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Spring 2005</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thank you for your time to provide thoughtful responses to this survey. Your effort is greatly appreciated.
EQUITY AND EXCELLENCE:
RECRUITING AND RETAINING GIFTED STUDENTS WHO
ARE AFRICAN-AMERICAN AND FROM OTHER
CULTURALLY DIFFERENT BACKGROUNDS

Donna Y. Ford, PhD
Gilman W. Whiting, PhD
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Angelina W. Hopkins, Ed.D
Williams-James City County School District

For at least six decades, since the development of gifted education in 1954, educators and policy makers have grappled with issues of equity and access for culturally different students. A litany of reports and studies bemoan this dismal state of affairs. A stubborn and pervasive problem in education is the under-representation of three groups of culturally different students in gifted education and AP classes. Unlike White and Asian students, African American, Hispanic American, and Native American are less likely to be referred to and placed in programs for high-ability and high-achieving students (Ford et al., 2008a). We recognize that Asian Americans are also racially different students. However, we have yet to find a report indicating that Asian American students are underrepresented in gifted education and AP classes; the opposite is the case. Further, Asian Americans, unlike African American, Hispanic American, and Native American students, frequently experience positive stereotypes and many are high achieving. Consequently, they are not the focus of this chapter. By omitting Asian American students from discussion in this chapter, we are not ignoring the social injustices they have experienced and continue to experience in society and in the schools (Kitano & DiJosia, 2002; Pang et al., 2004).

Data, shown in Figure 1, indicate that these three groups are underrepresented by an average of 50 percent nationally (U.S. Department of Education, 1993; U.S. Department of Education, Elementary and Secondary Schools Civil Rights

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1 This chapter is a condensed, updated chapter by Ford (2004 and 2005).
2 In this chapter, we use the term 'culturally different' rather than culturally diverse to express the idea that every individual and group has a culture. However, problems or cultural clashes occur when students' culture differs from those in positions of power and authority.
Survey, 1998; 2000; 2002; 2004). It is equally important to note that Black students are the most severely under-represented in gifted education and they are the only diverse group that is under-represented in AP classes and among AP test takers (College Board, 2008; Ford & Whiting, 2008). Subsequently, under-representation means that Black students are seldom challenged and given the opportunity to develop their gifts and talents. The No Child Left Behind Act of 2001 and the Jacob K. Javits Gifted and Talented Student Education Act of 1988 recognized that gifted students are unlikely to develop to their potential without appropriate services. The following definition demonstrates this:

The term ‘gifted and talented’ . . . means students, children, or youth who give evidence of high achievement capacity in areas such as intellectual, creative, artistic, or leadership capacity, or in specific academic fields, and who need services or activities not ordinarily provided by the school in order to fully develop those capabilities (Javits Act, Title IX, Part A, Section 9101(22), p. 544).

Figure 1. Trends in Gifted Education Demographics from 1998 to 2004.

<table>
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<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% School District</td>
<td>% Gifted &amp; Talented</td>
<td>% School District</td>
<td>% Gifted &amp; Talented</td>
</tr>
<tr>
<td>American Indian/Alaskan Native</td>
<td>1.1</td>
<td>0.87</td>
<td>1.16</td>
<td>.91</td>
</tr>
<tr>
<td>Black</td>
<td>17.0</td>
<td>8.40</td>
<td>16.99</td>
<td>8.23</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>14.3</td>
<td>8.63</td>
<td>16.13</td>
<td>9.54</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>4.0</td>
<td>6.57</td>
<td>4.14</td>
<td>7.00</td>
</tr>
<tr>
<td>White</td>
<td>63.7</td>
<td>75.53</td>
<td>61.58</td>
<td>74.24</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

This chapter examines and critiques both barriers and recommendations for the recruitment and retention of racially and culturally different students into gifted education programs, with greatest attention given to African-American students. More directly, we concentrate on African-American students for at least two reasons: (1) between 1998 and 2004, African-American students were the only group to become more underrepresented in gifted education, as noted in Figure 1 and (2) this group is more often the focus of litigation relative to inequities in gifted education (Office for Civil Rights, 2000).

This chapter has several assumptions and propositions as its basis. First, we propose that the majority of efforts to reverse the under-representation problem have been inadequate, resulting in what appear to be the most segregated programs in our public schools. Second, gifted education is a need rather than a privilege. By not having access to gifted education (and AP classes) culturally different students are being denied an opportunity to reach their potential and to make a contribution to society. A third assumption is that no group has proprietary rights to being intelligent, gifted and academically successful. Giftedness exists in every racial and cultural group, and across all economic strata (U.S. Department of Education (USDE), 1993; Sternberg, 2007). Thus, there should be little or no under-representation of culturally and racially different (CRD) students in gifted and AP education. A fourth assumption is that giftedness is a social and cultural construct; subjectivity guides definitions, assessments, and perceptions of giftedness (Pfeiffer, 2003; Sternberg, 1985, 2007). This subjectivity and deficit thinking contribute to segregated programs for gifted students in numerous and dangerous ways. It is essential that educators explore their attitudes and beliefs about the purposes of gifted and AP education along with their perceptions of students from culturally and racially different (CRD) backgrounds. Finally, endeavors to recruit and retain CRD students must be comprehensive, systemic, proactive, and aggressive. Educators, families, and students need to collaborate to guarantee that all educational programs and opportunities targeting gifted students are equitable.
This chapter is divided into three major sections. The first part focuses on recruitment issues and barriers, the second section focuses on recruitment recommendations, and the third focuses on retention recommendations. The two guiding questions of the chapter are: How can we effectively recruit and retain more culturally and racially different students in gifted education? How can we ensure that gifted education programs/services and AP classes are both excellent and equitable?

RECRUITMENT ISSUES AND BARRIERS

Most of the research and reviews of the literature focusing on under-representation target 'recruitment.' Specifically, scholars often argue that CRD students are under-represented because of problems regarding screening and identification instruments, specifically tests. Little attention has been given to retention, discussed later in this chapter.

The first step in addressing (or redressing) the under-representation of CRD students in gifted and AP education is to focus on recruitment. Recruitment refers to screening, identification, and placement. Perceptions about CRD students combined with a lack of cultural understanding and competence among teachers/educators significantly hinder their skills and qualifications to recruit CRD students. Ford, Harris, Tyson, and Frazier Trotman (2002) asserted that a "cultural deficit" perspective pervades decisions made about African American, Hispanic American, and Native American students. This phenomenon is described below.

Deficit Thinking

A fundamental premise of this chapter is that deficit orientation held by educators hinders access to gifted programs for CRD students. This thinking undermines the ability and willingness of educators to recognize the strengths of students from different backgrounds. Deficit thinking is evident when educators interpret differences as deficits, dysfunctions, and/or disadvantages. Consequently, many CRD students are given the "at-risk" label; there is a focus on their shortcomings or weaknesses rather than their strengths and potential. With deficit thinking,
differences in those who are culturally, racially or ethnically diverse are (mis)interpreted as if the individuals and/or characteristics are abnormal, substandard, or otherwise inferior (Ford et al., 2008a). For example, when a student speaks nonstandard English and is limited English proficient, and is making good grades in school, he may not be referred for screening and identification if the teacher neither understands nor appreciates nonstandard English, or thinks the student should be proficient in English. Likewise, if a student has excellent math skills but weak writing skills, she may not be perceived as gifted or intelligent. Every student has strengths and weaknesses. Educators need to move beyond a deficit orientation in order to recognize the strengths and potential of racial and language minorities, especially those who come from low-income and low socio-economic status (SES) backgrounds.

Views about CRD individuals and groups influence the creation of definitions, policies, and practices designed to understand and address differences. Gould (1981/1995) and Menchaca (1997) noted that deficit thinking contributed to past and contemporary beliefs about race, culture and intelligence. Reviewing two centuries of work, Gould demonstrated how a priori assumptions and fears associated with CRD groups, particularly African Americans, led to deliberate fraud: dishonest and prejudicial research methods, conscious miscalculations, convenient omissions, and misinterpretation of data among scientists studying intelligence. These early assumptions and practices gave way to the all too common belief that human races could be ranked in a linear scale of mental worth, as evidenced by the research of Cyril Burt, Paul Broca, and Samuel Morten on craniometry (Gould, 1981/1995).

As school districts faced increasing racial and culturally diversity, educators turned to a greater dependence on biased standardized tests (Armour-Thomas, 1992; Gould, 1981/1995; Helms, 1992; Menchaca, 1997). These tests virtually guaranteed low test scores for immigrants and other CRD groups who were unfamiliar with U.S. customs, traditions, values, norms, and language (Ford, 2004). Specifically, these tests measured familiarity with mainstream American culture and English proficiency rather than intelligence. The test results often limited the educational opportunities of CRD groups and students.
Screening Issues and Barriers

To be considered for placement in gifted education, students often endure screening in which they are administered instruments (i.e., intelligence tests, achievement tests). If students meet the initial screening requirements, they may be given additional assessments or more information may be requested from teachers; this information is used to make final placement decisions. In most schools, entering the screening pool is based extensively on teacher referral (see review by Ford et al., 2008a). This practice hinders the effective screening of CRD students because they are seldom referred by teachers for screening (Ford, 1996; Ford et al, 2008a). Specifically, an American Indian student may meet the school district’s criteria for giftedness but be overlooked because he has not been referred for screening. The teacher may not refer this student because of his biases and stereotypes about CRD groups (deficit thinking).

While it makes sense that teacher referral should be a central part of the screening and decision-making process, this practice may negatively affect culturally and racially different students. Further, in their review of the literature, Ford et al. (2008a) reported that every study on teacher referral for gifted education screening and placement revealed that teachers under-refer African-American students more than any other CRD group. Relatedly, school personnel may be required to complete checklists on the referred students. If the checklists ignore cultural differences —how giftedness manifests itself differently in various cultures—then gifted CRD students may be given low ratings that poorly capture their strengths, abilities, and potential (Frasier et al, 1995). For example, one of the first signs or indicators of giftedness is strong verbal skills. As noted earlier, if the student does not speak Standard English (e.g., speaks Black English Vernacular or Ebonics) or has limited English proficiency, the teacher/educator may not recognize the student’s strong verbal skills in his/her language and culture.

Like tests, checklists can pose problems. In addition to referral/nominations forms and checklists being “culture-blind,” they frequently focus on demonstrated ability and performance. Thus, they can overlook students who are gifted but lack
opportunities to demonstrate their intelligence and achievement. These "potentially gifted" students and/or gifted underachievers are those who live in poverty and/or are culturally different from mainstream students (VanTassel-Baska et al., 1989)

The U.S. Department of Education recognized that our schools are filled with potentially gifted students. To help educators improve the recruitment of diverse students into gifted education, the department issued the following definition of giftedness, one that relies heavily on the notion of talent development:

Children and youth with outstanding talent perform or show the potential for performing at remarkably high levels of accomplishment when compared with others of their age, experience, or environment. These children and youth exhibit high performance capacity in intellectual, creative, and/or artistic areas, possess an unusual leadership capacity, or excel in specific academic fields. They require services or activities not ordinarily provided by the schools. Outstanding talents are present in children and youth from all cultural groups, across all economic strata, and in all areas of human endeavor. (USDE, 1993, p. 3)

Identification/Assessment Issues and Barriers

Culture-blind definitions of giftedness present barriers to recruiting CRD students into gifted/AP education. They ignore human differences and cultural diversity. They ignore the fact that what is valued as giftedness in one culture may not be valued in another. School personnel need to consider the following question: If a student is not gifted in the ways that are valued by my culture, what can I do to accept and respond to his/her differences?

Perceptions and definitions also influence the instruments or tests selected to assess giftedness. Dozens of intelligence and achievement tests exist. What and who determines which instrument a school district selects? If we value verbal skills, we will select an instrument that assesses verbal skills. If we value logic and/or problem-solving skills, we will select an instrument that assesses these skills. If we value creativity, the instrument we select will assess creativity. We are not likely to choose an instrument that measures a construct or skill that we do not value. Test scores play a dominant role in identification and placement decisions. More than 90% of school districts use scores from such tests to label
and place (Colangelo & Davis, 2003; Davis & Rimm, 2003). These tests measure verbal skills, abstract thinking, math skills, and other skills considered indicative of giftedness (or intelligence or achievement) by educators. Likewise, they ignore skills and abilities that may be also valued by other groups (e.g., creativity, interpersonal skills, group problem-solving skills, navigational skills, musical skills).

An additional concern related to tests is the extensive use of cut scores. The most frequently used cut score for placement in gifted education is an IQ of 130 or above, two standard deviations above the average IQ of 100. For reasons just noted, African Americans, Hispanic Americans, and Native Americans tend to have average tested IQ scores lower than White students, even at the highest economic levels. The average tested IQ of African Americans is 83 to 87, compared to 97 to 100 for White students on traditional intelligence tests (see Helms, 1992; Kaufman, 1994). Tragically, those who hold racist ideologies may (mis)attribute these differences to genetics and argue that giftedness (or intelligence) is primarily inherited and unchangeable (Herrnstein & Murray, 1984). This view is counterproductive. Conversely, those recognizing the influence of the environment and culture on performance attribute these different scores primarily to social, environmental and cultural factors. Thus, cutoff scores cannot be selected arbitrarily and in a culture-blind fashion.

In a collaborative effort, the American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education (1999) addressed numerous problems associated with using and interpreting test scores. They noted the harmful effects of misinterpreting test results, especially with CRD groups: “The ultimate responsibility for appropriate test use and interpretation lies predominantly with the test user. In assuming this responsibility, the user must become knowledgeable about a test’s appropriate uses and the populations for which it is appropriate” (p. 112). They advise, as do others (e.g., National Council for Gifted Children, 1997), that test users collect extensive data on students to complement test results and use a comprehensive approach in the assessment process (Armour-Thomas, 1992; Helms, 1992). Test users must consider the validity of the instrument and procedures, along
with the cultural characteristics of the student when interpreting results (Office of Ethnic Minority Affairs, 1993).

Taken as a whole, the data collected on all students should be multidimensional—a variety of information collected from multiple sources. For example, data are needed from school personnel, family members, and community members. Data on intelligence, achievement, creativity, motivation, interests, and learning styles are essential when making decisions about students. In this era of high-stakes testing, educators should err on the side of having “too much” information rather than too little to make informed, educationally sound decisions. The data collected should also be multimodal, that is, collected in a variety of ways. Information should be collected verbally (interviews, conversations) and nonverbally (e.g., observations, writing, performances), and both subjective and objective information should be gathered. Further, if the student speaks a first language other than English, educators should use an interpreter and use instruments translated into that student’s primary or preferred language. Essentially, assessment should be made with the students’ best interests in mind, and the principle of “do no harm” should prevail. According to Sandoval, Frisby, Geisinger, Scheuneman, and Grenier (1998): “In any testing situation, but particularly high stakes assessments, examinees must have an opportunity to demonstrate the competencies, knowledge, or attributes being measured” (p. 183).

Placement Issues and Barriers
Giftedness is often equated with achievement or productivity, hence, the notion of a “gifted underachiever” may seem paradoxical. However, gifted students can be unmotivated and uninterested in school, some are procrastinators, others do not complete assignments or do the least amount of work to get by. One problem associated with placement can be the belief that students should receive gifted education services only if they are high achievers, hard workers, and motivated. That is, achievement must be manifested (e.g., high grade point average or high achievement test scores). Our objective must be to help gifted underachievers become achievers and experience success in gifted education.
classrooms. The reverse seems to be common. Instead of supporting diverse students and helping them to overcome their weaknesses and achievement barriers, educators have often chosen the option to not place. When placement is combined with support, gifted underachieving students are more likely to be successful in gifted education and AP classes.

In the next section, we address the other half of the under-representation problem – retention. We share policies, practices, procedures, philosophies, and supports that should be in place for CRD students to experience success and remain in gifted and AP education.

RETENTION ISSUES AND RECOMMENDATIONS
Half of our efforts to desegregate gifted education should focus on recruitment. Page limitations do not allow for an extensive review of recruitment issues. Thus, we give primary attention to culturally responsive education and learning environments (Ford & Harris, 1999; Ford & Frazier Trotman, 2001; Ford & Milner, 2005). Once CRD students have been recruited, it is equally important that teachers and other school personnel consider the issue of retention – how can we make sure that the learning environment is responsive to the needs of CRD students, that they feel welcome, valued, and supported in their classrooms?

Multicultural Instruction
Boykin (1994), Saracho and Gerstl (1992), and Shade, Kelly, and Oberg (1997) are just a few of educators who hold the position that culture influences learning styles and thinking styles. We rely extensively on Boykin’s (1994) model as a way to make instruction culturally responsive. In his Afrocentric model, Boykin (1994) identified nine cultural styles commonly found among African Americans: spirituality, harmony, oral tradition, affective orientation, communalism, verve, movement, social time perspective, and expressive individualism. Movement and verve are closely related; they refer to many African Americans being tactile and kinesthetic learners who show a preference for being physically involved and engaged in learning experiences. They are often active learners who are
engaged when they are physically and psychologically involved. Otherwise, they may be easily distracted and become off task.

Harmony refers to an ability to read the environment well and to read non-verbal behaviors efficiently. Thus, students who feel unwelcome in their classes may become unmotivated and uninterested in learning. Communalism refers to a cooperative, interdependent style of living and learning in which competition—especially with friends—is devalued. Students with this learning preference may be unmotivated in highly individualistic and competitive classrooms, preferring instead to learn in groups. They are often social and extraverted, people-oriented and group-oriented.

Harmony, affect, and communalism may explain why an increasing number of African American students—especially middle school and high school students—are choosing not to participate in gifted programs and AP classes. They see that such programs are primarily composed of White and Asian students and express concerns about alienation and isolation (Ford, 1996; Ford et al, 2008b). Further, communalism may result in some African-American students with high achievement being accused of “acting White” (Fordham, 1988; Fordham & Ogbu, 1986, Ford et al., 2008b).

Teachers should learn to modify their teaching styles to accommodate different learning styles. For example, to accommodate students’ preference for communalism, teachers can use cooperative learning strategies and place students in groups (Cohen & Lotan, 2004). To accommodate the oral tradition, verve and movement, teachers can give students opportunities to write and perform skits, to make oral presentations, and to participate in debates. More examples of ways in which teachers can use culturally responsive teaching activities are described by Ford (1998), Ford and Milner (2005), Gay (2000), and Shade et al. (1997).
Multicultural Gifted Curriculum

Curricular considerations are also critical in the context of retention. Several books exist on developing curriculum that challenges gifted students (e.g., Maker & Nielson, 1996; Tomlinson, 1995; VanTassel-Baska & Stambaugh, 2006). These include strategies, such as curriculum compacting, independent study, acceleration, and grade skipping. As the Venn diagram in figure 2 shows, these strategies should also consider those recommended in working with CRD students.

Figure 2. Bridging Two Fields: Multicultural Gifted Education.

While these strategies are certainly appropriate for gifted students from CRD groups, an equally important but overlooked retention recommendation is the need to ensure that the curriculum for all gifted students is multicultural. Ford and Harris (1999) have created a framework that uses Bloom's (1956) taxonomy and Banks' (2002) multicultural education model to assist educators in developing learning experiences that are multicultural and challenging. The result is a 24-cell matrix which we refer to as the Ford-Harris Matrix or Bloom-Banks Matrix. The model is presented in Figure 3. Only five of the 24 levels in the model are described below (for a more complete discussion of the model, see Ford & Harris, 1998; Ford & Milner, 2005).
Figure 3. Bloom-Banks Matrix: Cell Descriptions

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Comprehension</th>
<th>Application</th>
<th>Analysis</th>
<th>Synthesis</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contributions</strong></td>
<td>Students are taught and know facts about cultural artifacts, events, groups, and other cultural elements.</td>
<td>Students show an understanding of information about cultural artifacts, groups, events, etc.</td>
<td>Students are asked to and can apply information learned about cultural artifacts, events, etc.</td>
<td>Students are taught to and can analyze (e.g., compare and contrast) information about cultural artifacts, groups, etc.</td>
<td>Students are taught to and can create a new product from the information on cultural artifacts, groups, etc.</td>
</tr>
<tr>
<td><strong>Additive</strong></td>
<td>Students are taught and know concepts and themes about cultural groups.</td>
<td>Students are taught and can understand cultural concepts and themes.</td>
<td>Students are required to and can apply information learned about cultural concepts and themes.</td>
<td>Students are taught to and can analyze important cultural concepts and themes.</td>
<td>Students are taught to and can synthesize important information about cultural concepts and themes.</td>
</tr>
<tr>
<td><strong>Transformation</strong></td>
<td>Students are given information on important cultural elements, groups, etc., and can understand this information from different perspectives.</td>
<td>Students are taught to understand and can demonstrate an understanding of important cultural concepts and themes from different perspectives.</td>
<td>Students are asked to and can apply their understanding of important concepts and themes from different perspectives.</td>
<td>Students are taught to and can examine important cultural concepts and themes from more than one perspective.</td>
<td>Students are taught to and can critique, evaluate or judge important cultural concepts and themes from different viewpoints (e.g., minority group).</td>
</tr>
</tbody>
</table>
### Perspectives in Gifted Education:
**Diverse Gifted Learners**

<table>
<thead>
<tr>
<th>Social Action</th>
<th>Knowledge</th>
<th>Comprehension</th>
<th>Application</th>
<th>Analysis</th>
<th>Synthesis</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Based on information about cultural artifacts, etc., students make recommendations for social action</td>
<td>Based on their understanding of important concepts and themes, students make recommendations for social action</td>
<td>Students are asked to and can apply their understanding of important social and cultural issues; they make recommendations and take action on these issues.</td>
<td>Students create a plan of action to address as social and cultural issue(s); they seek change.</td>
<td>Students critique important social and cultural issues, and see to make change.</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Actions taken on the social action level can range from immediate and small scale (e.g., classroom and school level) to moderate scale (e.g., community or regional level) to large scale (state, national, and international levels). Likewise, students can make recommendations for action or actually take social action.

Source: Ford & Harris (1999); Ford & Milner (2005).

At the knowledge–contributions level, students are provided information and facts about cultural heroes, holidays, events, and artifacts – commonly referred to as the three Fs (foods, festivals, fashion). For example, students might be taught about Martin Luther King, Jr., and then asked to recall three facts about him on a test. They might be introduced (too often cursory) to Cinco de Mayo or Asian New Year and then spend the day celebrating the event. They might be introduced to food from different cultures and hold a food festival.

At the comprehension–transformation level, students are required to explain what they have been taught – but from the perspective of another group or individual. For instance, students might be asked to explain major events that led to slavery or the Trail of Tears in the United States, and then to discuss how slaves and American Indians might have felt about their situation. Some may even be asked to create a simulation of these tragedies as a way to make emotional connections with the victims. Students would read a biography about a famous individual who comes from a racial or cultural background different from his or her own, and then examine discrimination he/she faced and his/her coping strategies.
At the knowledge-additive level, students are taught facts about diverse groups and events, but only during certain times of the school year. For example, they spend February (Black History Month) studying the Black experience in the United States, and during Hispanic Heritage Month, they focus on this group in the American context. However, once the designated month ends, these groups are given little attention in the curriculum, school ceremonies, and posters and other displays.

At the analysis-social action level, students are asked to analyze an event from more than one viewpoint. Students might be asked to compare and contrast U.S. slavery with South African Apartheid from two or more views. Following these comparisons, students could be asked to develop a social action plan for eliminating discrimination, reducing prejudice, or some other relevant and worthwhile endeavor.

At the evaluation-social action level, students might be asked to conduct a survey about prejudice and discrimination (hiring practices, racial profiling) in their local businesses. This information could be given to business owners and managers, along with a plan of action for change, such as developing a diversity training program for all employees, ensuring that items in the stores come from different cultures, ensuring that visuals (e.g., posters, photos, etc.) in the organization are representative of diversity.

Multicultural education engages all students, giving them opportunities to identify with, connect with, and relate to the curriculum. It includes purposeful, ongoing, and systematic opportunities to make learning meaningful and relevant to students, and to give CLD students mirrors to see themselves reflected in the curriculum. Multicultural gifted education challenges all students culturally, affectively, socially, academically, and cognitively.

**Multicultural Counseling**

Fordham and Ogbu (1986), Fordham (1998), Ford (1998), and Ford et al. (2008b) have studied the concerns that gifted African-American students have
about being academically successful. A common but unfortunate finding is that many of these students are accused of “acting White” by other African-American students. These accusations can be frustrating, overwhelming, and de-motivating for students, and they hinder achievement. When this anti-achievement ethic exists, educators must provide students—the accused and the accusers—with social-emotional and psychological support. The students accused of acting White will need assistance with coping skills, conflict resolution skills, and anger management in order to stay motivated. The accusers will need assistance examining the negative implications—the self-defeating thoughts and behaviors—of an anti-achievement ethic. Peer-group counseling is one method to address these issues (see Whiting, 2006). In his Scholar Identity Model, Whiting works specifically with Black males, targeting their attitudes and behaviors, social skills, cultural styles and more to ensure their school success.

Skills-Based Supports
Retention efforts must address shortcomings in students’ basic skills. As stated earlier, many CRD students are gifted but need support to maintain acceptable levels of achievement. Support should include test-taking skills, study skills, writing skills, time-management skills, and organizational skills.

Ongoing Professional Development in Multicultural Education
The aforementioned recommendations will be difficult to realize if educators do not participate in ongoing and formal preparation in multicultural education and counseling. Whether in the form of courses or workshops, such preparation should focus on educators becoming culturally competent in the following areas:

1. Understanding cultural differences and the impact of such differences on (a) teaching, (b) learning, and (c) assessment, and raising their expectations of CRD students and groups;

2. Understanding the impact of biases and stereotypes on (a) teaching, (b) learning, and (c) assessment (e.g., referrals, testing, expectations); and finding ways to decrease their biases and increase their expectations;

3. Building relationships and working effectively and competently with (a) CRD students (b) their families, and (c) their community;
4. Creating multicultural (a) curricula and (b) instruction that challenge students who are gifted and culturally different (e.g., see Ford-Harris Matrix, Ford & Harris, 1999); and

5. Creating culturally responsive (a) learning and (b) assessment environments; ensuring that all aspects of learning are excellent and equitable.

CONCLUSION

The United States is very diverse relative to race and culture. However, our gifted programs seldom mirror this heterogeneity relative to three student groups: African Americans, Hispanic Americans, and American Indians. This chapter highlighted many of the key barriers, with deficit thinking playing a major role in problems, and offered recommendations for change. Under-representation can be reversed; we can and must desegregate gifted education classrooms. Doing so requires that all educators become culturally competent and advocate for students from different racial and cultural backgrounds. A culturally responsive philosophy, with equity and excellence as co-existing goals, must guide referrals, instrument selection, test interpretation, and placement decisions—all of which are essential for recruiting and retaining culturally and racially different gifted students.
References


Equity and Excellence: Recruiting and Retaining Gifted Students Who Are African-American and From Other Culturally Different Backgrounds


Fordham, S., & Ogbu, J. (1986). Black students' school success: Coping with the "burden of 'acting White.'" The Urban Review, 18, 176-203.


Perspectives in Gifted Education:
Diverse Gifted Learners


American Indian culture abounds with numerous examples of beauty represented through performing arts, creative production of fine arts, oral histories that define cultural richness, and the tradition of leadership that define the people of first nations in North America. The prevailing views of indigenous people in America constitute a huge array of stereotypes, misinformation, and collected mythology. Deloria (2003) described the contentiousness that exists for most non-Native people when confronted with the values and spiritual dimensions of various Indian tribes. Many American Indian people learn their way through life by listening to stories and constructing their sense of meaning and value through the purveyance of oral history and tradition. Cleary and Peacock (1998) highlight the significant differences between the home culture of a learner who is American Indian and the culture of the school where the formal educational experience takes place. It is important to understand these differences in order to successfully address the needs of Native learners who are gifted and talented.

The guiding principle of balance and harmony between Western and Native cultures provides the motivation for successful education that can positively support the education of gifted learners found within schools and educational organizations that educate American Indian students. The policies of assimilation of persons from Native American cultural backgrounds have worked against the values of Native language, culture, and identity throughout history. Applying Western constructs of giftedness, identification procedures, and programming options may mirror the dismal outcomes of assimilation practices. There is a lack of comprehensive research and literature regarding the education of American Indian children that makes the identification of best educational practices for students who possess gifted potential difficult to obtain or generalize in any meaningful way (Faircloth, 2006).
Begaye (2006) relates the multiple understandings that contribute to the current view of Native American culture influenced by the disciplines of anthropology, linguistics, and psychology. Since the culture of American Indian people is constantly changing, the inter-related nature of Western and Native thought is a developing collection of cognitive codes, maps, and assumptions about Native American values (Duran & Duran, 1995; Spindler, 1997; Wilkins, 2002). The most tangible means of protecting and transmitting American Indian culture is through the preservation of indigenous language that is integrally linked to cultural identity. Dalby (2003) has studied the critical importance of language as the medium for communication, diversity, and longevity of culture. Dalby predicts that over half of the 5,000 languages that are spoken in the world today will disappear within the span of less than a century, and a large number of those lost are projected to be the languages spoken by American Indian tribes. This phenomenon provides a significant challenge to Native children who aspire to excel in their own culture while demonstrating characteristics typically associated with gifted learners who are identified in the prevailing Western society. The knowledge of language and culture is clearly an asset to be accentuated rather than a perceived liability to be discounted in promoting the highest levels of learning for gifted and talented Native American students (Cummins, 2000; Macedo, 2000; Reyhner, Martin, Lockhard, & Sakiestewa, 2002).

Native American teachers and students speak earnestly about the need for community outreach and involvement of Native American adults outside of the formal school system in order to adequately integrate Native culture and values with the curriculum traditionally taught in all public schools. Involvement of the community in the education of children is the dominant need of Native American schools and children in the experience of these Native American educators, as well as meaningful learning experiences within the community context for students (Shreve, 2007). American Indian teachers vividly recall their own childhood experiences in which their parents were either hostile toward public education as a result of the boarding school era or had tried to suppress any information regarding their cultural heritage and beliefs because they viewed their cultural heritage as a possible deficit in their children's success in a non-Native American dominant culture. These contemporary views of Native
American educators are supported by numerous Native American educational researchers who have addressed the residual effects of the boarding school era on current students and parents and the deficit myth of non-Anglo culture, including Cajete (2000), Cleary and Peacock (1998), Deloria and Wildcat (2001), Fayden (2005), Grande (2004), Hale (2002), and Swisher and Tippeconnic (1999). Based on this essential need for community support and involvement, as well as cultural recognition and integration, into Native American students’ educational experiences to achieve academic, personal, and societal efficacy, it is imperative to apply these concerns to the creation of appropriate educational services that support the gifted population of American Indian children.

Whereas traditional education program design has emphasized the assimilation of cultures, it is vital that Native American educators maintain an integrative perspective that embraces the tenets of a multicultural society in order to engage and motivate Native American students. The lack of ethnic and cultural role models contributes to low student motivation and achievement, as well as a lack of culturally sensitive school program design (McGee & Cody, 1995; Solomon, 1997; Sorensen, 1992). Native American student achievement increased in the 1990's but still fell far behind that of the general population. The high school graduation rate for Native American students falls 9% below the national average with 16% less Native American high school graduates completing a college preparatory curriculum (Pavel, Skinner, Cahalan, Tippeconnic, & Stein, 1998). Furthermore, most Native American college-bound high school graduates “failed to meet all five criteria used to assess student competitiveness in the college admissions process” and 35% “faced four or more risk factors that threatened their ability to enroll in a postsecondary institution and ultimately complete a degree” (Pavel et al., p. 22). In order to encourage students to achieve economic independence, continuing education, and political involvement based on their cultural backgrounds, educators of Native American students must be aware of cultural learning styles and motivations in order to effectively meet the educational needs and requirements of Native students (Hale, 2002). Though important to all schools, it is vital that schools serving a high percentage of Indian students increase culturally responsive approaches to benefit American Indian and Alaska Native students.
The school knowledge necessary for the effective design and delivery of instruction for Native American students is twofold. First, a multicultural perspective must actively acknowledge that Native American student cultural knowledge is worthwhile and then reinforce and expand that cultural knowledge (Hale, 2002). Central to this acknowledgement and expansion is the promotion of an appreciation and respect for one’s own culture, as well as others’ cultures (Hakuta, 1996). Second, Native American students process information in a distinct and unique manner that is not effectively engaged in the traditional sequential and analytical learning model set forth by most schools and curriculum providers (Cazden, 1982; Dumont, 1972; Erickson & Mohatt, 1982; Philips, 1983). A global and relational instructional style more effectively engages Native American students with a variety of choices in individual learning, use of examples from contemporary Native American life and real world application of ideas and skills (Hale, 2002). Furthermore, Native American cultural norms regarding the value of cooperation over competition and the public display of one’s own knowledge must inform the development of instructional environments to encourage Native American student learning without creating a schism between family and community behavioral expectations and successful interaction and school expectations and interactions (Hale, 2002; Sinte Gleska University, 2005).

Educators who are knowledgeable of individualized student assessment and instruction are great assets in Native American schools. Of the 182 Bureau of Indian Education (BIE) schools, 116 failed to meet Adequate Yearly Progress (AYP) requirements under No Child Left Behind federal guidelines (Office of Indian Education, 2003). The vast majority of these schools failed to demonstrate AYP for the special education student population subgroup. In 2004-05, 62 BIE schools were classified as schools on academic alert, indicating low performance, while 17 were classified as level I school improvement and 5 classified as level II school improvement. Twenty-one BIE schools required corrective action, including provisions for replacement of school staff and internal school reorganization. Sixteen BIE schools required restructuring, to be implemented through various means including reopening as a charter school,
replacement of the principal and staff, state takeover, and/or contractual management by a private company.

The National Center for Education Statistics (2002) reported that American Indian and Alaska Native children account for a 30% higher than expected representation in special education programs and services, with overrepresentation in all disability categories, particularly specific learning disabilities, speech or language impairments, mental retardation, emotional disturbance, deaf-blindness, and traumatic brain injury. With unusually large special needs student populations and the low performance of those students on state assessments impacting the very existence of the school, administrators of Bureau of Indian Education (BIE) schools must be knowledgeable regarding effective instruction for students with disabilities. Particularly vital is the use of authentic or performance-based assessments, involvement of parents and families in the assessment process, and awareness and responsiveness to students' cultural and linguistic differences (Tippeconnic & Faircloth. 2002).

The recognition and discussion of Native American student challenges, as in traditional diagnoses of student deficits (i.e., special education identification), provides a unique opportunity to transpose understanding of effective student learning from a deficit model to one based on cultural and personal attributes. Pavel (1999) highlights the importance of examining Native American and state learning standards in the context of assessment and instruction for student achievement to promote the knowledge and skills necessary to enhance literacy acquisition that address student and school program weaknesses.

In addition to descriptive statistics, Native American educational researchers (Cajete, 2000; Cleary & Peacock, 1998; Deloria & Wildcat, 2001; Fayden, 2005: Grande, 2004; Hale, 2002; and Swisher & Tippeconnic, 1999) consistently identify the scars and mistrust left from the boarding school era in which Native American languages and culture were viewed as a deficit to student achievement and social success. Native American educational leaders who have navigated the waters of this deficit myth and cultural tensions created by the boarding school era are in the appropriate place to negotiate an establishment of validity
and integration of traditional language and culture with mainstream societal and economic expectations that meet, and often clash, in the public school system. The key to Native American student success is found in culturally competent educators who develop for students a firm grasp of their culture and self-efficacy, including the ability to establish dialogue among parents and tribal leaders in order to further advance student success without compromising students' sense of identity, as defined by Native American culture and family values.

CONCEPTUAL FRAMEWORKS FOR CULTURALLY RESPONSIVE GIFTED EDUCATION

The purpose of gifted and talented programs and services for American Indian students is to develop sustainable educational networks supporting student achievement (Beaulieu, 2006; Fullan, 2001; 2005). The development of relationships and building capacity to accomplish student and community needs are critical to this goal, as are the concepts of individual dignity, diversity, and the right to have a voice in any and all matters impacting one's self, family, or community. The acquisition and application of educational knowledge and skills is essential to engage students in culturally relevant curriculum, develop interdisciplinary service learning experiences for Native American youth, develop supportive communication forums for teachers in predominantly Native American schools, share and discuss curriculum, instruction, and assessment methods with parents, tribal leaders, and students, and expand the external support resources for continued support of school and community educational development (Kirkpatrick, 1998).

Research has supported the effectiveness of intervening early in the school experiences of Native American learners who are gifted and talented (Begaye, 2003; Ziegler & Heller, 2000). A tiered model of programming is a historical framework for the field of gifted and talented education that has been advanced through the emerging models that support the early intervening approaches, based on meeting the diversity of individual student needs through differentiation of curriculum, progress monitoring, and problem solving processes that lead to enhanced learning and results for all learners (Donovan & Cross, 2002). Children who are identified through this process can be provided with advanced learning
plans, or ALPs, that are similar to the individualized nature of Individualized Education Plans (IEPs) for students who receive special education services. In gifted education, strength-based interventions or strength-based programming, are used to describe tiered instruction (Colorado Department of Education, 2008).

Research about giftedness in American Indian students fits into several categories: research about defining giftedness in the context of the American Indian culture and language, identification of students for gifted education programs, and programming options that are congruent with American Indian students, their learning styles and culture. The current agenda for research about American Indian students and educational practices has identified situations where the tribe or village controls the educational practices in the community school contrasted with situations where Native students are a minority of the school population. In the latter situation, the goal is to promote respect for the Native student's culture, and assist them to understand who they are in a multicultural world (Beaulieu, 2006). The research and identification functions are both critically important to support culturally responsive educational approaches for gifted and talented students who are Native American.

DEFINING GIFTEDNESS FOR AMERICAN INDIANS

Many authors state that one reason for under representation of American Indian students in gifted education programs stems from differences in conceptions of giftedness in American Indian cultures and white mainstream culture (Fixico, 2003; Hartley, 1991; Tonemah, 1991). The construct of giftedness is not universal; it changes from society to society over time. What one society considers giftedness to be is dependent on what is valued in that society at that particular time (Tannenbaum, 1986). The differences in values as well as learning styles and world-view (ethos) between American Indian and white mainline culture are well documented. When identifying students for gifted education programming, teachers often rely on stereotypes of gifted children (precocious, highly verbal, successful in school) and overlook students who do not fit that profile, as students from minority cultures may not.
Native American Perspectives on Giftedness:
Walking in Beauty While Scaling the Heights

For conceptualizing giftedness in the American Indian context, this “cultural incongruity” needs to be replaced with “cultural compatibility” (Herring, 1996). Attaining that compatibility requires an examination of the particular culture through a process that involves explicit input from key people in the group and analysis of the implicit conceptions of giftedness and of the cultural entities (folk literature (including myths, fables, proverbs), art, songs, and other valued kinesthetic activities (Ngara & Porath, 2004). Developing a standard conception or definition of giftedness that applies to all native tribes, incorrectly assumes homogeneity of culture and values and ignores differences among them (Callahan & McIntire, 1994; Christensen, 1991; Herring, 1996). The origins of diversity among American Indian tribes is influenced by geographic locations, tribal affiliations, languages, cultures, schools attended, socioeconomic conditions, and individual differences among the students (Callahan & McIntire, 1994).

In an effort to establish general understandings about giftedness among American Indian groups, Tonemah and Brittan (1985) surveyed 266 tribal elders regarding tribal perspectives of giftedness. The findings were condensed into four categories: (a) acquired skills (e.g., problem solving, communication skills), (b) tribal and cultural (e.g., knowledge of history and traditions, tribal language), (c) human and personal qualities (e.g., high intelligence, intuitive, self-discipline), (d) aesthetic abilities (e.g., visual art talent, performing art talent, Native arts talent).

Romero (1994) conducted research among the Keresan Pueblo Indian tribes for the purpose of developing a Keresan view of giftedness. The author clearly states that the general view of giftedness, similar to that of other tribes, is that the Western concept of individual giftedness does not exist in their language/culture. In their view, gifts are given to individuals in specific areas (interpersonal, leadership, arts) for the benefit of the community, not for the edification of the individual as humility is a strong characteristic of the culture. In this study she interviewed 22 Keresan Pueblo adults who had been nominated by tribal leaders as ones who were knowledgeable in the culture and traditions and respected by the community. Four domains of giftedness were identified from the analysis of
the interviews included: (a) humanistic-affective qualities such as perseverance, self-discipline, motivation, generosity of effort, time and knowledge; (b) special linguistic abilities including speech delivery, song composition, singing and traditional advisement; (c) knowledge of traditional medicinal plants, religion, language, farming, hunting, cooking, and the sharing of knowledge; and, (d) creativity associated with special psycho-motor abilities such as the creation of traditional art forms including pottery, jewelry making, weaving, painting, and sewing. The performance areas of drumming and dancing are also included. More studies of this nature should be conducted with American Indian/Alaska Native tribes to broaden our understanding of how giftedness is considered in other tribes and in a variety of geographic settings including remote, rural and urban settings.

Level of acculturation is another variable affecting views of giftedness among American Indians. Hartley (1991) compared the perceptions of giftedness of three groups of parents and teachers: (a) traditional Navajo Indians living in a high desert valley in the Navajo Nation. This group had marginal integration with the white mainline culture; (b) an "acculturated" Navajo group living in a town of 56,000 on the border of the reservation. This group exhibited substantial levels of integration and assimilation with the dominant white culture; and (c) a comparison group of non-Indians (designated "Anglo,") living in an urban area in one of the Mountain states. Some of the most significant findings of the study included: (a) the more traditional the respondents in regard to traditional Navajo lifestyle, the less likely of having an "Anglo" perspective of giftedness, though as previously stated, some American Indian tribal languages do not have a word that corresponds to the word "gifted" or "giftedness." For the Navajo respondents the word "outstanding" was used in regard to a specific ability, not a general condition; (b) the particular cultural and linguistic milieu of a child influences their level of success. It also affects the way in which giftedness is considered by both parents and teachers. "The more a teacher looks for student skills and abilities beyond the traditionally academic and intellectual, the more likelihood the Navajo will find success as a gifted student." (Hartley, 1991, p. 62); (c) the linguistic ability of learning a second language, leadership skills and problem solving proficiency may be overlooked by teachers when considering evidence of
outstanding ability. Other abilities such as physical/athletic and artistic were the "outstanding" abilities highlighted by teachers most frequently almost, as the author cautions, to the point of stereotyping. In the attempts to promote American Indian gifted education we must take care that we do not create or promote systems that accelerate acculturation or assimilation. An effect, not unlike the endeavors to eliminate vestiges of Indian culture and language in the Indian boarding schools in the first half of the 20th century, must be avoided by promoting culturally and ethnically sensitive and responsive plans for establishing gifted education programs.

The definition of giftedness selected by a school system, should direct both the identification system used to select students for gifted education programming and the programs themselves. The harmony of this relationship is critical. If a plan to identify students for a gifted education program does not match the selected definition of giftedness, then the students selected will not be those whom the school system intended to target. If the programming does not align with the identification plan and/or the definition, then the real possibility exists for students to be placed in a program that does not match their gifts, talents, abilities and educational needs. This is particularly critical for American Indian/Alaska Native students whose cultural values, learning styles and community orientation is very different from the white mainline culture educational establishment that has generated much of the research and developed policies and guidelines driving most of gifted education today (McCarty, 2008).

STRIKING THE BALANCE IN ASSESSMENT AND IDENTIFICATION PRACTICES

Methods to identify students for gifted education programs typically may include a combination of standardized achievement test data, intelligence test results, teacher and parent checklists of characteristics of giftedness as per the gifted education literature, teacher, parent, peer or self-nomination, class grades, product or performance evaluation, and other assessment data that is available (Johnsen, 2004). The intention is to create a body of evidence thus ensuring that
a single assessment or measure is not the exclusive gatekeeper for participation in a gifted education program. In theory the intention is noble. In practice, a single gatekeeper, often in the form of a test of intelligence becomes the "linchpin" in deciding whether a student qualifies or not (Renzulli, 2004). This is particularly problematic when the linchpin regularly, and perhaps inadvertently, excludes students from the same ethnic, cultural or socio-economic groups. This problem results in the consistent under-representation of certain minority groups in gifted education programs: African-Americans, Hispanic-Americans, children in poverty and American Indians (Callahan, 2005).

One theory regarding the under-representation of minority students is educators' perceptions of the differences of the traits and behaviors of minority students when compared with students in the majority. These traits and behaviors may not be construed as simply differences, but often as deficits (Ford, Harris, Tyson & Trotman, 2002). In the American Indian context, the perception of deficit may result in few students nominated for gifted education programs and thus low numbers of students actually identified for participation. This derives from an expectation that a gifted student should look and behave a certain way and when a student does not meet the qualifications of that label they are not considered for gifted education identification. Because giftedness among American Indian students may be manifested in different ways from students in the majority culture alternative methods of identification have been developed. Robinson (2003) stated that some school districts have included visual-spatial assessments in their gifted education identification process because the results by racial/ethnic group differ less than do verbal assessments. The most widely utilized approaches to assessment and identification include Discovering Strengths and Capabilities while Observing Varied Ethnic Responses (DISCOVER), Raven Standard Progressive Matrices, and the Naglieri Nonverbal Ability Test.

Maker, Nielson, and Rogers (1994) developed the Discovering Strengths and Capabilities while Observing Varied Ethnic Responses (DISCOVER) assessment approach to identifying gifted learners at the University of Arizona. Maker (2005) incorporated research and literature from the fields of gifted education, bilingual
education, cognitive science, cultural anthropology and psychology to improve assessment and subsequently curriculum and programming appropriate for students from minority and/or diverse populations. The assessment is described as a performance-based assessment designed to measure an individual's problem solving abilities (Sarouphim, 2004). The intelligences addressed directly include spatial, logical-mathematical, and linguistic (oral and written) in five different activities. Students are given sets of problems to solve that range from well-defined to much less defined. Students are observed by trained personnel who assign ratings (unknown, maybe, probably, and definitely) based on established criteria. Through the use of checklists describing specific types of behaviors, observers rate the performance of each student for each task. Flexibility exists for schools to adjust the criteria to meet the district's identification plan and on the focus of the programming for their gifted education model. Research on the inter-observer reliability, validity, gender and ethnic differences have been positively correlated with performance assessment of intelligence. Griffiths (1996) found positive and significant correlations between researchers and observers, between .80 and 1.0. Gender and ethnic differences in ratings on the DISCOVER activities are reported to be low or absent (Sarouphim, 2004) indicating the instrument is free from gender and cultural bias. Sarouphim (1999) investigated the correlation between this assessment approach and the Raven Progressive Matrices, an assessment of nonverbal reasoning abilities, with 257 Navajo Indians and Mexican American students. The portions of the DISCOVER assessment that are nonverbal (spatial and logical/mathematical) had a statistically significant correlation with the Raven scores. The portions of the assessment that are verbal (storytelling and writing) did not have statistically significant correlation with the Raven scores. Though the research results are not overwhelming, the potential for it to be an effective alternative assessment for identifying American Indian students for gifted and talented education programs appears to be substantial.

The Raven Standard Progressive Matrices (RSPM) was developed by John Carlyle Raven (1983) in the United Kingdom. Designed to assess the ability to structure perceptual relationships and to use analogical reasoning in a nonverbal format, the untimed RSPM may be used with children as young as six to adults.
The Raven Colored Progressive Matrices (RCPM) was developed for use with younger children. Because of the figural composition of the assessment, it has been suggested for appropriate use as a culture-fair measurement of intelligence (McAvoy, Orr, & Sidles, 1993), though this assertion is not universally held. The matrices are a series of related figures that progressively change from one cell to the next. The test taker has to analyze the pattern of change and predict which of several figure options would come next in the series.

A study by Sidles, McAvoy, Bernston, & Kuhn (1987) with 183 Navajo students in Arizona and New Mexico ranging in age from 13 to 15 found no significant difference in performance on the RSPM between students who lived on or off the reservation, nor between those whose primary language was Navajo and those whose primary language was English. Norms for the test were developed for this population. A later study by McAvoy, et al. (1993) with 908 students ages 7 to 17 in the Flagstaff, Arizona Unified School District focused on the use of the Matrices for the identification of students for gifted education programs. The RCPM was found to be appropriate for use with students through second grade. The RSPM was found to be appropriate for use with students from grades 3 through 9. The authors caution that score ceiling considerations may limit the efficacy of both tests for gifted education identification. The value of the Raven Matrices for the identification of American Indian students for gifted education programs may be the assessment of visual reasoning capabilities that are recognized as valued abilities in many American Indian tribes. Coupled with other assessments it may help identify students who may not perform at the requisite level on a test of achievement or verbally based intelligence test.

The Naglieri Nonverbal Ability Test (NNAT) is a short nonverbal assessment of ability not requiring reading, writing or spoken responses (Naglieri, 1997). It is based on the same format as the Raven Standard Progressive Matrices. According to Naglieri and Ford (2003), differences include the use of colors that are least likely to impact people with color-impaired vision, and the NNAT is standardized on a sample size of 89,000 students in kindergarten through grade 12, which is greater than the RSPM. Naglieri also reports the documentation of the psychometric properties is abundant and the research conducted on the
NNAT and other similar tests considered predecessors provide support for its effective use with minority students. (p. 156). Challenges to Naglieri's assertions were raised by Lohman (2003) regarding the standardizing process and the particular claims for its use with minority students. Like with all assessments, educators need to make sure all instruments are appropriate for the desired purposes.

**CHALLENGE AND SUPPORT FOR LEARNERS THROUGH PROGRAM OPTIONS**

The literature on programming options for American Indians in gifted and talented education is fairly consistent regarding critical cultural dimensions to consider and programming recommendations. Cultural dimensions include an understanding of the perception of competition and of not drawing attention to oneself. In many American Indian tribes cooperation and interdependence are valued over individual competition and winning (Begaye & Maker, 2007). Abilities and talents are developed to be of benefit to the family and community. Emphasis on altruism is not often a major component of gifted education, thus is a critical concept for non-Indian educators to understand.

Most authors include making culture-based curriculum and programming central in gifted education services (Ford, Moore & Milner, 2005; Herring, 1996; Montgomery, 2001; Powers, 2006; Tonemah, 1991). This emphasis is recommended for programs serving not only American Indian students, but for all gifted education services. Culturally responsive curricula that incorporate the cultural heritage and values of the students has shown to increase academic achievement and post-secondary educational aspirations. Powers found that culture-based programs had more of an impact on students with a strong American Indian identity in a survey of 240 American Indian urban high school students. Those whose American Indian identity was reported as less strong responded positively to the general “universal” educational practices that were part of the culture-based program: safe and positive school climate, parent involvement in school, and instructional quality.
Romero (1994) concluded that there are four domains of giftedness that would be the focus for programming for Native American learners. These domains state that giftedness is related to specific areas that are for the benefit of the community and not for the benefit of the individual. The four domains include humanistic-affective qualities and knowledge, special linguistic abilities, cultural knowledge, and creativity.

Two models that are centered on the four domains of the American Indians are the Schoolwide Enrichment Program of Renzulli and Reis (1985) and the Autonomous Learner Model (Betts & Kercher, 1999). Each model has been implemented with Native Indians within regular classroom and total school approaches. The Schoolwide Enrichment Model is centered on the concept that schools need to provide for talent development and to provide challenging and enjoyable experiences for students. The model began with the development of the Enrichment Triad Model (Renzulli, 1977) and has been developed to provide enrichment activities for all students within a school. The Enrichment Triad Model consists of three steps, including general exploratory activities, group training activities, and individual/small group investigation of real problems. The Autonomous Learner Model (ALM) focuses on understanding the need for a positive, nourishing environment; understanding self, and community through emphasis on both concepts, involvement in 21st century skills (including creativity) that provide for on-going learning, and commitment to problem-based and product-based learning. The ALM has five dimensions that provide opportunities for students to become learners through orientation, individual development, enrichment, seminars and in-depth studies. Emphasis in this model provides for the development of individual and group learning skills, the importance of self selection and the development of passion areas of learning for the students.

Maker (2005) cites gifted education principles that match well with the values and needs of American Indian students participating in discovering strengths and capabilities while observing varied ethnic responses programming: (a) integrated, interdisciplinary content, (b) higher-order thinking, appropriate pacing, self-directed learning, and complex problem solving processes, (c) development of
unique products for real audiences, (d) student interaction, interaction with experts, and learning environments with physical and psychological flexibility, openness, and safety (p 33). In addition, Maker (2005) has found that integrating all forms of artistic expression and a range of problem-solving opportunities contribute to the success of programming options for American Indian students. The Integrative Education Model (Clark, 1990), particularly addresses affective and intuitive dimensions that may align well with American Indian culture and heritage.

APPLICATIONS THROUGH TODAY'S STUDENTS TOMORROW'S TEACHERS

The Navajo Nation Teacher Education Consortium was established in 1992 through a minority teacher education grant project from the Ford Foundation. The major purpose in the creation of the initiative was to prepare culturally responsive Navajo educators with competencies in Native language, culture, and identity. In 1993, The Today's Students Tomorrow's Teachers (TSTT) program was established as a pre-collegiate recruitment project with the following objectives: (a) encourage middle and high school youth to prepare for post-secondary education by attending college; (b) focus on careers in education through preparation programs for teachers and other education professionals; (c) gain added exposure to their Native language, culture, and philosophy of learning; and (d) serve as a resource to other learners by demonstrating their commitment and leadership to careers as culturally responsive Navajo educators. Navajo youth in middle and high schools were encouraged to explore future opportunities to attend college, pursue in-depth knowledge in areas of individual interest, and study the importance of Navajo language, culture, and learning philosophies in the process.

Navajo Nation President Peterson Zah stated, "We believe Navajo teachers are best equipped to teach Navajo children because they are sensitive to our culture, philosophy and history. In addition, the preservation of the Navajo language is a primary concern."
A program of evening activities engaged the students in summer camp type activities that were less scholastic in focus, but intended to engage the students socially. The students who were selected for participation in the TSTT program were required to attend a Navajo language, culture, and learning philosophy class and a teacher education exploration class as two of their four 70-minute day program classes. The participants in the program were heavily influenced by Navajo or Diné concepts to promote a framework representing a balance of Western and Native ideals. These classes were taught by Navajo educators who were thoroughly familiar with their language, culture, history, and philosophy of learning.

The Diné perspective, captured in the Navajo language and culture, may be demonstrated by the following components of the Diné education philosophy: (a) *Nitsihakees* (thinking, conceptualizing, designing, researching, and preparing); (b) *Nahat'a* (planning, investigating, inquiring, piloting, and experimenting); (c) *lina* (implementing, producing, performing, publishing, and accomplishing); and (d) *Sihasin* (reflecting, personalizing, adapting, problem-solving, and becoming expert). The Today's Students Tomorrow's Teachers program presented options through this framework for developing prospective students for careers as culturally responsive and effective educators as represented in Figure 1.
An excellent illustration of the Nitsihakees guiding principle is found in the process experienced by students who are preparing to attend college. Navajo youth in secondary schools have many questions concerning future goals and the transition from familiar local communities to unknown locations where post-secondary institutions are located. The degree of fit with small or large colleges, four-year or two-year courses of study, and the diversity of student bodies present a variety of choices to consider. Prospective college learners consider the potential separation from families, the value-added support for personal learning styles, and the potential demands of rigorous professional preparation programs in making the decision to select an institution of higher education. Prospective teacher education students are acutely aware of the financial considerations that must be addressed including tuition, fees, and housing expenses.

Students quickly demonstrate the critical importance of Nahat'a when exploring tribal scholarships, loans, and other sources of financial aid to support their success in college. The Navajo Nation Office of Scholarships and Financial Aid distribute significant financial support to tribal members attending colleges throughout the United States. The Navajo Nation has identified a variety of scholarship programs specifically designed for students pursuing a teaching license. Tapping into these helpful sources takes research and planning to meet deadlines and application criteria required by various scholarship programs. Tribes may also have academic requirements that applicants need to be aware of and follow in order to receive financial support. For example, the Navajo Nation emphasizes Navajo teachers as a vital link in strengthening Diné culture and language among their youth. Recipients of these scholarships specifically tied to teacher education funds must enroll in cultural and language proficiency courses at the Navajo Nation sponsored Diné College.

The principle of lina can be illustrated through the collaborative partnerships that have been developed among a consortium of colleges/universities and the Department of Diné Education identified through memoranda of understanding to form the Navajo Nation Teacher Education Consortium (NNTEC). The NNTEC
member colleges have developed partnerships to bridge the transfer from two-year Associate degree programs to four-year Bachelor's degree programs. These collaborations go beyond articulating coursework, to include offering upper division courses on community college campuses, joint advising processes, and continuous referrals. Each member college offers services specifically to advance Native American students toward degree completion. These include tutoring services, social clubs, financial aid assistance, and enrichment activities. Program participants provide a pipeline of prospective candidates for these teacher education programs.

The concept of Sihasin personifies hope for the future. Advisors at the Department of Diné Education encourage students to seek out colleges that incorporate Native culture into their student support offerings and programs of study. Support for this principle is accomplished by using a spiraling curriculum to illustrate the balance between Western and Diné learning approaches. Among the beneficial outcomes from these efforts is the significant number of Navajo teacher education graduates who receive teaching licenses and find professional jobs on and near the Navajo reservation. These new teachers share their college experiences with other educators and serve as role models. Teachers who demonstrate knowledge and skills in Navajo language and culture exemplify the value of sovereignty and ensure continuation of the Navajo cultural traditions and language. One of the 18-year-old participants in the program said that she would like to return to the reservation as a role model.

"I know there aren't many Indian teachers. That's the reason I want to be one. I want to show the younger students our heritage, our values. Our language is fading. We can't talk to our grandparents. We can't hear their stories."

An emerging body of research has documented the positive correlation between the inclusion of Native language and culture with increasing academic achievement. It is paramount in the effective preparation of Navajo teachers and administrators to be knowledgeable of cultural and language integration. The goal of these efforts is to promote the creative, gifted, and talented potentials of
Navajo students by promoting the balance between Western and Diné curriculum with the goal of harmony between Western and Diné methods. The Navajo term for this balance is: "Saah Nááhgai Bek'eh Hozhóó."

SUMMARY AND RECOMMENDATIONS
The commitment to identify, support, and nurture the gifted potential of Native American students is a powerful force for change in educational systems. The goal of balance between Western and Native concepts of what constitutes gifted, talented, and creative potential is a compelling motivation to bring forth significant accomplishments among students who are American Indians. The research literature and programming strategies that are emerging on this topic is encouraging in terms of impact and sustainability within the schools and communities that serve these students. The applications provided through the case study of Navajo youth who experience a summer enrichment program based on Native culture, language, and philosophy of learning illustrate the meaningful manner in which the necessary balance can be achieved.

The increasing emphasis that is emerging regarding the complementary aspects and value of Native and Western ways of learning can address many of the significant challenges that currently exist for Native American students. The following recommendations are offered in the spirit of generative change for culturally responsive education that meets the needs of American Indian children and their families: (1) there is a compelling need to develop a definition of what constitutes culturally responsive Native American education that promotes harmony between Native and Western culture for the gifted and talented; (2) programming approaches for Native American students who are gifted and talented must be developed in a manner that meets the cognitive, emotional, social, and physical diversified needs of these learners; (3) teacher education programs are encouraged to include the content and processes of gifted and talented education of diverse learners, including Native American students, in undergraduate and graduate degree and licensure programs; and (4) ongoing professional development for teachers and other staff who educate gifted and talented students must be provided, with special emphasis on learners who are
twice-exceptional, under-served, and educationally disadvantaged. These recommendations provide a meaningful set of priorities to achieve the vision of culturally responsive education for Native American students who can achieve higher levels of learning and outcomes in harmony with Western and Native ideals. The ideals of scaling the heights by realizing the full potential of Native American students who are gifted and talented can best be achieved by pursuing the cultural imperative of walking in beauty.
References


Native American Perspectives on Giftedness:
Walking in Beauty While Scaling the Heights


Educators have raised multiple questions concerning practices and programs to support the academic achievement of all English language learners (ELLs), including questions about classroom instruction and targeted interventions in reading and math, the special needs of adolescent newcomers, and the inclusion of ELLs in large scale assessments. While ELLs vary in their academic outcomes, many thrive in U.S. schools. Still, there are a large number of ELLs who struggle to develop language proficiency and stay in school.

Hispanics comprise 11.2 percent of the U.S. population. Approximately 2.9 million Latinos are enrolled in U.S. high schools—representing 17% of all secondary public school students—and are less likely than their non-Hispanic peers to complete high school. According to the U.S. Census Bureau, Hispanics accounted for almost half (1.4 million) of the national population growth. About a third of the Hispanic population is younger than 18, compared with one-fourth of the total population. (National Center for Education Statistics, 2005; U.S. Census Bureau, 2007).

During the last 20 or so years, national reports articulated the need to develop the nation’s best and brightest students while simultaneously attempting to address the issue of under-representation of minorities in gifted and advanced programs (U.S. Department of Health, Education, and Welfare, 1971; Math and Science Education Expert Panel, 1999; No Child Left Behind Act of 2001). Mathematics talent of disadvantaged and minority children has been especially neglected. Almost one in four American children lives in poverty, representing an enormous pool of unused talent. Black and Hispanic children are present among the highest levels of poverty. Repeatedly, Hispanic fourth- and eighth graders score lower on average in mathematics than their white counterparts (National Center for Education Statistics, 2003;2005). In addition, by 2025,
twenty-two percent of the U.S. college-age population will be Hispanic. According to House (1999), most programs for these children in the U.S. have focused on solving the problems that the children bring to school, rather than on challenging them to develop their mathematics strengths and talents. To this day, this persists; most Hispanic children are placed in less-demanding mathematics classrooms because perceptions about language and cultural mismatches are viewed as deficits rather than potential strengths.

Only a small percentage of Hispanic ELLs are placed in higher-level mathematics courses or are encouraged to register for advanced or post-secondary courses. As a consequence, many Latino/a students are excluded from rich mathematical experiences and maximizing their potential. International results also show that, including the talented students, most students in the U.S. are offered a less rigorous curriculum, read fewer demanding books, complete less homework, and enter the workforce or postsecondary education less well prepared than top students in many other industrialized countries (TIMMS, 2003). Experiencing an early challenging and systematic mathematics curriculum could play a decisive role in the identification and retention of talented mathematics learners.

In 1994, the Board of Directors of the National Council of Teachers of Mathematics (NCTM) created a task force to explore the topic of "mathematically promising" students. This period marked a new era in the discussion of what mathematical ability had traditionally meant. The team interpretation of "mathematically promising" linked individual attributes such as ability, motivation, beliefs, and experiences or opportunities

By examining the mathematic potential of students, this new definition for identification may have alluded, for the first time, to students who had not been traditionally identified as gifted, talented, intelligent or precocious. The concept of "promise" acknowledges that students who are mathematically promising have a larger range of abilities and a continuum of needs that should be met (NCTM 1995; House, 1999).
The definition of mathematical promise was aimed at opening the door to consider fundamental factors involving the identification of culturally and linguistically diverse students who were mathematically talented, expanding the concept of mathematical promise and for the first time began to address the ability-equity dilemma. From this perspective, mathematical ability recognizes itself as having been influenced by cultural and educational experiences. "The learners are clearly faced with negotiating transitions in knowledge, and knowing, but they must also make transitions in values, language customs and behaviors" (Bishop, 2002). From these perspectives we need to examine the environments under which mathematics learning occurs and the variables that may be significantly influencing these processes and their results.

Technology, globalization, immigration and social mobility are generating fast changing environments. Consequently, there is a need to familiarize ourselves with new literacies and then to identify and accommodate related information to new learning. Teachers are confronted with a difficult but powerful challenge, the increasing diversity of the students in their classrooms: a new breed of learners, who come to school with new skills, new knowledge, new languages and new and culturally differentiated schemas for learning. Teachers and learners coexist in new classroom environments with dynamics we did not foresee and for which teachers and educators are neither prepared nor ready to respond. Teachers are challenged to change the ways they communicate with students, and how they classify, organize, deliver and assess mathematics information. As teachers in a continuously changing world they are not prepared to respond to these new demands, to accommodate what they need to teach, how to teach it, and when to teach it.

Research literature strongly acknowledges the impact of an individual's culture on mathematics learning (Bishop, 1992, 2002, 2004; Gutstein, Lipman, Hernández, & de los Reyes, 1997; Secada, 1992; Sternberg, 2004; Schoenfeld, 2002; Delpit & Dowdy, 2002, D'Ambrosio, 2004), as well as how our demonstration of talent involves behaviors representing our individual social constructs (Sternberg, 2003). The importance of creating a classroom culture that supports mathematics learning is necessary, as we now
understand the role of culturally related learning behaviors (Stigler & Hiebert, 1998, 1999). Therefore, the urgent need is to consider revising these new aspects of classroom culture and its new dynamics before designing a lesson, introducing a concept, or advancing a new mathematics domain. Mathematics classrooms need to become centers of interaction where the discourse concentrates on stimulating the discovery of students' individual strengths and challenges, reflecting upon them, and accommodating and communicating mathematics at a pace that builds upon students' prior knowledge. In many cases, the mathematics establishment had ignored dynamics of mathematical experiences that obey behaviors outside the traditional curriculum and the traditional classroom.

Mathematics, as stated by the Center on Instruction project at the University of Houston (Francis, Rivera, Lesaux, Kieffer & Rivera, 2006) "is often a specialized form of natural, conventional language and requires a re-interpretation of the way it is used in everyday settings" (p. 6). All ELLs need early, explicit, and intensive instruction and evaluation and intervention in the domain of the basic mathematics concepts and skills. These interventions should include appropriate assessment processes that could identify students' mathematics schemata, their cultural base mathematics perspective as well as previous knowledge of mathematics. Talented Latino/a ELLs come to U.S. schools with a large array of mathematical knowledge and the academic language—in Spanish—tied to this knowledge. To understand and solve the word problems that are often used for mathematics assessment and instruction, talented Latino/a ELL's need early academic English language support. All middle and secondary school classrooms must address the language and literacy skills that adolescent ELLs—especially newcomers—need for content and learning. All adolescent newcomers need instruction in academic language—the language they need for text comprehension and school success. Using academic native Spanish facilitates the transition to learning academic English.

Children from immigrant families, who represent 18 percent of U.S. schools' student population, develop problem solving skills connected to experiences
that U.S. mathematics teachers are unable to relate to such as: sorting out options and accommodating for daily survival; making complex decisions by taking responsibilities for their siblings and parents, etc. Studies in Brazil demonstrate the high levels of mathematic thinking skills among children from the favelas, acquired when negotiating for survival in the streets (Nunes, Schliemann, & Carraher, 1993).

By differentiating the social reality, the culture, the language, and the different special needs of these new learners we could achieve dynamics of interaction that could change the conventional concept of schooling. Classrooms and lessons need to be organized as a continuum of changes, accommodating the discourse and instructional practices to the dynamics dictated by the characteristics of each of the learners. The NCTM recommends the need “to provide second-language learners with support in their dominant language and English language while learning mathematics; to carefully assess the language and mathematics proficiencies of each student in order to make curricular decisions and recommendations; and to look for mathematics teaching, curriculum, and assessment strategies based on best practices that build on the prior knowledge and experiences of students and on their cultural heritage” (NCTM, 2002). Diverse classrooms present a unique opportunity to differentiate effectively using the baggage of mathematical history embodied in a variety of talents, abilities, knowledge and experiences of our new learners.

Culturally, linguistically and socially diverse (CLSD) students in mathematics classrooms have been neither identified nor educated appropriately (Karnes, 2003). This results in fewer Hispanic talented ELLs having the opportunity to experience appropriately designed gifted programs. Teachers hold stereotypes about the definitions of gifted students (Siegle & Powell, 2004) and as a consequence teachers tend to focus on skills associated with academic performance. For example, students who have mental computation ability, who possess a broad range of information or are avid readers, who have unusual or unexpected interests, and who display problem-solving skills are more likely to be identified as gifted (Siegle & Powell, 2004; De Wet, 2006). Giftedness is often operationalized as having outstanding academic achievement as
measured by standardized tests, and, implicitly, achievement in English. Students from economically impoverished backgrounds and with limited proficiency in English may have great difficulty demonstrating such achievement (Kitano, 2003; De Wet, 2006).

Mathematics experiences for CLSD students have not been channeled in relation to skills, abilities, and academic performance. Hence educators have failed to identify students' prior experiences, knowledge, abilities or skills related to mathematics. The talents of mathematics students from conventional classrooms in the U.S. go unidentified for years, so gifted mathematics students are stereotyped, misunderstood and unattended (Siegle & Powell, 2004). Most especially, CLSD students, which include a wide range of Latino/a English language learners, have not been appropriately identified nor have they received appropriate mathematics classroom placements and instruction. Many Hispanic children are placed in classrooms for children with special needs; these special needs do not necessarily include accommodations for talented mathematics learners (National Research Council, 2002; Hosp & Reschly, 2004).

Gifted students can be described as possessing an abundance of certain abilities that are most highly valued within a particular society or culture. Many minority language children have special talents that are valued within their own cultures; unfortunately, these students are often not recognized as gifted or talented. In the United States, most procedures for identifying gifted and talented students have been developed for use with middle class children who are native English speakers. Such procedures have led to an under-representation of minority Hispanic students in gifted and talented mathematics programs, which in turn prevents our schools from developing the strengths and abilities of this special population.

Among many Hispanics, cultural differences also produce characteristics of giftedness that differ from the traditional manifestations in the majority culture. In Latin America, children learn to seek the advice of their family and their friends first, rather than demonstrate their capacities or look for support in
school. Latino/a teachers and parents need to be part of the identification and follow up process; they have the opportunity to observe students in numerous academic and social interactions. These interactions are full of behaviors that are culturally defined and only evident or easily understood by members of that community. The under-representation of language minority students in gifted and talented mathematics is often blamed on standardized IQ tests. Supporters of more reliable measures claim these tests do not fairly accommodate the linguistic and cultural differences of these students, nor can they accurately measure these learners’ mathematical competencies. Reliance on IQ tests alone has greatly diminished the potential number of gifted students.

Traditionally, gifted students have been identified as verbally gifted and typically flourish in the highly verbal classrooms of the U.S. educational system (Granada, 2003). The same exceptional skills apply to ELLs in their home language (L1). According to Aguirre and Hernandez (2003), gifted ELLs 1.) demonstrate a high degree of acceleration and sophistication in L1, 2.) learn a second or third language at an accelerated rate, 3.) excel in math achievement, 4.) exhibit a high level of proficiency in code switching between L1 and L2, 5.) possess advanced knowledge of American idioms, and 6.) orally translate at a high level of accuracy. Talented Latino/a learners offer a unique opportunity to teachers in these new classrooms. Teachers could channel the students’ talents and develop a team leader’s support system that could lessen the variety of challenges encountered in such diverse environments.

Besides knowing the mathematics content, teachers are faced with the need to acquire new skills that range from the recognition of, and some acquisition and/or familiarity with a new language, to the understanding of a somewhat culturally biased mathematical language. During the last two decades researchers have been investigating the impact of previous learning experiences interfering with new learning and how the learners’ “schema” provide a basis for understanding, learning, and remembering new facts. For example, one of my students claimed, “When I read ‘lluvia’ (rain) I can smell ‘la tierra mojada’ (wet soil). In English, ‘rain’ doesn’t mean anything to me.” In CLD
classroom environments this schema interferes with the dichotomy of teacher-student classroom interactions. For example, finding associations in a concept map to web the word “Quadratic” (conceptualization of a quadratic function) a Latina student writes the word “block;” the teacher indication was “to look to the word cognates.” “Block?” the teacher silently reflects, “this girl is lost.” Later, the teacher realized the student responded to her mental schema in Spanish—cuadra—alluding to her street, the block she walked everyday to school in Mexico.

The acknowledgment of these previous schemata is well represented in conflictive parameters involved in the use and expertise with the Metric System versus the English Customary Weights and Measures System, which influence the acquisition of fundamental mathematics concepts affecting significant cognitive aspects of future mathematics learning. The notion of the concepts that involve measurement: one meter versus one yard; one pound versus one kilo; ½ = 0.5 versus ½ = 0, 5; and Fahrenheit versus Celsius. “para mí, 30°C significa calor, verano, o sea la sensación,” (for me, 30°C means hot, heat, summer, I mean the feeling) reflected a Hispanic adolescent (Rojas, in print).

Dr. Diaz, a young mathematician, remembered his embarrassing minutes of distress when hidden in a corner, close to the board, “de espaldas” (with his back) to his college students, he tried frantically to convert miles to meters to inches to centimeters while solving a problem to students in a U.S. University. Or W. Ketterle, who in 2001 shared the Nobel Prize in physics, lecturing the audience, “you do the conversion... I am a German ... in Germany ... in... Europe, we use the Metric System,” acknowledging few seconds of mental block. (Ketterle, 2008)

In a survey to twelve Latino/a mathematicians in the U.S., when asked how their brain would respond to questions of counting, multiplying, using decimals, calculating areas, perimeters, etc., when working on the solutions of sophisticated or less sophisticated mathematics problems, their responses included “I count in Spanish, I multiply in Spanish, I translate-convert to kilos"
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(Rojas, 2005). Other aspects include the understanding of mathematics as the language of science and problem solving; the notion, use and application of logical connective concepts, inclusion, universe, larger than, if and only if, smaller than; imply, negation and disjunction or the use of dissimilar cognates: billion and billón, minus four (-4) “menos es restar” versus negative four (-4); the inverse of 2 \((1/2 \text{ or } 2^{-1})\), (and the sequence of solving division and multiplication). Within content, in descriptive mathematics, the words median and mediana have the same meaning in English and Spanish. Nevertheless, in geometry the median is the line that in a triangle goes from one of its vertices to the midpoint of the opposite side. In Spanish, a mediana is the line that in a triangle joins the midpoint of one side to the midpoint in the other side. (Rojas, in print)

UNDERSTANDING PREVIOUS SCHOOL EXPERIENCES AND BEHAVIORS:

Prior experiences from talented mathematics students from Latin America may include all or some of the following behaviors and social interactions: responses to a more focused, less fragmented, national curriculum; large numbers of students in their classrooms, (40 to 45); diversified teacher-student dynamics from whole class lectures and small groups to individual attention; K-8, 9-12 cohort classrooms; gender grouping within public, private and semi-private schools; no substitutes in classrooms; and varied physical structures such as K-12 schools grouped in small communities, some functioning during morning hours, some during the afternoon. Consequently, students share leadership responsibilities within the school and have ownership of the classroom. With a strong after school support system students are able to work collaboratively by sharing books and other materials after school; tutor younger sibling or classmates; receive family and friend support with homework and extracurricular activities; work together on school policies and decision making and be socially responsible by leading discussions in national education policies and leading activities that voice international concerns.
Hispanic students in general give back with their actions to society. They are explicitly taught to be respectful and tolerant, to give back to their community, and to become law-abiding contributing members of society (Castellano, 2003). Particularly, talented Hispanic students are given civic responsibilities and engage in socio-political activism at early ages, as leaders in their communities, as “jefes de curso” classroom-team leaders at school, taking responsibilities for their younger siblings doing chores at home and volunteering for “trabajos voluntarios” during the summer (Rojas, in print).

MATHEMATICS LANGUAGE AND THE LANGUAGE OF MATHEMATICS

Teachers and school administrators are faced with questions with respect to students’ ability to learn mathematics as they learn a second language. Many high ability ELL students are inappropriately placed in “English only” programs or mainstream classrooms with the purpose of accelerating their literacy in English so they can effectively resume their mathematics later. The question of teaching in the student’s first language is not limited to the lack of bilingual teachers, well-trained in mathematics, but to the presumed advantage of learning English first, and continuing with mathematics later. These approaches contradict the recommendations that advocate for students to continue to learn mathematics in the native language (NCTM, 2000) and encourage learning content in two languages (August & Shanahan, 2006). Monolingual English speaking mathematics teachers should have the support of a school’s native language specialist. Evidence suggests that language-minority students instructed in their native language as well as in English perform better, on average, on measures of English reading proficiency than language-minority students instructed only in English. The research also suggests that students perform better when they read or use material that is in the language they know best. Culturally meaningful or familiar reading material also appears to facilitate comprehension; we also know that content knowledge transfers from a language to another (Cuevas, 1997; NCTM, 2000; Francis et al., 2006; August & Shanahan, 2006).
The complexities of literacy development in the context of mathematics instruction have been frequently underestimated. Increasingly, second language (L2) educators have identified materials and approaches that prioritize literacy concerns in content-based instruction (Chabot & O'Malley, 1994; Dale & Cuevas, 1992; Echevarria, Vogt, & Short, 2008; August & Shanahan, 2006). At the same time, mainstream teachers face the challenge of identifying patterns for developing those literacies within the mathematics content. Traditionally, mathematics has been thought of as an area with minimal language demands. In fact, mathematics and language are intrinsically connected. Through reading, writing, and oral communication, language facilitates the mathematical thinking processes (Dale & Cuevas, 1992). Teachers could purposely help students to design dialogues and write stories to learn mathematics. As suggested by the NCTM (2000) communicating mathematics should be the soul of mathematics learning. Mathematical problem solving and analysis of mathematics concepts is layered with exchange of debates and clarification of hypotheses. These dynamics of communicating mathematics are filled with questions, descriptions and explanations. Elaborating, verifying and sharing results all require written and verbal dialogues. While the language demands in a mathematics classroom with ELLs are significant, the potential is also strong to facilitate environments that will help all students learn important English language skills as we construct the academic mathematics language through the processes of acquiring mathematics content (Buxton, 1998; Crawford, 1995; Kang & Pham, 1995; Kessler, Quinn, & Fathman, 1992; Laplante, 1997). In terms of the dialogue and representation of mathematics expressions, reading, writing and their interconnections present distinctive characteristics. Content-specific language may function independently of more familiar academic or home language registers.

A significant body of research suggests that a key obstacle to literacy across the curriculum initiatives in the mathematics classroom is the mathematics language register (MLR). It explains this phenomenon by suggesting that mathematics has a distinct language register. MLR uses natural language in alternative and/or unique ways (Pimm, 1987; Winslow, 1998; Dale & Cuevas,
1992; NCTM, 2000). The mathematics dialogue is composed of a webbed net of specialized vocabulary and unique discourse features. It combines words, symbols and expressions recognized both as mathematic and as non-mathematic terms, e.g. in the algebraic sentences: "a table of multiplication;" "a complex number;" "a constant and a variable;" "the square root of negative one is an imaginary number." Table, complex, constant, variable, root, negative and imaginary connote different meanings when taken out of the mathematical context. Other words, such as if and then, take on new and often confusing meanings in mathematics. Literacy development in content-based instruction (CBI) is dependent upon oral, written, and symbolic proficiency in MLR. One may argue that students are developing not only mathematical literacy but tri-literacies (added to L1, L2) in combination with cognates.

These features in mathematics learning may present a real challenge to Hispanic ELLs regardless of their time residing in the U.S. or their mathematical ability. The language used at home and within the student’s community does impact both the student’s second language and academic language acquisition (August & Shanahan, 2006). However, English literacy development is a dynamic process and is influenced by individual differences in general language proficiency, age, English oral proficiency, cognitive abilities, previous learning, and the similarities and differences between the first language and English. For example, adolescent language-minority students schooled only in their first language may have well-developed phonological skills in two languages. Overall, student performance in literacy is more likely to be the result of home (and school) language and literacy learning opportunities. Subsequently, scaffolding instruction takes on an important role in student success.

Many techniques, from explicit instruction to discovery-oriented approaches, need to be incorporated in the areas of reading, writing, and mathematics. An eclectic combination of teaching approaches is recommended to allow flexibility in meeting the needs of a wide range of students and stimulating the maximum potential of every student. Some of them include language and culture: using
both the native language and the target language, talking mathematics through explicitly guided lessons, and making mathematics classrooms culturally and socially responsive. The mathematics curriculum must include connections to the cultural heritage of students (Celedon-Pattichis, 2004). Teaching and assessment strategies must build upon the cultural heritage and learning styles of students. The importance of mathematics and the nature of the mathematics program must be communicated to both students and parents (Rojas and Hartsock, 2006). Mathematics classrooms offer a unique opportunity for parents, teachers and students working together to differentiate students' mathematics needs to accommodate standards-based programs in an array of learning experiences that will incorporate the students' abilities, languages, individual history and cultural experiences. Using mathematics as the language for constructing knowledge and the understanding of the new culture and its behaviors facilitates weaving of social responsibility and awareness with unfamiliar problems ELL students encounter in these new environments. In order to support mathematically talented CLSD students' progress from a state of un-readiness to the point where they are able to take risks, engage in higher order thinking skills, and take a stand relative to mathematical and scientific ideas, teachers must have an in-depth understanding of the individual learner and human development along with their content knowledge. There is a connection between the ability to solve academic problems (cognitive problem solving) and social problem solving skills. Strong connections have been identified between the knowledge students have of themselves—social awareness—and math achievement. Classroom teachers and school districts share the responsibility of addressing the needs of gifted students, and also of informing the rest of the school community of these needs. Mathematics teachers need training and support in recognizing and addressing the needs of mathematically gifted Latino students. Administrators, school officials and counselors play an important role in facilitating these processes.

ELLs vary in the way they respond to new school environments. Although talented learners are characterized as highly participative, Latino students talented in mathematics, for example, can be less participatory in U.S. school classrooms than they are in their home environments. As they are immersed in
a new structure, new language, new learning culture, new classroom behaviors, new social interactions, parameters and constraints, they could evidence a change in behavior, reacting to isolation with quietness, less cooperative attitudes and withdrawal from the educational process. Castellano (2003) argues for the urgency to recognize these behaviors and the responsibilities of teachers for creating safe, non-threatening environments that allow them to examine and share their own feelings, beliefs and responses to these new academic situations. According to Rance-Roney (2004) “the acquisition of the language of the new culture is closely intertwined with the changing identity of the adolescent, for it is through the language of social interchange and the language of the classroom that an individual is led to continued renegotiation of self.” One element that could activate these negative reactions may have to do with the child’s previous personal experiences and with their expectations. In Latin America and some Caribbean countries, international students are often welcomed and soon socially integrated. Teachers praise and welcome their presence. They are individually introduced to their classmates, often assigned a mentor and therefore, they make a smooth transition to the social life of the school and student community. Many Latino/a children who are mathematically talented but not recognized as “gifted” have been identified as talented-precocious and have been encouraged and placed in higher level mathematics classrooms in their home countries. These children are placed in a “status valued” environment. Openly or not, they are praised and selected by teachers and peers as having exceptional mathematic abilities and used as support for their less mathematically successful peers. Acting as tutors, they usually work as teachers’ aides helping the students in the lower grades. With early identification and guidance these students could serve as resources for mathematics teachers. These “responsibilities” could build up their self-esteem in a constructive way. Latino/a students are often highly participative; gifted Latino/a students even more so. Once in U.S. classrooms Latino/a students feel the isolation and lack of recognition to their dispositions and/or abilities. In many cases they will withdraw and lose their capacity to interact and collaborate with others. A student in a U.S. East coast high school stated she had felt “embarrassed to claim she knew the answer” because she felt intimidated by classmates and even by the teachers; as
another student added "being precocious is a negative term in America" (Rojas, 2007).

Teachers who teach mathematics to gifted learners need a strong background in mathematics content. A coordinated curriculum plan needs to be in place so that mathematical experiences for students are not duplicated or interrupted from one year to the next. The school should have an organized support system that includes resource books, technology, and human resources. These resources should include collaboration among the school, parents and members of the students' communities in developing an understanding of the talented ELL's mathematics classrooms and social behaviors and interactions. Programs targeting gifted and talented students need to eliminate the exclusive teaching approach where only pull-outs and special projects for the gifted are present. Inclusive mathematics programs within the school community as a whole will benefit not only the different talents of every child, but will give mathematically talented children a stronger feeling of belonging. If well channeled, these mathematically talented students could benefit their classmates by engaging them in peer-centered mathematics dialogue. The approach to teaching talented students should be viewed "as an umbrella of opportunities under which many different types of enrichment and acceleration services are made available to targeted groups of students, as well as [to] various subgroups of students within a given school or grade level" (Renzulli & Reis, 1997).

Regular mathematics classrooms that offer sufficiently challenging and broad experiences for gifted students have the potential to enrich the learning community as a whole. If mathematics classes offer diversity in the assignments, products, and pacing and explicitly monitor student experiences and needs as they construct a curriculum within the child's cultural context, all students will experience a less-threatening environment and a better understanding of their own abilities, and therefore a better appreciation of the mathematics they are learning (NCTM, 2000).
BEST INSTRUCTIONAL PRACTICE

The following suggestions are based on recommendations from Practical Guidelines for the Education of English Language Learners, a research-based set of recommendations for serving adolescent newcomers (Francis et al., 2006). The elements of effective mathematics instruction for talented adolescent newcomers include:

1) Utilize direct instruction in effective word-learning strategies with explicit, direct teaching of the meanings of specific key words. Include strategies such as breaking words down, using contextual clues and using glossaries and dictionaries as references.

2) Systematically choose the words used in teaching, identifying the most useful and general academic words that are not specific to any one particular text.

3) Incorporate vocabulary instruction into every lesson, every day.

4) Intensive efforts should be made to teach for depth of knowledge.

5) Explanations, discussions and reinforcement of good, comprehensive practices in multiple contexts and across types of text are necessary.

6) Develop strategies for the specific purposes of reading certain texts (e.g. to solve an algebra problem).

7) Present these strategies as part of the active process of comprehension.

8) Plan instruction in such a way that students understand that they need to focus on the language and the thinking behind the strategies.

9) Intensive instruction in writing for academic purposes is needed for adolescent, mathematically gifted newcomers.

10) Promotion of student thinking and reflection during reading and an emphasis on comprehension is important to allow the student to independently monitor his/her own academic writing.

11) Use intensive and effective instruction in writing to improve reading comprehension as well as writing.

12) Integrate writing instruction with reading in mathematics to promote the knowledge of academic language.

13) Provide the opportunity for students to produce academic language without the time pressure involved in speaking. It can be a non-threatening way in which to try out the use of writing about content.

14) Assess students’ strengths systematically and conduct on-going monitoring of students’ progress.

15) Analyze the past experience of newcomers who may have experienced many varieties of mathematical interpretation skills, knowledge of the scientific process and classroom behaviors.

Teachers can create multiple instructional approaches with the purpose of
recognizing the individual learning styles of the students. Students benefit from working together with parents, teachers, and counselors in a differentiated guided plan for course scheduling, project assignments, and additional mathematics experiences. Teachers must provide access to male and female mentors who represent diverse linguistic and cultural groups. They may be within the school system, volunteers from the community, or experts who agree to respond to questions by e-mail. Speakers should be brought into the classroom to explain how math has opened doors in their professions and careers. This will help teachers better meet the varied needs of their students. Teachers need to work on creating problems and exercises using a variety of instructional strategies.

The Shelter Instruction Organizational Protocol (SIOP) offers a unique opportunity for teachers to differentiate students’ abilities and accommodate successful instructional practices to meet the academics needs of all mathematics learners. The SIOP is a research-based and validated instructional model that has proven effective in addressing the academic needs of English language learners throughout the United States. The SIOP model consists of eight interrelated components: lesson preparation, building background, comprehensible input, strategies, interaction, practice/application, lesson delivery, and review/assessment. Using instructional strategies connected to each of these components, teachers are able to design and deliver mathematics lessons that attend to the academic and linguistic needs of English learners. The protocol emphasizes the importance of first, prioritizing students’ understanding of “what is being taught” and “why it is being taught” (content objective) and second, the language and different behaviors used to communicate the content (language objective) throughout the lesson.

SIOP, as well as other differentiated instructional recommended practices, highlight the value of understanding all learners’ previous experiences. These should include content-based cultural experiences. Cultural objectives should also be explicitly incorporated in the lesson plan. All learners will benefit from understanding the multiple dimensions of mathematics, its history and applications. One aspect of mathematics that educational systems in Latin
America have long incorporated into teacher preparation programs is ethnomathematics (D'Ambrosio, 2004), a concept unfamiliar to many mathematics educators in the United States.

Ethnomathematics, the “humanization” of mathematics as a discipline, gives life and meaning to abstract concepts that students tend to see as foreign to their lives. Demystifying mathematics by including them as part of their history connects math with their own cultural and community histories. Thus they can appreciate the contributions that various cultures and peoples have made to mathematics. Lessons could include references to the geometry of the Mayan art and architecture, the counting system of the Incas, the Aztec Calendar, and the Mapuche vocabulary (Rojas, in print).

U.S. teachers need to be familiar with the curricular standards and teaching practices from the students' home countries. Teachers need to be aware of and draw from their students' previous knowledge. Teachers should make sure ELLs know that their experiences and culture are valued. This will help their attitudes and increase their motivation. When ELLs share answers and present ideas, teachers should focus on the meaning they are conveying, not on their accent, grammar or usage. Teachers need to be flexible with student use of native language. Teachers may want to have students record answers or solution steps in their own native languages and have student work translated as needed or desired. This type of exercise will help students practice language skills without worrying about solving the problem. Teaching mathematics to ELLs differs from teaching mathematics to regular, mainstream learners. Teachers of talented Latino ELLs should:

a. Concentrate on the development of the L2 language through the teaching of the mathematics content. Particularly in the case of talented ELLs give special attention to the mathematics and vocabulary skills in L1 and L2.

b. Explicitly recognize and use aspects of the learner's culture and previous mathematics knowledge and experiences as avenues for scaffolding meaningful lessons and supporting new learning.

c. Create thematic units and design lessons that evolve around clearly identified themes where learning the mathematics concepts and processes are the focus.
Furthermore, it is important to provide a variety of opportunities for the student to experience mathematics at his/her level of comfort and satisfaction. These experiences should include mathematics within the many curricular and academic dimensions as documented in the state mathematics standards. Materials and activities should be student friendly and culturally relevant but mathematically challenging. These strategies should encourage inventiveness and creativity. In middle schools, mathematically talented ELLs will benefit from these differentiations while participating in a strong mathematics curriculum. In high school, courses at the AP level in calculus, statistics, and computer science should be available for all gifted Latino students. Teachers and counselors should encourage prepared students to take classes at local colleges. If possible, talented Latino students should continue to experience mathematics in both Spanish and English. Relevant research supports evidence of a positive correlation between second language acquisition and mathematics learning. (Thomas & Collier, 1998; Collier, V., 2004). Even though gifted learners may be capable of abstraction and may move from concrete to abstract more rapidly, they still benefit from the use of manipulative and "hands-on" activities and the transition from simple to complex in mathematics learning. Mathematics knowledge needs to be built as a field of threaded interactions.

The NCTM position statement (1994) on language minority students further clarifies that, "Cultural background and language must not be a barrier to full participation in mathematics programs preparing students for a full range of careers. All students, regardless of their language or cultural background, must study a core curriculum in mathematics based on the NCTM standards" (p.60).

The goals articulated in the NCTM standards have special implications for math teachers who are working with emerging literacy students. While these students have had many experiences outside of school, most of these experiences have not prepared them for success in formal classroom settings. Teachers can make math meaningful for English language learners by designing instructional activities that build upon students' real life experiences. Lessons that provide challenging problem-solving activities where students can succeed help to build their reasoning
and problem-solving skills, as well as their confidence. For students to learn to communicate mathematically, they need opportunities to hear math language and to speak and write mathematically. Using inquiry-based, discovery learning approaches that emphasize open-ended problems with multiple solutions or multiple paths to solutions allows for this to occur. Allowing students to design their own ways to find the answers to complex questions further develops their math ability. Gifted students may discover more than you thought was possible. Additional strategies include using lots of higher-level questions in justification and discussion of problems; asking "why" and "what if" questions; providing units, activities, or problems that extend beyond the normal curriculum; offering challenging mathematical recreation such as puzzles and games. Teachers also need to be flexible in their expectations about pacing for different students. While some may be mastering basic skills, others may work on more advanced problems. Avoid using idioms. If using L1, make continuous reference to the designated target language. Provide some activities that can be done independently or in groups based on student choice. Be aware that if gifted students always work independently, they are gaining no more than they could do at home. They also need appropriate instruction, interaction with other gifted students, and regular feedback from the teacher. Engage them in conversations for assessment, discuss expectations and follow up on progress. Portfolios are a means for collaborative assessment of student work. They may discuss content for portfolios and compare and contrast their own work as it progresses. They may organize work and activities by the level of importance, significance and difficulty. Teachers should develop a rubric for evaluating the portfolios where they give value to all work.

CONCLUSION
The school community at large is responsible for identifying the potential in every child. Teacher observations are often the best source of information for identifying high-ability mathematics students. Parents and other members of the adolescent's extended family, as well as Spanish speaking school personnel, should be included in the identification processes. Early support needs to be provided to Latino students talented in mathematics. In mathematics, cultural
stereotypes have contributed to the underrepresentation of Hispanics in gifted programs. Although there is not yet a substantial body of published research, there are many suggestions and strategies developed by educators for meeting the needs of gifted Latino/a students.

High-ability Latino/a students may not fit the U.S. norm that defines a "good student." Behaviors such as participative and curious may be characterized as disparaging or distracting, and those with a nonparticipatory disposition or who withdraw are seen as non-intelligent. Some students may take longer to complete assignments when they add details and extend ideas or they may race through their work, turning in messy papers with careless mistakes. Others could have a hard time focusing on a topic or following a rubric. Relying on observations to identify students requires that teachers become aware of any assumptions or stereotypes they may have about who can be gifted. (Castellano, 2002)

Teachers who establish relationships with their students use that knowledge to guide instruction through differentiation. Differentiating instruction is a challenging process (Chapman & King, 2003). Teachers will need both time and support as they adapt strategies according to their students' learning styles as well as their own teaching styles. Making modifications to mathematics content and methods while delivering the lessons are necessary in order to provide challenging learning opportunities to all learners. In mathematics, students should study advanced content in earlier grade levels (Johnson & Sher, 1997). Organizing the curriculum around major themes and ideas is one of the first steps in differentiating mathematics content. Using broad concepts helps to create opportunities for students to learn and apply integrated and complex mathematics ideas. Explicitly well-defined mathematics content and language and cultural objectives will attend to both the academic and linguistic needs of English language learners. Talented Latino/a ELLs should purposely be encouraged to "read and write to learn mathematics" (Miller, 1991). The NCTM Curriculum and Evaluation Standards for School Mathematics (NCTM, 1989 & later addenda) and the Sheltered Instruction Organizational Protocol (SIOP)
Echevarria, Vogt, & Short (2008) are excellent sources for identifying themes and defining language and cultural objectives. The mathematics curriculum for high-ability students should move at a faster pace and feature less repetition. It should also allow students to delve into important ideas and thought processes (Boyce et al., 1993).

Teachers should use different methods for encouraging students to move beyond the basic concepts of the mathematics curriculum while increasing the level of abstractness and complexity (Maker & Nielson, 1996). Some progressive methods recommended for differentiating instruction are based on Reis and Renzullis' Curriculum Compacting, a method based on three basic steps: pre-testing students at the beginning of a unit, eliminating content or skills that students already know, and replacing the skipped content with alternative topics or projects (Reis & Renzulli, 1992). Other methods include flexible pacing, which allows students to work at the level most appropriate to their abilities, independently or in groups (Winebrenner, 1992; Miller, 1990; Daniel, 1989) and self-directed learning, where students take responsibility for their learning behavior (Bandura, 1977). Although independence is often cited as a characteristic of gifted students, many gifted students struggle with making choices or planning their work (Pirozzo, 1987). The appropriate strategies will depend on a student's level of readiness. There are a number of basic skills that foster independent learning such as, making choices, planning, setting goals, identifying resources, and self-evaluating (Tomlinson, 1993). As students practice and master these skills with guidance from the teacher, they will be able to become increasingly independent learners.

It is important when teaching mathematics content to gifted and talented Latinos that teachers focus not just on computation, formulas, and vocabulary, but also on language as a vehicle for constructing knowledge through analysis, association, connection, comparison, representation, and communication of mathematical ideas, skills and experiences needed to demonstrate their abilities in abstract reasoning, creativity, and conceptual understanding.
The recommendations and ideas presented are effective for all students. Every child has the right to receive an outstanding education and it should be reflected in the way the system values him/her as an active participant in a classroom. Every child deserves the opportunity to discover their strengths and talents in mathematics and every child will benefit from a reliable identification process that will offer him/her the proper non-restrictive mathematics environment to grow and mature at his/her own pace. This idea is essential in providing opportunities for all students to learn challenging and relevant mathematics.


Teaching and Learning Mathematics with Talented Latino/a Learners: Three Exceptionalities


Perspectives in Gifted Education:
Diverse Gifted Learners


Teaching and Learning Mathematics with Talented Latino/a Learners: Three Exceptionalities


SHARED CHARACTERISTICS OF GIFTED AND SEXUALLY DIVERSE YOUTH

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When those who have the power to name and to socially construct reality choose not to see you or hear you ... when someone with the authority of a teacher, say, describes the world and you are not in it, there is a moment of psychic disequilibrium, as if you looked in the mirror and saw nothing. It takes some strength of soul—and not just individual strength, but collective understanding—to resist this void, this non-being, into which you are thrust, and to stand up, demanding to be seen and heard.

Adrienne Rich (1986)

Gifted youth and sexually diverse youth (non-heterosexual or those who are gay, lesbian, bisexual, or transgender) share some unique characteristics that other populations of young people usually do not. These characteristics may necessitate additional support in order for both gifted and sexually diverse youth to develop fully. When these six shared characteristics, as illustrated in Figure 1, manifest in individuals who are both gifted and gay, the effects may be compounded, thus creating even more intense, specific counseling needs and emotional support.
In this chapter, the terms homosexual, gay, GLB, GLBT, GLBTQ (gay, lesbian, bisexual, transgender, queer/questioning), sexual minority, and sexually diverse will be used interchangeably. Citations, when possible, will use the terminology of the work cited. When used, gifted/gay refers to individuals who are impacted by both giftedness and minority sexual orientation and identity.

Long considered a non-issue in K-12 education, GLBT youth have more recently become visible enough that even reluctant educators must now consider the implications of having these students in their classrooms (Gevelinger & Zimmerman, 1997). Since 1986, the University of California’s TA Handbook (Abramson, 2006) reminds its staff,
Some years ago teachers and writers recognized that not all students and readers were white; some were black and some were Asian, some were Chicano. More recently they recognized that not everyone was male; there were women sitting in classrooms and reading books. Now it needs to be recognized that not all students and readers are heterosexual; some are gay and some are lesbian (Devito, 1981, NP).

GLB youth are finally, although slowly, being acknowledged in mainstream education conversations. As GLBTQ youth become more visible and as the age for "coming out" drops (Bailey & Phariss, 1996; Friedrichs 1997), K-12 educators are recognizing that GLB students and their accompanying issues are being faced daily in classrooms across the country. The Gay, Lesbian, Straight Education Network (GLSEN) insists that the increased prevalence of gay students in K-12 educational settings has been insufficient to move educators to a more thoughtful position regarding sexually diverse youth (GLSEN, 2008) and families (GLSEN, 2005). What has helped, however, are several high-profile legal cases involving safety issues for GLBT students in schools. The judgments rendered in these cases are forcing all schools to take action to protect their sexually diverse students, and so protect their schools - or risk facing significant consequences (Flores v. Morgan Hill Unified School District, Massey v. Banning Unified School District, Henkle v. Gregory, Loomis v. Visalia Unified School District, Dahle v. Titusville, Theno v. Unified School District 464, Putman v. Board of Education of Somerset Independent Schools, Shaposhnikov v. Pacifica School District, et al.) (GLSEN, 2008).

Parents who are adjusting to having possibly gay children may feel challenged to understand their offspring and ill-prepared to address their children's unique needs. Lack of resources, confusion, or embarrassment may lead parents to hide in the closet, too, and to believe that there is nowhere to turn, that they are sailing in uncharted seas (Powers & Ellis, 1996; Remafedi, 1994). Parents express their fears, confusion and shame on the Parents, Families/Friends of Lesbians and Gays (PFLAG) website:

The news shocked me and I was afraid to speak with others about it.
I withdrew into my own world of guilt and blame.
As parents we felt alone, terribly alone. (PFLAG, 2008).
By coming out themselves as parents of GLBT youth, heterosexual parents and relatives not only can extend the support they offer to their gay/lesbian/bisexual children and relatives but also play an important role in diminishing the stigma of being gay, lesbian, or bisexual and in mainstreaming GLB issues (Goldfried & Goldfried, 2001).

The visibility of gay/lesbian/bisexual/transgendered adult individuals of unique and extraordinary talent - adults who were at one time gifted youth – is becoming increasingly, albeit slowly, recognized. In K-12 schools, however, the sexual orientation of eminent leaders in various fields, such as Walt Whitman, Oscar Wilde, Benjamin Britten, Colonel Margarethe Cammermeyer, Sir John Gielgud, Gertrude Stein, and Barbara Jordan, still remains hidden through omission, especially in elementary and middle school curricula (e.g. William and Mary, Junior Great Books) (Duberman, Vicinus & Chauncey, 1990; Boulder Valley School District [BVSD] & Boulder Valley Safe Schools Coalition [BVSSC], 2008). Invisibility, as pointed out by Gollnick and Chinn (1991, NP), means that “certain microcultures . . . are underrepresented in materials. This omission implies that these groups have less value, importance, and significance in our society.” Cohn (2002, p. 3) indicates that “[e]ducators cannot or will not acknowledge the historical and present day contributions to our culture made by homosexual men and women.” In cases of eminent adults who are heterosexual, however, spouses are often mentioned for the support and assistance they provide (Goertzel, Goertzel, & Hansen, 2004). Sexually diverse youth are likely no different from other minority populations in the benefits gained from seeing themselves in positive role models, and yet GLBT teachers are reluctant to be out to their students for fear of dismissal. Even if there are GLBT teachers, their students are often unaware of their existence.

Minority teachers fulfill many needs of students and schools. They are more than teachers in the traditional sense. Directly or indirectly they serve as mentors, role models, disciplinarians, advocates, cultural translators and surrogate parents for minority students (Ladson-Bilings, 1994 as cited in Ford & Harris, 1999, p. 156).

The prevalence of eminent GLBT individuals in various fields raises the question about the relationship between sexual diversity and giftedness (National
Association for Gifted Children, 2004). In a memo from its Executive Director, Peter Rosenstein (personal communication, 1998), the National Association for Gifted Children (NAGC) created the NAGC GLBT Task Force whose purpose was "collecting and disseminating information on the special needs of the nation's gay, lesbian and bi youth." In 2004, the task force morphed into the Work Group on Gifted Sexually Diverse Children and Youth whose goals include exploring the link between gifted and GLBT youth, the impact of giftedness on GLBT identity, and the impact sexual diversity has on gifted identity (NAGC, 2004). This chapter is a result of the work of two of these Work Group members.

Another Work Group member, Cohn (2003, p.145), explained how the school environment impacts gifted and gifted GLBT students:

Homophobia forms the backdrop for the school lives of many gifted students, regardless of whether they are gay or straight (Lipkin, 1999). Young people who appear to be outside the parameters of local gender-role stereotypes may bear the brunt of taunts by their schoolmates that are intended to remind them of their differences... In youths who face the reality of being both gifted and gay (that is, gay, lesbian, bisexual, or even just questioning), feelings of being marginalized, both externally and internally, are intensified. Instead of just being in the top 3% of their age group in intellectual potential, they fall within the 2-10% (depending upon one's source for an estimate of gays, lesbians, and bisexuals [LGB] in the population at large) of that top 3%, dropping from a statistical probability of 3 in a 100 to 1-3 in 1,000. Accordingly, in a large urban high school of 3,000 or so students, one might expect to find only 3 to 9 students who are both gifted and gay...[T]he likelihood of such individuals finding one another or even feeling safe seeking others like themselves is miniscule.

According to Cohn, if these gifted-gay students consist of such a small minority, the likelihood of finding a true peer group embracing both the gifted and gay aspects of identity is quite small, especially in the diminutive environment of the school. However, according to a small body of research (Treat, 2008; Friedrichs, 1997), the population of gay, lesbian, and bisexual students may be much higher than previously imagined. In the Friedrichs (1997) study of fifty-three GLB youth, he found that over a third of the students were involved in gifted programs in their schools, but the number of participants was too small to draw conclusions.
Treat's (2008) study of 965 individuals who were age eighteen and over found that more than forty-three percent of those who indicated they had been in gifted programs were GLB. Since high participation of GLBT individuals recruited from GLBT listservs was expected, Treat determined the number of participants recruited via non-GLBT listservs (education listservs, listservs for graduate students regardless of major, and Mensa/gifted listservs.) Out of these 499, about two-thirds stated that they were previously in gifted and/or were Mensa members; and of those gifted, over a third were GLB, which is the same as the percentage of gifted in the smaller Friedrichs study. The Treat study was anonymous, online, and recruited participants from Mensa and eleven universities and colleges scattered throughout the United States. The lowest percentage of gifted GLB individuals recruited from any individual listserv (Mensa members) was almost twenty-one percent. It is feasible that the assurance of anonymity or the topic of the study, which focused on gifted and regular sexually diverse populations, drew high numbers of gifted sexually diverse individuals. It is also a possibility that some GLB individuals become high achievers in order to prove their worthiness, and therefore increase the chances of being identified for gifted programs. It is intriguing, however, that the percentages were higher than expected in both the Treat and Friedrichs studies, the only two studies known by the authors in which the percentages of gifted gays and bisexuals were measured. Further research is needed to determine if, indeed, the gifted/gay population is more than the random intersection of two diverse populations.

Creativity has long been associated with giftedness, either as a type of giftedness or as a characteristic of giftedness (Piirto, 2004; Ross, 1993; National Commission on Excellence in Education, 1983; Marland, 1972). Creative fields, especially arts and writing, are commonly suspected of having a relatively large proportion of sexually diverse members who are gifted in their domains (Piirto, 2004). The openness to difference seen in creative people may not be compartmentalized into only one aspect of the self, i.e. creative product or performance, but rather may permeate various aspects including sexual orientation and identity. This is not to suggest sexual orientation is a creative versus noncreative matter of choice. How and when a person’s sexual orientation is established has not been conclusively ascertained. In response to those who
would get bogged down in irrational fears of whether there is some adverse risk of becoming gay in being creative, especially in a society that needs intelligent, creative individuals, Piirto (2004, p. 117) insisted that “the point is not that there is a risk of homosexuality in being creative; the point is that following rigid sex-role stereotyping limits creativity.” The creative personality of gifted individuals, however, may cause them to be more open to questioning their sexual orientation or identity. Being outside the box defines creative individuals in terms of their imaginative and inventive nature. This aspect of their personalities and giftedness may well be linked or spill into other aspects of their identity including sexual orientation and identity.

Evidence suggests that gifted (Silverman, 1993) and GLBT individuals (Friedrichs, 1997) are also more likely to be introverted than the general population. There exists, however, no consensus as to whether this affinity for alone time stems from a basic personality type or as a response to their environment. Gifted individuals have long been considered to be introverted to a greater degree than in the general population (Silverman, 1993). In cases of sexual diversity, the desire to spend more time alone may be the result of fear based on possible responses to disclosure of their sexual orientation or of questioning the sexual aspect of their identity. The characteristic of introversion may be the same in both gifted and gay individuals, but the causes can be different. Research needs to be conducted to ascertain if creativity and introversion result from a response to other shared characteristics, thereby a response to environment, or if they are common, intrinsic personality traits of gifted/gay individuals. Until a body of research clarifies this question, educators are challenged to accept creativity and introversion in young people as essential and valued characteristics.

Gifted and GLBT students have a lot in common. The authors propose that gifted/sexually diverse youth share six characteristics as illustrated in Table 1:
# Table 1: Unique Shared Characteristics of Gifted and GLBT Youth

<table>
<thead>
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<th>Characteristics</th>
<th>Description</th>
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| **Invisibility**                 | • Difficulty in finding peers or others who are also gifted and/or gay  
• Assumptions based on majority – straight and average in intelligence  
• Isolation  
• May be extremely creative  
• May need more time alone than others  
• May be more likely to be introverted |
| **Must come out in order to reveal/claim their identity** | • May feel compelled to hide their differentness in order to gain acceptance  
• May feel being in the gifted program or being gay discloses them to others by whom they want to be accepted but who may not be accepting of giftedness or diverse sexual orientation  
• Heightened sense of being different  
• Heightened sensitivities  
• Impostor syndrome – feel others do not recognize them as they really are and that they are less worthy than other people believe  
• Psychological distress (trauma, depression) that stems from isolation, fear, unhealthy perfectionism, lack of resources and support  
• May feel internal and external pressure to disclose sexual orientation prematurely, especially if peer group is older  
• Early/late sexual activity (may be a greater concern when radical grade skipping has been employed or when self-identifying as GLBT before age eighteen)  
| **Family may not understand/support if they are not also gifted or gay** | • May be/feel significantly different from other family members  
• This factor may go against the family’s culture or belief system  
• The stress affects the entire family, not just the young person  
• Fear withdrawal of parental/guardian/family love and support for failure to live up to expectations or individualistically standing out too much  
• May make several moves in search of a good fit educationally and socially  
• May be more likely to challenge the status quo in family and/or community |
| **Feeling unprotected and unsafe** | • Some form of discrimination likely (e.g. lack of educational and financial support for gifted programs or legislation specifically denying equal rights to GLBT)  
• Fear of bullying and violence when being gifted/gay is disclosed  
• Aware of a societal lack of acceptance  
• May not have specific protections in non-discrimination policies  
• Difficulty in seeing the future and themselves in it especially if role models are invisible |
| **May have less rigidly defined gender-specific interests and behaviors** | • Conflict between expectations of “gender appropriate” interest and one’s true interests  
• Overt and covert discouragement from following passion areas when nontraditional and/or not high in 3 Ps (power, pay, prestige)  
• May push self to extreme in order to achieve at the highest level – related to perfectionism that validates the gifted label and helps “balance” the Big Secret  
• May set very high or even unattainable standards for self |
| **Lack of safe places to meet others like themselves** | • May have difficulty finding others who share interests that are unusual for one’s gender and/or age  
• Denial of needed social support may foster thoughts of suicide and/or emotional and/or social disorders as a result of social isolation, rejection from family, friends, and/or society |
INVISIBILITY
Assumptions people make about one another related to intelligence and sexual orientation are some of the leading causes of invisibility. People assume that others are like themselves, have had similar experiences and are like the norm/majority unless confronted with evidence to the contrary (HelpingOut.ca, 2008). Because both gay and gifted are minority populations, what is assumed is heterosexuality and average intelligence. These assumptions are reinforced because such assumptions are correct more than ninety percent of the time if one holds to commonly accepted notions about the prevalence of gifted or gay people in the general populations. For the other ten percent or so, however, such assumptions cause them to be invisible. As pointed out by Cohn (2003), with those who are both gifted and gay, the assumptions made will be correct in all but about one-tenth to three-tenths of one percent of the time. If the school populations are closer to those in Friedrichs (1997) and Treat (2008) studies, those assumptions will only be correct about sixty-seven percent of the time. Assumptions greatly reinforce the invisibility of gifted and sexually diverse youth. When people mistakenly see themselves or the majority in others, they fail to see the actual person before them (Peterson, 1996).

Whereas many other minorities are visible because of race or ethnicity, gay and gifted youth only appear different when they resemble their stereotypes. “Gay and lesbian youth often mistakenly believe the stereotypes that all gay men are ‘swishy’ and effeminate and that all lesbian women are ‘butchy’ and masculine. If those images don’t jibe with their self-perceptions, they may experience tremendous cognitive dissonance” (BVSD & BVSSC, 2008, p. 1.8).

Because assumptions of heterosexuality need to be shed before a more sexually diverse identity can be adopted, “[f]eeling invisible is something that most GLBTQ people experience at one time or another” (Huegel, 2003, p. 62). There are actually gifted and gay youth who fit these stereotypes (and non-gifted, non-gay as well) but many do not. To the outside observer, they look normal or blend in with the majority around them. Perhaps some gay and gifted youth incorporate stereotypes in their appearance to counteract their invisibility so that others see
them as they really are. What some may call "flaunting it" or "throwing it in one's face" may be an attempt to say, "Here I am! See me and acknowledge me as I really am!"

The human desire for authenticity, especially in adolescents who are actively involved in defining themselves, is a powerful drive (Ullman, 1987; Mahoney, 1998). When Dabrowski wrote about developmental potential, he included as factors autonomy and authenticity manifested as a drive to ask probing questions – a quest for knowledge (Mika, 2002). Many philosophers and gifted thinkers such as Michel Foucault, Jean-Paul Sartre, Abraham Mazlo, and Dostoevsky spent their lives exploring the importance of autonomy and authenticity.

The asynchronous development of gifted youth means that their chronological, intellectual and emotional ages are significantly different. (Columbus Group, 1991). Because other children are more even in their development, gifted children often feel out of sync with others of the same age. This is more pronounced in young children and in a Western society that puts great stock in the chronological age of children to determine what they are capable of and permitted to do. In asynchronous gifted children, their abilities to comprehend events or ideas on an intellectual level may be precocious, but their responses to those events and ideas may be that of a younger child (Colangelo & Davis, 2003). A six-year-old child, for example, may comprehend such momentous concepts as global warming, war, or hypocrisy, but respond emotionally as a powerless, inexperienced child. The gifted child may be too intellectually advanced to fit in with age peers and too emotionally young to fit in with intellectual peers. The early definition of IQ score when applied to a gifted child is based on the idea of asynchrony: mental age over chronological age times one hundred. A ten year-old child with an IQ of 120 has the mental age of a twelve year-old. Using this measure, the higher the IQ score is, the greater the asynchrony.

Ironically, some gifted children may be erroneously labeled as immature, when in fact they are precociously mature, that is, their intellectual and emotional ages may be more closely aligned and at a higher level than their chronological peers.
An example might be the preschool child labeled immature because he was crying on the playground. An adult observer might be correct in thinking this is an immature child if what she observes is a child crying because he did not get his turn on the swing. She would be wrong, however, if the child was crying because the other children would not let the child with Down Syndrome have a turn on the swing. Such a display of empathy toward others demonstrates a higher degree of maturity and sense of social justice than would be expected in most preschool age children. The giftedness of the child is *invisible* because of the assumption made concerning the source of the preschool child’s tears. The behavior (crying) may look the same, but the source is very different. Understanding the source is vitally important when interpreting behaviors of invisible gifted and gay youth. Again, the source of behaviors and stressors may differ depending on whether it is in response to being gifted and/or being gay.

Even after young people inwardly acknowledge a minority sexual orientation, they may remain hidden “in the closet” and thus be invisible to those around them. Because of their vulnerability, gay youth “learn quickly to hide who they really are. Sometimes they hide that awareness even from themselves. To the degree that one’s gifts are tied to one’s sexual identity is the degree that the closet includes both sexual orientation and talent” (Cohn, 2002, p. 2). Family and friends interact with closeted youth with a heterosexual assumption, often heightening tension and fear of discovery. Heterosexual assumption is “the assumption that everyone is heterosexual unless otherwise indicated. This assumption is an aspect of heterosexism and perpetuates its existence” (HelpingOUT.ca, 2008, NP). Another example of invisibility is the “Don’t ask, don’t tell” United States military position on sexual diversity. Gay people are allowed in the military, but only so long as no one knows their true sexual orientation. Not only are these individuals “invisible,” but U.S. government policy reinforces their invisibility (Adams, Bell & Griffin, 1997).

Unlike the manner in which skin color may define race, neither gifted nor gay youth physically appear any different from those who are not (unless they elect to dress, adopt mannerisms or ornament themselves otherwise), making them
invisible to the public at large and also to one another (Reed, 1993). Additionally, whether gifted, gay, or both, they may have difficulty finding peers because of differences in age, interests, identity, or experiences (Kearney, 1990). "When gifted children are asked what they most desire, the answer is often 'a friend'. The child's experience of school is completely colored by the presence or absence of relationships with peers" (Silverman, 1993, p. 72). Gross (2001, p. 27) explains one reason gifted children have difficulty finding peers:

"[T]he need for friendship and, even more, for emotional intimacy, is a driving force in both children and adults. . . The friendship expectations of intellectually gifted students differ significantly from those of their age-peers of average ability. . . Research on social relationships in childhood and adulthood suggests that problems in forming friendships may originate not so much from within the individual as from differences between the individual and other members of the groups with whom he or she is required to learn, work or socialize.

Those who are gifted/gay and are dealing with invisibility compound the risks associated with hiding one's authentic self. Janos and Robinson (1985, p. 182) caution:

The most highly talented are the most vulnerable, probably because they are exceedingly 'out of sync' with school, friends and even family. . . They may become superficially adjusted but sacrifice possibilities for outstanding fulfillment and significant, socially valued, contributions. These are, in our opinion, problems of clinical proportions.

While not raising quite the same degree of alarm, Tolan (1997, NP) reasons that some gifted youth are anxious and confused by the complex issues of sexuality and that their response is to "flee that complexity by rushing headlong to embrace the experiences their hormones are urging. For those who are uncomfortable with their gifts, who want to 'fit in' to the world of their peers, sex seems to offer an ideal escape from reason, logic and the intellect."

**MUST COME OUT IN ORDER TO REVEAL/CLAIM THEIR IDENTITY**

Both gifted and sexually diverse youth often feel they need to hide their differentness in order to gain acceptance. They may believe that being in the gifted program or being gay discloses aspects of themselves to others who may not accept these particular identity factors. Fear of losing the love, respect or support of family and friends can drive these young people deep "in the closet"
Shared Characteristics of Gifted and Sexually Diverse Youth

(BVSD & BVSSC, 2008). This adaptive behavior has also been noted by others (Kerr, 1994; Kerr and Cohn, 2001). In The Me Behind the Mask, Gross asserts that

The process of identity development in intellectually gifted children and adolescents is complicated by their innate and acquired differences from age-peers. To be valued within a peer culture which values conformity, gifted young people may mask their giftedness and develop alternative identities which are perceived as more socially acceptable. (Gross, 1998, p. 167)

Huegel's (2003) work has documented the historical tendency for GLBTQ people to hide who they are to avoid harassment and discrimination. GLBT youth often yearn for acceptance while feeling they must hide their true identity. This can lead to heightened inner conflict and an increased sense of being different and alone.

Being gifted or gay, in these cases, may become the dominant lens through which these young people see themselves. Every comment is heard through a gifted or gay filter and inspected for innuendo; every movie and T.V. show is evaluated for overt or subtle disrespect; and every encounter is scrutinized for potential risk. This unidimensionality is likely to manifest as intense sensitivity either because such sensitivity is a common characteristic of gifted and gay individuals, or because being hyper-alert, which appears as heightened sensitivity, is a self-protective response to a perceived threat. In time, through integration, this unidimensionality usually becomes a part of the mosaic of one's identity; no longer the sum of it. Being gifted or gay is balanced by other aspects of one's personality. Some of these young people will need guidance and counseling to help them integrate their giftedness and sexual orientation into the totality of their identity (NAGC, 2001).

Affiliation is one of the four constructs of Mahoney's Identity Formation Model and is defined as: "an alliance or association with others of similar intensities, passions, desires and abilities. It means being received in fellowship or integrated into a group or society without loss of identity (or the self)" (Mahoney, 1998, p. 226). The striving for affiliation is a strong drive, especially during
adolescence when youth need to separate from parents and peer alliances become increasingly important. Both gifted and gay youth may hide their true selves in order to attain the affiliation they crave. Mahoney (1998, p. 226) insists, "With appropriate affiliations, a gifted child will not have to deny their giftedness in order to make friends."

Gifted and GLBT youth can be vulnerable to the Impostor Syndrome because they feel others do not recognize them as they really are and that they are less worthy than other people believe. In gifted individuals, the Impostor Syndrome manifests as the belief that if they were as bright as everyone seems to think, they would not have to work hard and struggle with a particularly challenging concept or task. The consequences of the Impostor Syndrome and its concurrent unhealthy perfectionism are well known in the field of gifted education (Kaplan, 1990; Harvey & Katz, 1985). In gifted populations, the Impostor Syndrome is driven by fear that being gifted will be discovered to be a lie that will lay waste to a major factor of one's identity. In GLBT populations, the Impostor Syndrome is driven by the fear that the truth (sexual diversity) will become known. In gay youth, each struggle and homophobic remark reinforces the notion of being unacceptable and increases the fear of disclosure as a gay person. GLBT youth see themselves as impostors when they are accepted as heterosexual and they sometimes respond by trying to be perfect. Sexually diverse youth, as impostors, may also display a unique form of unhealthy perfectionism based on the belief that being perfect in school and their activities will somehow balance the horrible "truth" about them – that they are of less human value because they are gay (Johnson, 1993; BVSD & BVSSC, 2008). Gifted or gay individuals may cultivate an unhealthy perfectionism, or may be isolated because others do not accept them as they are (confirming their fear). On the other hand, they may self-isolate in order to avoid being physically or psychologically hurt – a kind of self-fulfilling prophecy. If they do not allow anyone to be close to them, they are much less likely to inadvertently disclose their true identities. Although manifested as the Impostor Syndrome and expressed as unhealthy perfectionism, the causes of unhealthy perfectionism are different for the gifted or the gay individual. The discovery of the lie and/or the truth could be enormous but the impact of the
**Impostor Syndrome** on the individual who is both gifted and gay could be devastating.

Gifted and gay youth may experience psychological distress such as trauma or depression that stems from isolation, fear or unhealthy perfectionism. Additional stress may stem from a lack of resources and support. Sexually diverse young people who rely on parental support must carefully consider the potential risks of disclosure (PFLAG, ND; Huegel, 2003). Friedrichs (1997) found that his subjects became sexually active either earlier or later than did non-gifted/gay youth. Huegel (2003) states that having premature sexual activity as a way of determining sexual orientation is one of the most pervasive myths in people’s (mis)understandings about sexual orientation in youth. She cautions young people that rushing into sexual activity could have negative repercussions. Sometimes the stress of hiding the central personal characteristic of sexual orientation or identity becomes so great that GLBTQ youth feel compelled to get their sexual orientation or identity out in the open. In some cases, gay youth may ‘out’ themselves just to get the hiding over with (Friedrichs, 1997). According to McCormick (personal communication, 2008), director of the Boulder County Health Department's Open and Affirming Sexual Orientation Support (OASOS) Program for youth under age twenty-one, young people who are confused and question their sexual orientation sometimes think that sexual activity will end the confusion and make their sexual identity clear to them. Sexual activity may actually increase their confusion and stress, however, not relieve it.

The Colorado Youth Risk Behavior Survey (CYRBS), administered through the public schools every two years, also finds that those who identify as GLBT have a higher incidence of pregnancy than do non-gay youth. On the surface this might seem contrary – how and why would gay youth be impregnating young women or becoming pregnant? McCormack also hypothesizes that these young people define sexuality by a focus on the act of sex rather than by the more complex construct that mature adults use in defining sexuality. They engage in heterosexual sex acts as a response to societal and internal homophobia, thereby "proving their normalcy." They see the resultant pregnancy as the
ultimate proof that they are "normal." This phenomenon was written into the 1977 film, *The Turning Point*, when the male dancer sets out to prove his heterosexuality both to himself and others in a career known for high numbers of gay males, by impregnating his dancer girlfriend. Adherence to rigidly defined sex roles may be a haven for questioning or confused youth (BVSSC, 2008). “Boys may get themselves in trouble and cause incredible hurt to girls, by forcing girls into sex, as a way of ‘proving’ their maleness. Similarly, girls may hurt themselves and boys, and do lifelong damage to a child, by becoming prematurely pregnant as a way of ‘proving’ their femaleness” (BVSSC, 2008, p 1.7).

McCormick also states the need for evidence of normalcy may lead to premature GLBT identity when in fact some of the young people are still questioning and exploring their sexuality, a theory further suggested by Huegel (2003). When both gifted and gay, young people may feel increased internal and external pressure to disclose sexual orientation prematurely. The manner in which they handle this depends on individual realities. They may become exaggeratedly feminine or intensely macho (Tolan, 1997); may go to the other extreme by adopting external traits of the opposite gender (Tolan, 1997); or may “act straight” (Cohn, 2003). They may even develop two personas, one public and one private (Cohn, 2003). The effort spent on self-monitoring for gender-conforming behavior expends energy that could otherwise be spent on positive cognitive and social development. The effort taken to mask the authentic self can, in extreme cases, result in a serious psychological disorder in which the self fragments (Cohn, 2003). Premature self-labeling and premature “developmental foreclosure” of sexual identity might occur among highly gifted adolescents because they become aware earlier than their age mates of the complex issues surrounding sexuality and sexual stereotypes (Tolan, 1997; Kerr & Cohn, 2001). Their advanced level of cognition allows them to understand things other youth of the same age do not.

Grade skipping can also influence premature sexual activity in gifted/gay youth, especially in its more radical forms, because it places young people in peer groups of older youth who are physically more mature and engaged in more
mature social constructs including sexual components. In response to their confusion, GLBTQ youth may engage in sexual exploration and experimentation. They may look to alternative sexual behaviors or turn away from their own sexuality completely (Kerr & Cohn, 2001). Without social/emotional support and opportunities to find affiliation with others who are compatible intellectually and in terms of sexual orientation or identity, gifted/sexually diverse youth may place themselves at risk through their behaviors (Kerr & Cohn, 2001). Tolan (1997, p. 2) explained this phenomenon:

> Like all other adolescents, the highly gifted must cope with raging hormones, with the issues of gender and sexual identity, religious and moral values, relational commitments and social implications. What is different about these adolescents is the way they cope, the psychological tools (and wounds) and the mental processing they bring to the process. Here, as in all other aspects of life, there is an “asynchrony” to their development.

There is a parallel occurrence related to the release of tension from internal conflict through *outing* oneself that is sometimes seen in young gifted children. These children may inappropriately proclaim to others that they are gifted. This behavior often results in social isolation by peers and disapproval from teachers, but it, too, is likely driven by stress and internal pressure. When young gifted children clearly state to anyone who will listen that they are brilliant, it is possible that they look to relieve the pressure of having to demonstrate their giftedness through achievement. As impostors, they state they are gifted and hope for external validation and confirmation through mirroring. They crave the reassurance, “Yes, child, you are gifted.”

Both gifted and gay sources have long identified the *Impostor Syndrome* in their populations, however the term itself is better recognized in gifted education. In GLBT culture, the reference is more commonly to being *in the closet* or *passing as straight*. In transgender literature, *passing* also refers to a person of one biological sex appearing to others as the other sex with which they identify more closely (BVSSC & BVSD, 2006). Although the characteristics of the *Impostor Syndrome* may look the same regardless of the underlying causes, support needs to respond to the specific sources. Living an authentic life comes from
being true to oneself and being “comfortable in one’s skin.” Although not an officially recognized psychological disorder, various religions, affirmations, life guides, psychologists, authors and philosophers agree that feeling like an impostor, for whatever reason, is a barrier to a happy, healthy, authentic life.

FAMILY MAY NOT UNDERSTAND/SUPPORT IF THEY ARE NOT ALSO GIFTED OR GAY

Most ethnic, cultural, religious and language minority populations find refuge in family. Their family members share their minority status and understand the challenges that result from being different than the majority. Most minority youth gain a sense of identity, strength and pride in large part because of the support, solidarity and understanding they receive from their families. This shared experience is much less likely for gifted or gay young people who may be significantly different from other family members. Being gifted or GLBT may go against the family’s cultural or belief system.

Siblings may feel antagonistic toward their brothers and sisters who are gifted. They may feel in the shadow of their high achieving sibling who is in the spotlight. The gifted child may have needs that require more family resources, such as special summer programs or private lessons. If their talents are in the public domain, they may have a degree of celebrity that leaves other children feeling ignored. Parents may feel proud of their children’s accomplishments, but may also worry about providing for their needs. Parents may not find friends or extended family receptive to hearing about their gifted children’s latest accomplishments. Instead, their family and friends, who comprise their own support system, may shame or silence them by labeling it bragging (Kearney, 1989). Some gifted children may also fear rejection and withdrawal of parental love if they fail to achieve at a high enough level (Miller, 1997).

Parents and family members may also feel ambiguous toward their children who are gay. At its most extreme, gay youth may experience hostility and even rejection from family members because of their sexual orientation or identity. If they have been raised in a culture that abhors, rejects, or denies homosexuality, families can be torn apart by the conflict of having a gay child and the inability to
reconcile love of their family members with the love and support of their religion or culture. Internally, gay children raised in such a culture may have to deal with self-loathing of their sexual orientation or gender identity that can put them at psychological risk. GLBT youth may also fear their parents will withdraw love and support because they fail to live up to expectations. Studies in major metropolitan areas from Seattle to New York find that twenty to forty percent of teens living on the streets are gay and a quarter of all teens on the streets left home to escape violence directly linked to their sexual orientation (National Gay and Lesbian Task Force & The National Coalition for the Homeless, 2006).

Stress affects the entire family, not just gifted young people. Some cultures believe that individualism nurtured in U.S. gifted programs creates children who “stand out too much” and are “too full of themselves” and yet other cultures believe the individual should be subordinate to the group (Ford & Harris, 1999). In Australia, for example, these “tall poppies” are mowed down (Gross, 1993). Cultures define giftedness differently based on their values and beliefs. Navajos, for example, may be reluctant to support the competitive and individualistic emphasis in some gifted programs. Some people may equate prominence and recognition for giftedness and achievement with arrogance, shame, and rejection of the family or culture (Ford & Harris, 1999). The fears of these families may not be completely unfounded. Both gifted and sexually diverse youth may, in fact, challenge the status quo. With or without parental support for being gifted and/or sexually diverse, these students may move several times in search of an academic, religious, or social setting that will be a good fit. Sometimes this becomes an annual quest for a mythical perfect setting that is never found. The danger in this pursuit is that these young people never gain a sense of belonging or affiliation. They may internalize the futile quest for a perfect fit as caused by something inherently wrong within them.

FEELING UNPROTECTED AND UNSAFE
Gifted youth will likely face discrimination sometime during their lives. They are well aware of the lack of educational and financial support for gifted programs. Only eight U.S. states fully fund and mandate gifted education (Davidson
Institute, 2008). They may see gifted programs disappear in their schools in the face of budget cuts or never fully embraced for philosophical reasons. They may hear an “all children are gifted” philosophy that reinforces their invisibility. In addition, the press and media are as likely to denigrate as celebrate demonstrations of extreme precocity (Kearney, 1991).

In today's world, gifted youth who compromise their anonymity in social networking sites like Facebook or MySpace can never reclaim it. Archives, it is said, last forever. Human interest stories about gifted children used to be limited to local coverage, but now “all news is global” (Meckstroth, Kearney & Roeper, 2006). Precocious youth who grab the media’s attention may find themselves as adults confronted with disclosures made years, even decades earlier. Some, like Jodie Foster, seem to handle it well, but others like William Sidis are destroyed by it. Even if the media attention for accomplishments is positive, “comments,” “talk back,” blogs, and podcasts allow anyone a forum to launch a verbal attack. Media tends toward the sensationalistic, anyway (Meckstroth, Kearney & Roeper, 2006). What is sensationalized, bad, or critical easily finds a wide audience. Although there is no evidence that gifted youth are more prone to violence than youth in general (Neihart & Robinson, 2000), if a “Harris and Klebold” run amok, the media is quick to point out that they were considered “gifted” (Meckstroth, Kearney & Roeper, 2006). There is evidence that students who differ from commonly accepted norms of gender expression are often non-physically harassed near their classes but barely out of direct sight of their teachers, usually in hallways and bathrooms (Human Rights Watch, 2001). Physical harassment occurs, too, and most often happens at off campus events or on the way to and from school (Human Rights Watch, 2001). The persecution for boys is often extremely vicious and results in serious injury or death (Franklin, 1998), while girls, and particularly lesbians are habitually targeted with sexual harassment and sexual assault (Human Rights Watch, 2001).

GLBT youth are well aware that each year there is legislation proposed specifically to deny equal rights to GLBT people (Cohn, 2002). Many talk shows, politicians and religious pundits expound to a ready audience that GLBT individuals are not entitled to the same equal rights and protections afforded
other citizens. Specific protections for sexual orientation and gender identity in non-discrimination policies remain uncommon. Even schools and communities that have non-discrimination policies that protect diverse populations, rarely, if ever, include cognitive diversity in their categories of protected groups.

Depending on the culture in which they are raised, gifted and gay youth will likely fear bullying and violence (whether realized or not) when being gifted or gay is disclosed. Educational policies that require training and respect for cultural diversity (that occasionally includes sexual orientation) almost never include the higher intellectual levels of cognitive diversity in their language or practice.

Whether gifted, gay, or both, these youth are aware of society's lack of acceptance for who they are. Role models are few, invisible, or valued only in certain situations. The result of all this is that gifted and gay youth have difficulty seeing the future and themselves in it (Johnson, 1993; GLSEN, 2008).

**MAY HAVE LESS RIGIDLY DEFINED GENDER-SPECIFIC INTERESTS AND BEHAVIORS**

Gifted and gay youth often experience conflict between expectations of "gender appropriate" interests and their true interests. They may try to pass as more aligned with traditional expectations by feigning interest in areas that follow societal expectations (dolls, war toys), or they may chance isolation by following their hearts (Silverman, 1993). They may fail to develop their areas of passion or give up their dreams when they sense these are unacceptable in their family, peer group, or society.

Gifted and gay young people are likely to experience a lifetime of overt and covert discouragement from following nontraditional passion areas (GLSEN, 2006). Behaviors that are typical in each gender have been well documented in nearly every field in both the social and behavioral sciences (Halpern, 1992). The literature in gifted education has long acknowledged that many gifted and creative children tend to be androgynous in so far as they exhibit characteristics and interests of both sexes (Silverman, 1993; Piirto, 2004). Following publication of *The Secretary's Task Force on Youth Suicide* (Gibson, 1989, p. 10) which
suggested that, "gender non-conformity is the single most accurate indicator in childhood of a future homosexual orientation," some parents and educators went to extreme efforts to eliminate any signs of gender nonconformity in children. Treat (2006, 2008) questions whether students referred to as androgynous in earlier works may actually have been GLBT. Others such as Frank Rainey, professor and former state consultant on gifted education (personal communication, 2008), ask if this is more a reflection of the higher creative, imaginative or empathetic abilities that are often linked with higher intellectual ability.

Traditional stereotypes are limiting to achievement in women (Piirto, 2004; Kerr, 1994, Silverman, 1993), but are also limiting to boys (Kerr & Cohn, 2001). Fox, Brody & Tobin (1980) insist that these attitudes are embedded by school age. The value of a traditional heterosexual gender role identity is implanted in early childhood by parents and community and is further reinforced by schools, but at the cost of stifling creativity and achievement (Piirto, 2004).

Cohn (2003) finds that whereas some cognitive behaviors such as spatial and verbal abilities exhibit gender differences, differences in cognition and thinking styles between gay populations and heterosexual populations yield an even more complex pattern of results than found in studies that compare males to females. In spatial-visual abilities, heterosexual males scored significantly higher than gay males and gay males score significantly higher than females, though the orientation of the females was unspecified (Gladue, Beatty, Larson, & Staton, 1990; Sanders & Ross-Field, 1986; Tuttle & Pillard, 1991; Willmott & Brierly, 1984). In addition, McCormick and Witelson (1991) determined that heterosexual males had the opposite pattern shown by heterosexual females in visual-spatial ability. Heterosexual males demonstrated better visual-spatial ability than verbal ability and heterosexual females had better verbal ability than visual-spatial ability, while gay males did equally well on both verbal and visual-spatial ability. Other researchers had varied findings on verbal abilities. Gay males outperformed heterosexual males and females (Tuttle & Pillard, 1991; Willmott & Brierly, 1984), scored between heterosexual males and females (McCormick & Witelson, 1991), or performed the same as heterosexual males (Gladue et al,
1990). Cohn (2003) wrote that Halpern (1992) claimed this was understandable, as measures of different subtasks would not necessarily yield similar results because verbal ability is a heterogeneous construct, so they would only be slightly correlated with one another.

In the past couple of decades, Western society has moved toward accepting and even promoting girls' interests in math, science and technology – fields seen as traditionally male. Society, however, lacks support with the same enthusiasm for boys in nontraditional domains.

When faced with society's discriminatory messages, gifted/ GLBT young people may push themselves to extremes in order to achieve at the highest level, thinking that only the most extraordinary achievement can legitimize their nontraditional identity (BVSD & BVSSC, 2008; Cohn, 2002; Johnson, 1993).

The solutions we found to protect ourselves . . . We kept moving. Many gay kids protected themselves in high school by maintaining such a breathless pace that nobody could catch them. They participated in every extra-curricular activity imaginable in order to avoid having to leave the safety of the school grounds. They edited the yearbook, starred in the class show, played on the tennis team, soloed in the woodwind section and organized the prom committee. In answer to the question, "why are so many gay men so talented and versatile?" One answer could be it was better than getting the crap kicked out of us after school (Cohen, McWilliams & Smith, 1995).

A May 23, 1993 Daily Camera newspaper article in Boulder, Colorado, quoted psychologist Donald Johnson, who stated, "they become the best little boys and girls in the world. They become the captain of this, the president of that, the honor student." A PFLAG mom in the same article saw this trait in her own son saying that, "he gave himself the assignment of being the perfect kid and he doesn't want to ruin that reputation." Additionally, there is safety in hiding behind being too busy for a social life if one is gay or questioning one's sexual orientation or identity. This particular kind of perfectionism is destructive and ultimately self-defeating, however, because it is bound in successfully being someone other than one's true self. It may appear similar to perfectionism and the Impostor Syndrome often seen in gifted youth, but it comes from a different point of origin.
Some gifted/gay young people, in their vulnerability, think overachievement and over involvement will validate the gifted label (often a response to the Impostor Syndrome) and help “balance” the “big secret” of their sexual orientation or gender identity. In addition to being “too busy” for a social or romantic life, they may also set very high or even unattainable standards for themselves in order to cope and “buy” acceptance resulting in stress and illness (Remafedi, 1994; BVSD & BVSSC, 2008). Although these gifted/gay youth may appear as model students with their high levels of involvement and high achievement, they are driving themselves to exhaustion or worse. They are at significant risk because their drive to achieve comes from overwhelming fear. Regardless of their achievement, awards, grades and positive recognition, their terror, while hiding, never abates.

LACK OF SAFE PLACES TO MEET OTHERS LIKE THEMSELVES

Because gifted and sexually diverse youth are invisible unless out, they may have a hard time finding others like themselves with whom they can form social attachments. When the chronological, intellectual, emotional, and social ages of these youth differ internally (asynchronous development), finding true peers becomes even harder. They may have difficulty finding others who share interests that are unusual for their gender and/or age. They may also search for a long time to find another who shares their deep involvement in and passion for an area of interest (Silverman, 1993).

Acceleration research in gifted education points to the intellectual, academic and social benefits of placing students appropriately (Belin Blank Center for Gifted Education, 2003; Colangelo & Davis, 2003). Similarly, research supports placing gifted students together in classrooms (clustering) for social as well as academic reasons (Winebrenner & Brulles, 2008). When, instead, they are placed in an environment that is intellectually under-stimulating, academically unchallenging and socially inappropriate, the drive for affiliation is so strong, that many youth will choose to hide their gifted and/or gay identities rather than risk being devoid of any social group, no matter how poor the fit. In the case of gifted youth, this
Shared Characteristics of Gifted and Sexually Diverse Youth

can mean academic underachievement, but can also mean stress or depression (Silverman, 1993). Gifted gay, lesbian, and bisexual students frequently find themselves in a dilemma in which they must choose between academic success and social acceptance (Levy & Plucker, 2003). As a group, gifted youth usually have good social adjustment, but Silverman (1993, p. 291) calls it "paradoxical" that they may also experience great loneliness and suffer conflicts between their longing to fit in and their sense of self.

There are studies and anecdotal evidence that the highly gifted/creative, especially gifted writers and visual artists, may be at high risk for emotional and social disorders (Silverman, 1993; Cross, Cook, & Dixon, 1996; Neihart, 1999; Piirto, 2004). For gifted gay, lesbian, and bisexual students, the burden of these two exceptionalities seems to be related to depression and feelings of isolation (Peterson & Richar, 2000; Levy & Plucker, 2003). Although Levy and Plucker (2003), Cross et al (1996), and Neihart (1999), insist that there is little empirical evidence about the rate of incidence or the risk factors for suicide among gifted youth, Peterson and Richar (2000, p. 231), in their study of 13 adolescent gifted GLB youth "found significant themes of danger, isolation, depression, and suicidal ideation, together with high achievement and extreme involvement in activities." There are also articles that lend support to the theory that higher rates of suicide and depression occur in gifted students, not only the highly gifted and creative (Cross, Gust-Brey & Ball, 2002; Weisse, 1990; Hayes & Sloat, 1990; Farrell, 1989; Leroux, 1986; Delisle, 1982, 1986; Lajoie & Shore, 1981). Jackson and Peterson (2003) question the efficiency of quantitative research methods to determine actual cases of depressive disorders in highly gifted students as well as current estimates of depression, and insist these students' ability to mask their symptoms may contribute to the challenges of finding consensus in the research. The increased sensitivity experienced by gifted youth can be intensified by the additional stressor of being gay. In an online Advocating for Gifted Gay and Lesbian Youth (AGGLY) article, a mother described how her gifted son committed suicide at the age of seventeen a month after experiencing hate crimes based on his sexual orientation (Clayton, 2000):
Bill never told us anything about being harassed or hearing any homophobic comments at school. I know they were happening, as they are now...

He didn’t accept homophobia. He believed in being visible. He wore pink triangles on his backpack, and he marched in our Gay Pride Parade. He was involved with the Student Activist Club that invited Grethe Cammermeyer to speak for Women’s history month, helping to get the support...needed when the school board was pressured by some parents and members of our community to keep her from speaking at the school.

He was sexually assaulted right after he came out. He didn’t tell anyone for a year, until he was suicidal. Than a long process of therapy for that, and he was back – healthy and happy again, feeling ready to move on with his future. He was seventeen, about to be a senior in high school, and heading toward adulthood. But then he was beaten unconscious for who he was attracted to. He saw his life as filled with hate and he chose to end the pain.

Trying to separate Bill’s sexual orientation and his giftedness from the rest of him is not possible for me...As his mother, all I know of him is what I saw and shared and felt with him. He is no longer with us and we are left with wondering “What if...”

Burke (1995) reported that about one third of all suicides among teenagers are committed by gay and lesbian students, and that gay people seek counseling at a rate two to four times greater than the non-gay population. Burke also stated that in spite of this need, many counselors are ambivalent toward gay clients. Suicide attempts and assault are higher for GLBT youth (Youth Suicide Prevention Project [YSPP], 200; Remafedi, 1994). Russell and Joyner (2001) found that gay youth were more than twice as likely as their heterosexual peers to attempt suicide. Researchers at San Francisco State University also reported that gay youth whose parents/guardians reacted negatively when they revealed their sexual orientation were more apt to attempt suicide, experience severe depression and use drugs than those whose families accepted their sexual orientation (Leff, 2008). Some health departments, college campuses, and other youth organizations offer programs and support groups for sexually diverse and questioning youth. For example, in OASOS, GLBTQ youth find a safe, appropriate social and learning environment. Gay-Straight Alliances are present in many high schools around the country offering a safe social setting for GLBTQ youth (BVSD & BVSSC, 2008, GLSEN, 2008), and college campuses often have GLBT student organizations. Their offerings, however, only serve small pockets of youth populations. Whether the threat is internalized or comes from others in
the youth’s environment, the need for affiliation and social/emotional health indicates the importance of ensuring that young people have a safe place to meet and form social connections with others like themselves.

**IMPLICATIONS FOR GIFTED EDUCATION**

Acknowledging giftedness or minority sexual orientation sometimes has devastating consequences. Due to lack of recognition of the overlapping characteristics of these two populations and how often they coexist, support in isolation (for being gifted or gay) exists with little acknowledgement of the dual impact of being both. The special challenge faced by gifted/GLBT students is to “forge a trail to success through unfriendly environments where expectation favors gifted straight males in subtle and not so subtle ways” (Reis, 2004, p. xxiv). Students who are both gifted and gay may need even more emotional support and possibly counseling services than those who are gifted or gay (NAGC, 2001; Neihart & Robinson, 2000), however, community support for these youth is virtually nonexistent. Counseling is an important, even critical resource when the provider understands and has experience with gifted/gay youth.

SENG (Supporting the Emotional Needs of the Gifted) provides a structure for parent support groups as they gather to discuss with other parents the unique challenges and joys of having a gifted child. Mensa and even gifted programs in schools provide a place for gifted individuals to meet others like themselves, and state, local, and national gifted organizations such as NAGC include special sessions and publications for parents. PFLAG provides parental support groups for those whose children are sexually diverse and some community health departments offer GLBTQ support groups for youth. None of these groups, however, offers support for the small subset of parents whose children are both gifted and gay. NAGC, through its Sexual Diversity Work Group, is one of the only groups focused on the link between these populations. Perhaps Internet spaces such as the new Gifted Online Conferences Ning that have a Gifted/GLBT and Friends group will become the meeting location of the future that fills the need for supporting educators and families of children who are both gifted and sexually diverse. The lack of a substantial body of research into the
overlap of giftedness with sexual diversity means that there is little that impacts
the professions of education, psychology and child development (Cohn, 2002).
Family can be the first line of defense and the unwavering support for gifted/gay
youth, if parents have the knowledge, support and understanding to step up to
that role.

Those who are both gifted and sexually diverse need acceptance for who they
really are, not for who others expect them to be. They need to hear and see
some acknowledgement of the value of gifted and gay individuals in society.
From early childhood on, they need room to explore interests and develop
strengths even in areas that are nontraditional or unusual for their gender. They
need school counselors and staff trained in the unique issues of gifted and gay
youth and who openly accept these young people as they are. They may have
post-high school and career counseling needs that include alternative interests,
passion areas and pathways. Finally, their families may need support and
resources to help them understand and deal with having a gay, gifted child
(NAGC, 2001). See Table 2 for specific suggestions that are aligned with the
characteristics.
Table 2: Recommendations for Gifted Programs and Schools

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Description</th>
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| Invisibility            | • Provide ways for students to be with peers who are also gifted and/or gay  
                           • Do not assume that students are heterosexual or of average intelligence  
                           • Encourage and provide opportunities for creativity  
                           • Allow options for working alone if the students want/need this  
                           • Do not force students to be outgoing; allow other ways to express themselves; do not assume one who is shy/introverted is not intelligent or is agreeing with you |
| Must come out in order to reveal/claim their identity | • Bring in mentors and guest speakers who are gifted, gay, and gifted/gay into the classroom and show that you value them  
                           • Establish a GSA (Gay/Straight Alliance) in the school  
                           • Show that you and others value differences, all intellectual levels, and all orientations  
                           • Provide ways for students to express sensitivities and show that you value those sensitivities  
                           • Emphasize that gifted individuals were not always good at everything while encouraging valuing of their contributions  
                           • Reveal sexual orientation of famous individuals as you include other personal characteristics in the curriculum while clearly valuing their contributions  
                           • Provide staff development for teachers, counselors, and psychologists on characteristics and needs of gifted, GLBT, and gifted/GLBT individuals  
                           • Ensure that school counselors and psychologists are professionally, if not personally, "gay friendly," understand, and are empathetic to gender dysphoria |
| Family may not understand/support if they are not also gifted or gay | • Establish a PFLAG (Parents and Friends of Lesbians And Gays), SENG (Supporting the Emotional Needs of the Gifted) or other support group  
                           • Encourage and demonstrate the valuing of differences, uniqueness and diversity  
                           • Provide resources and support for families of gifted and GLBT youth  
                           • Make permission slips and notes home gender nonspecific regarding parents/guardians  
                           • Limit assumptions about one’s child beginning in early childhood  
                           • Try not to force choices between one’s culture and giftedness or sexual orientation |
| Feeling unprotected and unsafe | • Ensure that schools and gifted programs have a non-discrimination policy that includes sexual orientation and gender identity  
                           • Establish support/discussion groups for gifted and sexually diverse youth  
                           • Seek financial support for gifted and GLBT youth organizations and resources in school  
                           • Provide visible support for educational, financial and legislative equal rights for gifted and GLBT individuals and programs  
                           • Establish close monitoring and clear, severe penalties for bullying and violence specifically addressing gifted and GLBT  
                           • Ensure that students are aware of progress made toward acceptance of gifted/GLBT  
                           • Provide visible role models for gifted/GLBT students in the classroom and school via the curricula, guest speakers, posters, etc. |
Perspectives in Gifted Education:
Diverse Gifted Learners

<table>
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<tr>
<th>Characteristics</th>
<th>Description</th>
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<tbody>
<tr>
<td>May have less rigidly defined gender-specific interests and behaviors</td>
<td>• Encourage and demonstrate valuing of those who break gender stereotypes in the curriculum and in the classroom</td>
</tr>
<tr>
<td></td>
<td>• Encourage pursuit of passion areas even when unusual or not high in 3 Ps (power, pay, prestige)</td>
</tr>
<tr>
<td></td>
<td>• Demonstrate acceptance of non-perfect products and performances without lowering acceptable standards</td>
</tr>
<tr>
<td></td>
<td>• Encourage setting of attainable standards while still pushing for excellence</td>
</tr>
<tr>
<td></td>
<td>• Allow time for questioning and formation of identity during children’s development</td>
</tr>
</tbody>
</table>

| Lack of safe places to meet others like themselves | Provide safe places to meet others like themselves such as clubs and activities |
|                                                  | Be open to arranging schools and educational opportunities, class schedules, and placements that accommodate cognitive and sexual diversity |
|                                                  | Provide mentors, internships, independent study mentors, and role models based on students’ interests that counter gender stereotypes and provide positive relationships |
|                                                  | Allow for interest-based opportunities that are gender and age nonspecific |

Parents/guardians who refrain from assuming heterosexuality and average intelligence from early childhood provide children with a safe and nurturing family. As children discover their sexual orientation, which will probably, although not always, be heterosexual, a safe family environment acts as a refuge. Parents/guardians can also create a positive home environment if they avoid speaking derisively about GLBT people in front of their children. Allowing their children to take the lead in reaching developmental milestones will also allow their children to be comfortable with precocious abilities much as the character, Scout, in *To Kill a Mockingbird*. Scout’s father, Atticus, provided refuge and acceptance after her teacher made her uncomfortable with her advanced abilities by chiding her for reading too early (Lee, 1960).

It is possible that more gifted students than previously imagined are gay, lesbian, or bisexual, however, if forced to be invisible, in an unsafe school environment, discovering others like themselves is difficult. Even if gifted/sexually diverse students are out, when teachers fail to include others like them (gifted/gay) in their curriculum, in their classrooms and in their role models, seeing the possibilities in their futures is veiled and becoming authentic and psychologically healthy has the potential of being unattainable.
Neither parents nor educators have the power to dictate what kind of child they will have. Teachers, especially, find a diverse array of children in their classes. Parents and educators alike are charged with providing a safe and nurturing environment for the sometimes surprising children they receive. Providing an optimal environment for these children as they mature allows them the best opportunity to become happy, healthy, confident, resilient, and contributing adults.
References


Shared Characteristics of Gifted and Sexually Diverse Youth


The Individuals with Disabilities Education Improvement Act (IDEA) 2004 defines a variety of disability areas under which students may be eligible for Special Education Services. Among these services, this legislation affords students with disabilities the right to a Free and Appropriate Public Education (FAPE). One of the disability categories included in IDEA is orthopedic impairments. Specifically, IDEA defines orthopedic impairments as follows:

Orthopedic impairment means a severe orthopedic impairment that adversely affects a child's educational performance. The term includes impairments caused by congenital anomaly (e.g., clubfoot, absence of some member), impairments caused by disease (e.g., poliomyelitis, bone tuberculosis), and impairments from other causes (e.g., cerebral palsy, amputations, and fractures or burns that cause contractures). (IDEA, Sec. 300.8, 2004).

Researchers in the field of special education have posited more simplified definitions of students with physical disabilities. Kirk, Gallagher, and Anastasiow (2000) state these are students who have limited control over their own bodies. Cline and Schwartz (1999) use the term “neural motor problems” (p. 43) to characterize students with physical disabilities. This article will use the terms orthopedic impairments and physical impairments interchangeably.

When referring to students with any type of disability in combination with identification as gifted and talented, the term twice-exceptional is typically used (Yewchuk & Lupart, 1988). The number of students currently served in our public education system who have been identified as twice-exceptional with presenting physical disabilities and gifts and talents is difficult to determine. Students with orthopedic impairments comprise around one percent of the total population of...
identified students with disabilities (National Center for Educational Statistics, 2007). The prevalence of twice-exceptional students in this group would obviously represent an even smaller number of students. Whitmore and Maker (1985) estimated that between two and five percent of students with physical impairments may be gifted as well. Perhaps the fact that this is a low incidence population accounts for the paucity of research focusing on the gifts and talents these students may possess.

One of the most often cited federal definitions of giftedness was offered as part of the report, *National Excellence: A Case for Developing America's Talent* (1993). This definition states:

> Children and youth with outstanding talent perform or show the potential for performing at remarkably high levels of accomplishment when compared with others of their age, experience, or environment.

> These children and youth exhibit high performance capability in intellectual, creative, and/or artistic areas, possess an unusual leadership capacity, or excel in specific academic fields. They require services or activities not ordinarily provided by the schools.

> Outstanding talents are present in children and youth from all cultural groups, across all economic strata, and in all areas of human endeavor. (p. 3).

Given this nationally recognized definition of giftedness, it is imperative that public awareness of the issues contiguous to gifted students with orthopedic impairments be elevated. Because these students have the legal right to a Free and Appropriate Public Education (FAPE) extended to them through IDEA (2004) because of their disabilities, it follows that their gifts and talents should be identified and served as a part of the educational experiences required by current special education federal law. Unfortunately, this is not the case due to the fact that no federal mandate exists to identify and serve gifted students.

Cline and Hageman (2001) explored the concept of marginalization in their discussion of gifted students with disabilities. Adapted from Stonequist (as cited in Cline & Hageman, 2001), three stages through which twice exceptional individuals progress as they adjust to their learning differences were identified. First, these students begin with an unawareness of their discrepancies from the
The second stage is student awareness of their differences from the norm. This generally occurs either through internal or external conflict. It is in the awareness stage that decisions are made about the adjustments or compensations that must occur in order to successfully navigate their own environments. The third and final stage of this process is choice. Adjustment decisions may be implemented or abandoned depending upon a variety of personal and situational variables (i.e. social stigmatization). Within their journeys, twice exceptional students are often keenly aware of their differences related to both giftedness and disabilities. This awareness may either impede their progress or act as a catalyst for success (Cline & Hageman, 2001). Either way, the issue of marginalization and its impact on the twice exceptional student is worthy of consideration. A closer look at specific characteristics of giftedness helps to clarify this assertion.

CHARACTERISTICS AND APPLICATION

In many instances, the characteristics of children who are both gifted and physically disabled have been gathered primarily by these individuals as adults remembering their childhood experiences (Cline & Hegeman, 2001; Friedrichs, 2001). Oftentimes, these adults attribute success in life to the compensatory behaviors learned as children (Whitmore & Maker, 1985). It is interesting to note that many of the same characteristics observed in non-disabled gifted students hold true for the gifted orthopedically impaired as well. The unique combination of gifts and talents coupled with physical disabilities in these individuals may contribute to a depth of determination not exhibited by their non-disabled peers.

Common characteristics of giftedness include: a) advanced lexicon, (b) broad knowledge base, (c) advanced memory skills, (d) excellent abstract-thinking skills, (e) high level of determination, and (f) an elevated curiosity (Clark, 2002; Friedrichs, 2001; Willard-Holt, 1993). An exploration of these characteristics viewed through the lens of an orthopedic disability reveal several insights. For instance, abstract thinking skills may be highly developed given this population’s inability to explore the world concretely from the earliest years. High levels of determination and curiosity may also be elevated due to their need to compensate for the lack of early hands-on manipulation of objects and an
inner-drive to make meaning or sense of their environments. Cognitively, these children develop at advanced levels, yet their inability to interact with their surroundings forces them, in many ways, to develop methods of interaction that satisfy their inner need to know within the confines of their disabilities.

Characteristics of the gifted/physically disabled present both creative positives and concomitant problems for these individuals and those who support and educate them. Some of the creative positives include: (a) persistence in achieving the best results possible with a given task, (b) the ability to set and achieve long-term goals, (c) the use of compensatory behaviors which allow the individual to overcome physical and societal obstacles, (d) the ability to read at an early age (Whitmore & Maker, 1985), (e) a preference for placement in gifted programs over special education programs (Maker, 1977), (f) development of creative problem solving skills, (g) and non-traditional means of expression to convey their intellectual ability (Willard-Holt, 1993).

Individual differences confound potential concomitant problems. A general list may include: (a) excessive demands and expectations of family members; (b) perfectionism; and (c) limitations associated with the physical disability leading to emotional stress, self-criticism, and dissatisfaction. According to Willard-Holt (1993) many times teachers will mistakenly misperceive the negative characteristics as either immaturity or lack of precociousness. The latter view sheds light on the idea of marginalization (Cline & Hegeman, 2001) that may either hinder or propel these twice exceptional students to develop success-oriented or resignation-oriented dispositions.

In addition to being highly intelligent, gifted physically disabled students often exhibit characteristics of creativity. Creatively gifted/physically disabled children benefit socially from creative expression because it instills confidence and helps banish stigmas associated with their disability. In order to appropriately screen, identify, and instruct the creatively gifted/physically disabled student, educators and parents must longitudinally observe performance and be knowledgeable of the characteristics unique to this population (Ford & Ford, 1981).
Characteristics of creatively gifted/physically disabled children include: (a) high concentration abilities, (b) artistic/visual appreciation, (c) active imagination (Ford & Ford, 1981), (d) self-directed compensatory behaviors, (d) use of unconventional means of communication, (e) alternative task accomplishment, (f) memory skills, (g) high scholastic ability, (h) theoretical perspectives, (i) mental maturation, (j) goal-orientation, (k) swift comprehension of new ideas, (l) sense of humor, (m) determination, (n) tolerance, (o) desire to succeed, (p) high level of curiosity, (q) perfectionism (Willard-Holt, 2002), (r) willingness to restore harmony, and (s) adjustment skills (Ford & Ford, 1981).

As with all individuals, twice exceptional students will not exhibit the same characteristics (Friedrichs, 2002; Whitmore & Maker, 1985). The presence and extent of these characteristics will vary depending on the limitations resulting from the disability itself (Cline & Hegeman, 2001; Willard-Holt, 1993). Even though the extent of a physical disability has little relation to the cognitive abilities of an individual, stereotypical views by the general public and professionals often prevent recognition of a child's giftedness thus adding emphasis to the concept of marginalization and compounding the dilemma of the student with gifts and physical disabilities.

Students with physical disabilities often have difficulty communicating. Assistive equipment is available to combat this and other deficits. 'Low' technology can be as simple as a pencil grip to facilitate writing (Cline & Schwartz, 1999). Advanced, or 'high', technology may consist of computerized voice synthesizers (Cline & Schwartz, 1999) and/or computerized interactive devices. These augmentative and alternative communication (AAC) mechanisms allow the child a means of expression.

Alternative means of communication allows the child to gain confidence and independence. The child is now able to bring to fruition his once suppressed abilities. With a communicative device, the child can function more successfully in the academic and social environment of school. The cognitive ability exhibited with this technology will allow teachers to better identify giftedness of a physically disabled student (Cline & Schwartz, 1999).

Adjustment strategies displayed by a physically disabled student often influence other people's opinions of the physical disability. The use of compensatory behaviors, such as AAC devices, gives rise to viewpoints by other people that the
affected person is easily able to cope with the disability. Often, individuals without physical disabilities do not realize the cognitive abilities needed to employ these adjustment strategies, thus are unable to recognize the level of giftedness needed to operate an AAC device (Willard-Holt, 1999). A summary of the characteristics of these students is found in Table 1.

Table 1: Characteristics of Gifted/Physically Disabled Students

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Comment</th>
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<tbody>
<tr>
<td>Compensatory behaviors</td>
<td>These individuals are adept at coping with their disability in order to succeed.</td>
</tr>
<tr>
<td>Ability to use augmentative and alternative communication (AAC) devices</td>
<td>High-tech AAC devices require high cognitive abilities.</td>
</tr>
<tr>
<td>Superior memory skills</td>
<td>Although a common skill among non-disabled gifted, gifted/physically disabled individuals use this trait to compensate for modality impairment specific to their disability.</td>
</tr>
<tr>
<td>Highly developed vocabulary</td>
<td>As with most non-disabled gifted students, the gifted/physically disabled population has a mature lexicon.</td>
</tr>
<tr>
<td>Excellent abstract-thinking skills</td>
<td>Superb ability for problem-solving tasks.</td>
</tr>
<tr>
<td>High level of determination</td>
<td>Despite the impairment, gifted/physically disabled have an unwavering frame of mind.</td>
</tr>
<tr>
<td>Elevated curiosity</td>
<td>Item/topics of interest are especially interesting to gifted/physically disabled individuals.</td>
</tr>
<tr>
<td>Goal-oriented</td>
<td>Ability to remain on-task through completion of activity.</td>
</tr>
<tr>
<td>Early reading ability</td>
<td>A commonality among gifted/non-disabled as well.</td>
</tr>
<tr>
<td>Emotional stress</td>
<td>Limitations due to the disability can lead to high levels of anxiety.</td>
</tr>
<tr>
<td>Perfectionism</td>
<td>A constant need to excel is common among most gifted individuals and can lead to emotional stress.</td>
</tr>
<tr>
<td>Artistic/visual appreciation</td>
<td>Creative giftedness is also prevalent among the gifted/physically disabled population.</td>
</tr>
<tr>
<td>Pronounced comprehension</td>
<td>Gifted/physically disabled students are able to quickly comprehend new material.</td>
</tr>
<tr>
<td>Sense of humor</td>
<td>Another common trait among gifted/non-disabled and gifted/physically disabled.</td>
</tr>
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</table>

Adapted from Maker (1977); Ford & Ford (1981); Whitmore & Maker (1985); Willard-Holt (1993); Willard-Holt (2002)
Hence, cognitive ability of this group often goes unnoticed through elementary and middle school grades, only to be discovered later as problem solving and abstract thinking become requirements to succeed academically (Little, 2001; Whitmore & Maker, 1985). Although little recent research exists on giftedness among populations with physical disabilities, there are a number of early studies on specific subgroups within the gifted physically disabled population that may give insight and perhaps serve as models for the appropriate practice of screening, identifying and serving these students.

**RESEARCH AND ASSESSMENT**

Cerebral palsy is characterized by impaired motor function related to the area of brain damage. Baldwin and Vialle (1999) state that prevalence of giftedness increases when the severity of the impairment decreases. Sigelman (1977) estimates that thirty-three percent of cerebral palsied persons have at least an average IQ and an additional five per cent have a higher intellect, but are in need of a stimulating environment. Despite the fact that traditional IQ tests may not accurately determine their level of intelligence, modifications (e.g. allowing a nonverbal child to point to a picture instead of requiring a verbal response, modifying oral directions for a hearing-impaired child) can be made to accommodate their disability and increase the probability of success; however, steps must be taken to ensure that reliability of the test remains intact.

Precociousness among cerebral palsied children is often overlooked because of the difficulty in accurately assessing the intellect of cerebral palsied children (Baldwin & Viale, 1999). Giftedness can reveal itself in this population through: (a) the individual’s realization of the boundaries related to the physical disability; (b) strong desire to be self-sufficient, free from hi-tech mechanisms, and human assistance; and (c) the use of intelligence to overcome the limitations of the disability (Willard-Holt, 1998). Only by knowing what characteristics to look for can educators and parents precisely determine the potential of a child with cerebral palsy.
Willard-Holt (1998) conducted a study to determine the characteristics of gifted students with cerebral palsy. The purpose was to discover techniques the students used to exhibit their academic capacity, which could lead to a more resourceful method of identification. Two subjects, a 6-year-old first grader and a 14-year-old high school freshman, took part in the study. The first subject has athetoid and spastic cerebral palsy. Subject 1 skipped kindergarten before he even started school because he reached the ceiling score on the Peabody Picture Vocabulary Test (PPVT) and the Peabody Individual Achievement Test (PIAT). The first subject began to read at age three and, shortly afterwards, began writing poetry. Subject 1 used body movement and augmentative communication (e.g. alphabet board) to express himself (Willard-Holt, 1998).

The second subject also has athetoid and spastic cerebral palsy. He was enrolled with a full load of regular education classes. A member of the honor roll, student council, and extracurricular activities, the second subject communicated through eye movements directed toward an alphabet board. He also used a head switch to key Morse code into a computer for expression since the cerebral palsy left him without speech and the use of his hands (Willard-Holt, 1998).

Both subjects displayed many common gifted characteristics (e.g. maturity, curiosity, and quick learning). However, their limitations due to cerebral palsy resulted in non-typical demonstrations of these characteristics while other characteristics seemed to be exclusive of gifted/disabled children (e.g. sense of humor used to ease others' discomfort). These unique characteristics appear to be vital for the progression of giftedness paired with a disability (Willard-Holt, 1998).

Willard-Holt (1998) suggests allowing gifted/physically disabled students extra time to complete assignments requiring motor function skills and accelerate the classroom work on the subject matter. It is not necessary to simplify complex material, but to shorten lengthy material (Willard-Holt, 1998). It is also important to encourage positive school experiences and self-confidence. Instructors should also be willing to accept responses in a way that is compatible to the disability (Willard-Holt, 1998).
The talents of gifted/physically disabled students are often overlooked because attention is placed on what they cannot do, rather than what they can do. The percentage of individuals identified as gifted/physically disabled is considerably low. Whitmore and Maker (1985) signify the absence of precise statistical information regarding the occurrence of giftedness among the physically disabled population. However, it is estimated that giftedness exists in two to five percent of the physically disabled population (Whitmore & Maker, 1985). The difficulty in accurately assessing the intelligence of the physically disabled lies in the fact that many times giftedness in physically disabled students is overlooked (Baldwin & Vialle, 1999). Early identification of exceptional needs and coinciding intervention is imperative to educational success and achievement.

The child's best interest should be a priority when attempting to identify giftedness in a physically disabled child. According to Whitmore and Maker (1985), the challenge in identifying the gifted/physically disabled lies in four areas: (a) stereotypic expectations that disabled children are not mentally capable of excelling, (b) developmental delays preventing early detection of mental abilities despite the existing capacity to learn, (c) incomplete information about the child, which can be remedied through consultation of all involved personnel to establish an appropriate IEP, and (d) no opportunity to indicate superior mental abilities when the child uses nonverbal behaviors to communicate. Physically disabled children must be given appropriate and equal opportunities to fully demonstrate their full potential.

One assessment method that unfairly discriminates against physically disabled children is standardized tests. Robinson and Fieber (1988) discuss the absence of motor-impaired children in the norming group of standardized tests, violating the validity of such tests with this population. Standardized test scores are discouraged for identification and placement purposes of gifted/physically disabled students (Robinson & Fieber, 1988). Traditional special education programs are directed toward remediation of the disability and the associated problems. A child's strengths can easily go unnoticed through this medical approach (Seeley, 1998).
Children with physical disabilities cannot be evaluated appropriately with testing instruments requiring bodily responses. Therefore, standardized tests and observational checklists typically used for gifted assessment will not reveal true gifted characteristics of this population. In fact, according to Willard-Holt (1999), because of the low occurrence of gifted/physically disabled, they are rarely included in the sample population of standardized tests. Thus, cognitive ability must be determined only after overlooking a person’s outward appearance, rate of response, and deftness (Willard-Holt, 2002), as well as realizing the child is doing his own work and not the assistant provided by the local school district to accommodate his disability (Willard-Holt, 1998). In order to increase the probability of success for physically disabled children, Baldwin and Vialle (1999) suggest that modifications to the instrument be made so as to accommodate their disability. Furthermore, since standard testing procedures typically do not identify children who are gifted/physically disabled, it is necessary to utilize tests with alternate response modes (Seeley, 1998).

Modified administration of the PPVT can be used to calculate a standard score of receptive vocabulary, but expressive vocabulary is much more difficult (Willard-Holt, 1998). In Willard-Holt’s (1998) study on gifted/cerebral palsied characteristics, the first subject was administered the PPVT and was able to move his entire body to letters taped to the floor to indicate his answer. Only after modifying the PPVT was Willard-Holt able to accurately assess the subject’s potential.

In addition to utilizing modified standardized test scores to determine giftedness among the physically disabled population, Willard-Holt (2002) suggests that educators, parents, therapists and anyone else involved in the care and support of the child meet to discuss the student’s strengths and weaknesses. A complete portfolio of the child’s abilities should be gathered and analyzed. A team effort is essential in order to accurately determine the exceptionalities of a physically disabled child.

From an early age, physically disabled children interact with a variety of medical professionals. Therapists work with these children often and become aware of
exceptional characteristics, such as communication through eye gaze and eagerness to respond (Baldwin & Vialle, 1999). People who are familiar with the student’s abilities are more apt to recognize exceptional or gifted traits. They can help to identify compensatory characteristics for the disability and talents unrelated to the disability should positively influence the child’s overall profile more so than what the child cannot do (Willard-Holt, 2002). Nonverbal communication should also be assessed. For example, a child who smiles after a joke is displaying a mature verbal understanding of the humor (Willard-Holt, 1998). Identification may be best accomplished when compared to other children with comparable disabilities (Willard-Holt, 2002).

Assessment of the physical competencies of a physically disabled child is necessary in order to be aware of ways he/she can respond to test questions. Identification of expressive and receptive communication, reading and writing skills, torso/limb control, and the use of verbal or nonverbal cues for ‘yes’ and ‘no’ can help determine which test measurement is suitable for the individual child (Sattler, 1982). According to Sattler, testing of physically disabled children brings about many problems. One such problem involves communication deficits and the misinterpretation of the academic ability of the student. Also, the extended testing time required for administration may cause the student to experience exhaustion or difficulty sustaining attention. Lastly, establishing a rapport with the physically disabled child may prove problematic because of his/her dependence on other people (Sattler, 1982).

Seeley (1998) recommends the Raven’s Standard Progressive Matrices (SPM) (Raven, 1996), a nonverbal intelligence test that can be administered to children as young as five-years-old, and the performance section of the Weschler Intelligence Scale for Children-Revised for ages 6-16 years as valuable tools in assessment of children who have minimal oral capabilities. However, Brown (1984) states that the WISC-R should not be used as the chief assessment measure of children with physical disabilities because this population was not included in the standardization group. In turn, Brown (1984) suggests The Pictorial Test of Intelligence (French, 1964) because of its multiple choice design.
requiring minimal motoric response. The information presented in this section is summarized in Table 2.

**Table 2: Screening/Identification Procedures of Gifted/Physically Disabled Students**

<table>
<thead>
<tr>
<th>Method</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standardized tests</td>
<td>Tests that can accommodate the disability without sacrificing validity are recommended.</td>
</tr>
<tr>
<td>Observational checklists</td>
<td>A typical checklist for giftedness will not reveal true giftedness of the gifted/physically disabled population, therefore awareness of their characteristics is recommended.</td>
</tr>
<tr>
<td>Team approach</td>
<td>Parents, teachers, therapists, and students must be observant of strengths and weaknesses within this population.</td>
</tr>
<tr>
<td>Nonverbal communication</td>
<td>The ability to communicate through an alternative modality indicates a high level of cognitive ability.</td>
</tr>
</tbody>
</table>

Adapted from Robinson & Fieber (1988); Seeley (1998); Baldwin & Vialle (1999); Willard-Holt (1999); Willard-Holt (2002)

**INSTRUCTION AND MODEL PROGRAMS**

Every child deserves appropriate educational opportunities; however, the needs of gifted/physically disabled often go unnoticed. Whitmore (1987) stated that physically disabled students make up a large percentage of the underachieving gifted population. A major reason is that educators tend to focus on remedial activities for the disability itself without attending to the child’s intellectual needs (Bacto, Milan, Litton, Rotatori, & Carlson, 1991). Stereotypic notions of giftedness and physical disabilities lead to academic negligence and an improper curriculum (Whitmore, 1987). Whitmore added that the misconceptions of instructors must be transformed into ideas allowing assessment of an individual’s extraordinary capabilities and provide one-on-one instruction as necessary without stereotypical views. Furthermore, parents are not utilized as a tool to help provide appropriate instruction. All of these factors help contribute to underachievement among the gifted/physically disabled population.

In order to assure that gifted/physically disabled students are not left uneducated or, as adults, unemployed, suitable curriculums must be developed that focus on
the following: (a) intellectual stimulation in the gifted, regular, and special education classroom; (b) modification of assignments to allow for extra time and freedom to express learned knowledge in a variety of way; and (c) parental involvement in the education of the child.

According to Corn, (1986) appropriate intellectual stimulation is the key to expanding the cognitive abilities of gifted/physically disabled students. Maker (1977) concluded that future success and development of gifted/physically disabled students is dependent on the intellectual stimulation received in gifted classes. However, gifted/physically disabled students must also receive intellectual stimulation in the regular and special education classrooms as well.

Physically disabled students are often placed in remedial classrooms to habilitate the disability without expansion of their intellectual strengths. Classroom underachievement can be attributed to frustrations stemming from the slow pace with which they are able to express their written and verbal intentions. Also, lack of academic stimulation can attribute to low levels of desire to succeed (Willard-Holt, 2002). Recent trends in education of physically disabled students include placement in regular education classrooms in order to focus on educational instruction (Best, 1999). Best (1999) also states that physically disabled students perform better in a regular classroom setting that has been modified to accommodate their needs. It has been suggested that this setting not only encourages academic success of disabled students, but also social success, thus providing 'real world' functional independence (Best, 1999). Success attained through creative problem solving as a child will likely enable him/her to be better able to deal with problems as an adult (Ford & Ford, 1981).

Willard-Holt (2002) also suggests that instructors should follow a fundamental path utilizing receptive and expressive language when teaching the gifted/physically disabled student. First, educators should determine the language capabilities of the gifted/physically disabled student(s) in the classroom and establish other, if unconventional, ways they can exhibit giftedness. Secondly, teachers should encourage theoretical and imaginative explorations, as well as analytical methods of thought. Lastly, it is important for instructors to
be open minded to task completion. These individuals should complete class work at a pace conducive to the disability, but at the same time complementary of their strengths (Willard-Holt, 2002).

Researchers (Whitmore & Maker, 1985, Willard-Holt, 1993) state that physical disabilities can greatly limit success in school, if coping skills are not developed. Thus gifted/physically disabled individuals must be empowered with the ability to use their strengths to help them overcome their weaknesses. Creativity as a coping skill helps the child learn alternative ways to accomplish everyday tasks.

Another important aspect of the curriculum is the home environment. Any appropriate curriculum must require parental instruction of the child's needs and participation in the intervention (Whitmore, 1987). It is important to note that the parent is not being asked to do the work for the child. Since many physically disabled individuals often become dependent on family members, to cope with their disability, Maker (1977) asserts that the main goals of gifted/physically disabled children should primarily include independence and self-direction.

Project High Hopes, a federally funded Javits program, conducted a week-long program comprised of twenty-seven handicapped middle-school students from the northeast identified as gifted in at least one area (Gentry & Neu, 1998). The primary goal of the program was to elicit actions from the students that would imply behaviors characteristic of giftedness. This was achieved by involving the students in specific tasks, accommodating their needs to enable concentration, and encouraging class participation by limiting the number of students in each class. Additionally, visual cues were encouraged while less stress was placed on reading and writing. The students were encouraged to use their problem-solving abilities with practical experiences. As part of the program, students were challenged with the problem of an on-site decrepit pond and asked to resolve the issue. The students were then divided into companies of five to six members and encouraged to determine the solution using their critical-thinking abilities (Gentry & Neu, 1998).
Throughout this study, teacher-facilitators were able to observe student interactions, gather statements from students, and watch video-taped student presentations. Each student's placement in the company was specific to his particular area of strength. The student's actions spotlighted his/her strengths, during which teacher-facilitators were able to notice a higher level of confidence in each student. For many of these disabled students, this was the first time to be appreciated and acknowledged for their giftedness (Gentry & Neu, 1998).

Although no pre- or post-test measures were administered, the students' academic outlook and self-confidence became apparent when they returned to school in the fall. Seventeen of the 27 students were selected for the gifted and talented program. Three were repositioned to regular education classrooms from resource rooms. Many others participated in school presentations, science fairs, and art exhibits. The results of the Project High Hopes indicate that with the proper program of study and an encouraging support team, students can focus on their strengths with an end result of academic success (Gentry & Neu, 1998).

The Chapel Hill Gifted-Handicapped Preschool Program was developed to provide the needed academic services for this often overlooked population (Blacher-Dixon & Turnbull, 1978). The concept of this program was to establish a way to identify these children and also establish a program of study, all with inclusion of the family. As a result, the team developed a slide presentation that would first educate the teachers on identifying gifted characteristics in the classroom. Also, the teachers were given a performance checklist to use as an identification technique with their students. The staff's justification of this teacher-training method was that if the teacher was trained to detect signs of giftedness, then they would be an important aspect of the screening process (Blacher-Dixon & Turnbull, 1978).

In addition to checklists, formal and informal observations of the child are recommended. Formal observations would include a predetermined activity during a designated time frame. Informal observations would be casual every day observances in the classroom or at home. The teachers were also exposed to sociometric measurements as an identification tool to use with other methods. In
this situation, other children are asked to recommend classmates who would be an asset in a predetermined setting or activity (Blacher-Dixon & Turnbull, 1978).

The program's core curriculum centered on the unit-topic approach. This method focuses on a fundamental concept applied with various content (e.g. animals, holidays) advancing from basic to upper levels. Another method used in the program is a modification of Bloom's Taxonomy of Learning Objectives presented by Bailey and Leonard (1977). Bailey and Leonard apply the theory to preschool education based on a range of skills for the child (Blacher-Dixon & Turnbull, 1978), rather than Bloom's six distinct functioning levels. The Chapel Hill gifted-handicapped staff incorporate the unit-topic approach along with individualized instruction in music, art, and recreation to provide a diverse educational structure (Blacher-Dixon & Turnbull, 1978).

The Chapel Hill program also involved professionals in the community (e.g. doctors, social workers) to help in identification of gifted/handicapped children. The project also made every effort to include the families of gifted/handicapped children in the program through parent-teacher conferences, newsletters, and progress reports. Classroom observation was encouraged by the staff to allow parents to gather ideas to implement related activities at home (Blacher-Dixon & Turnbull, 1978). As noted earlier, the family has an important role in recognizing giftedness in their child who is physically handicapped.

The Retrieval and Acceleration of Promising Young Handicapped Talented (RAPYHT) program (Karnes, 1984) targets children aged 3-5 years who have a mild or moderate physical, sensory, and/or emotional handicap or a learning disability. Children are selected to participate in this program after being evaluated by a multidisciplinary team. Once identified, each child’s strengths are determined through a detailed assessment process. Instead of comparing children with disabilities to their typically developing peers, the goal is to measure potential giftedness with other children who are disabled (Karnes, 1984).

Teachers and parents learn how to identify and plan for gifted/physically disabled through the seven designated areas of the RAPYHT program. The areas include:
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(a) general programming, (b) talent identification, (c) talent programming, (d) parent involvement, (e) interagency collaboration, (f) transitional procedures, and (g) evaluation (Johnson, Karnes, & Carr, 1997).

Identifying preschool children who are gifted/physically disabled is a multifaceted procedure (Karnes, 1978). Screening for placement in a special education program initiates the identification process, but is an ongoing process during intervention. The child benefits greatly from an ongoing assessment process. Previously unseen gifted characteristics of a physically disabled child may be discovered for the first time after the disabling condition has been habilitated to a level that allows the gifts to shine (Karnes, 1978).

The RAPYHT program used two educational approaches. The first approach is the open classroom or informal approach. In this method, the instructors are considered to share control with the child in his/her learning environment. The student takes the initiative through explorative and inquisitive behaviors while relating new skills and understanding. This system permits the child to make choices while interacting with his surroundings (Karnes, 1978).

The second, more structured approach administered by the RAPYHT program is based on Guilford’s Structure of the Intellect (SOI) (Karnes, 1978). The SOI approach is teacher-directed and, as stated, revolves around a structured environment, yet adaptable to students' needs and social development. The results of each child’s diagnostic testing creates the focus of the curriculum by using various lesson plan activities (e.g. prearranged activities, activities involving a particular child’s curiosity) (Karnes, 1978).

The RAPYHT program is successful in many areas. The children benefit from the educational goals within the program, but, in addition, the parents gain confidence in their ability to work effectively with their disabled child. Classroom experiences are enhanced for the child who is gifted/physically disabled for the reason that the instructor now recognizes the child for his academic potential, not for his disability (Johnson et al., 1997).
The Executive High School Internship Program (EHIP) (Baken & Benner, 1978) offers gifted high school students the opportunity to work in a position to gain “real world” experience in decision-making and responsibility. During one semester a trial mainstreaming project was conducted to determine if gifted/disabled students could be included in the continuing internship program. The number of gifted/disabled students in the participating school districts was minimal. Twelve gifted high school students with varying degrees of visual, auditory, or physical disabilities were chosen to participate. Students with a good foundation in mainstreaming activities were thought to benefit most from the project. Lack of work experience was the common denominator among the chosen students. Although the gifted/disabled students were selected to participate in this trial internship program, their performance expectations were the same as those of nondisabled interns (Baken & Benner, 1978).

For most students, the moderate to severe disability did not prevent functional independence within their work setting. The major obstacle involved transportation to and from their job placement. Most school districts were able to reschedule bus routes to assist with students’ needs (Baken & Benner, 1978). With objectives involving increased confidence levels and personal development, along with gaining work experience, the mainstreaming project was deemed a success. Only one job site sponsor indicated hesitance in subsequent participation in the internship program involving disabled students. This sponsor’s reluctance was due to his intern’s lack of prerequisite skills that became apparent during the trial semester. Another goal of the EHIP internship project centers on the overall regard of disabled students by the nondisabled group of interns (Baken & Benner, 1978).

Normal performance variability among individuals was noted, but without relation to the disability. Pre- and post-test data measurements completed by interns, job site sponsors, and/or coordinators, as well as job site interviews, were evaluated. Pre- and post-test measures included Attitude Toward Disabled Person Scale (ATDP) (Yuker, 1966) and End-of-Term Inventory. Because of the low number of students completing the ATDP, the results were inconclusive. Results of the EHIP End-of-Term Inventory, completed by the student’s supervisor, however,
indicated overall satisfaction with the effort put forth by the gifted/disabled students. Evaluation of on-site interviews also revealed that disabled students were able to satisfy all requisite demands of the internship position. Each group of interns learned new responsibilities through their work experience. It was concluded that disabled interns were as competent as their nondisabled counterparts in achieving success in the real world work environment (Baken & Benner, 1978).

CONCLUSION

While there is an immense amount of research documenting the common characteristics of gifted and talented children, there is a paucity of research involving children who are gifted/physically disabled. Gifted/physically disabled children may exhibit similar personality, behavior, and intellectual characteristics. However, a definable list is not available due to the breadth of uniqueness associated with each physical disability.

A vital instrument in the identification of a gifted/physically disabled child is the classroom teacher. As someone who frequently interacts with the physically disabled student, the teacher can detect qualities that are associated with giftedness. The ability of the teacher to look beyond the physical disability in order to recognize hidden potential is of utmost importance. Classroom approaches that acknowledge the individuality of a gifted/physically disabled child will provide a nourishing environment in which the student can thrive academically and socially. A brief listing of these practices for educators may be found in Table 3.
Table 3: Classroom Approaches for Gifted/Physically Disabled Students

<table>
<thead>
<tr>
<th>Approach</th>
<th>Comment</th>
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<tbody>
<tr>
<td>Intellectual stimulation</td>
<td>A key concept for future success for students is the provision by educators of challenging activities housed within the unique interest areas of high ability students. This concept should not be overshadowed by a student's physical disability. Educators must focus on student strengths and interests to provide the intellectual stimulation needed for them to reach potential.</td>
</tr>
<tr>
<td>Modification of assignments</td>
<td>Gifted/physically disabled students benefit when they are allowed to complete an assignment at a rate conducive to their disability. This is, of course, dependent upon the particular presenting physical disability and should be specified in the student’s Individual Education Plan.</td>
</tr>
<tr>
<td>Parental involvement</td>
<td>A supportive family encourages success. A welcoming attitude on the part of educators to embrace the realities of twice exceptional student abilities should be extended to the families of gifted/physically disabled students. Educators should be equipped with the skills necessary to communicate with parents regarding dual exceptionality.</td>
</tr>
<tr>
<td>Inclusion in regular education classroom</td>
<td>A classroom accommodated for the gifted/physically disabled student will promote academic success and functional independence. Opportunities for interaction with non-disabled peers should occur along with opportunities for placement in gifted education programs.</td>
</tr>
</tbody>
</table>

Enhancing public awareness on the educational needs of these students is of utmost importance. Knowledge is essential in order to guarantee that this underserved population receives the optimal services available to help them reach their potential both cognitively and physically. Future areas of research should include replication of model programs to serve these students. Additionally, staff development experiences for individuals who interact with students with physical disabilities should be made available to aide in the
discovery of high ability among this population and to reveal the stereotypic thinking that so often contributes to their marginalization in society. Lastly, the intrapersonal social and emotional issues related to the marginalization of the twice exceptional should be explored.
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A PERSONAL JOURNEY THROUGH A CASE STUDY EXAMINING FIVE GIFTED AND HANDICAPPED CHILDREN: GIFTED AND COMPENSATING

Kathie Carwile Morgan, EdD
Liberty University

THE TWICE-EXCEPTIONAL

While much research has been focused on the gifted learner, there has been less attention on the handicapped or physically disabled gifted child. This group of individuals has been called the “twice exceptional” (Kiesa, 2000). The research that has been done in this area has examined identification strategies, including identified problems and characteristics of the gifted handicapped child and has suggested obstacles to identification of the gifted and handicapped child (Whitmore, 1985). These hindrances to identification include the stereotypical belief that disabled persons are below normal, and exhibit developmental delays, the collection of incomplete information about the child resulting in overlooking an area of strength that might be displayed in nonacademic settings, and a lack of opportunity to demonstrate superior ability because of the highly verbal nature of school tasks and the use of ability testing in special education. These hindrances make the students that are finally recognized even more worthy of study. As educators there is a need to know how these students differ from other special needs/handicapped children and yet how they are like other gifted individuals. What are they doing differently? What is the key to their success despite their limitations? The researcher’s goal in this study was to examine the methods and strategies employed to compensate for physical limitations or areas of weakness.

STUDENT COMPENSATIONS AND ASSUMPTIONS

Interest in this study developed after the birth of the researcher’s gifted/handicapped grandson four years ago. Watching the methods this child and his parents employed to overcome and compensate for physical limitations provided insight, encouragement and ideas for those working with special needs children. The questions were obvious. Were these students making greater strides toward life success because they had learned strategies that allowed
acceptance within the school and social community, or were they overcoming their limitations due to other factors? If so, then what were these strategies, where did they come from, who was teaching and who was learning, and could those same strategies be taught to students that were also limited in academic success but not gifted? Did the timeline of diagnosis of each of the areas of exceptionality make a difference? The researcher began with very basic, yet firm beliefs and ideas of how the gifted/handicapped were compensating. Assumptions initially made were that: 1. the sequence of determining giftedness and the identified disability, time-wise, makes a difference; 2. determination of giftedness prior to determination of disability creates higher expectations and better outcomes, 3. students arrive at self-taught strategies, 4. parental intervention is important, 5. early intervention in both areas of need is important, and, finally, 6. social acceptance and the adaptive skills of the student are a contributing factor to the student’s academic and all round success.

A PERSONAL CONNECTION

Working with the gifted is a constant challenge. No two gifted children are ever gifted in exactly the same way, so working with this group always brings surprises and amazement. Having long been a teacher and observer of gifted students in class, the researcher excitedly awaited the arrival of her own first grandchild anticipating a “gifted” baby. This child was to be born to the eldest daughter, an acknowledged, documented “gifted one” herself. As parents (and grandparents) know, all children are gifts and gifted, and this baby, the first boy-child for the family, was no exception. Jude Lawrence Quintero arrived and was accepted into the family with every expectation and acknowledgement that, of course, without question, he would be, was, in fact gifted. Jude was talked to and treated from the first moments of his life as a gifted, brilliant boy. During the first months of life Jude exhibited an unusual interest in high intensity light. Jude would fixate upon any light source, the more intense the better. During his monthly check-ups with the pediatrician this concern would be brought up, but at each visit the doctor would comment on his normal development and reassure everyone that staring at lights was normal in an infant. At six months, Jude had what seemed to be a small seizure, throwing the whole family into panic mode.
Hours later after several examinations the doctors discovered and identified what had previously been missed. Our brilliant boy was, in effect, blind. Because his pupils were so small and his eyes so dark, the doctors had simply failed to see the opaque cataracts that totally blocked his vision. Jude had been "in the dark" developing quite normally otherwise, but his optic nerves had received virtually no stimulation for six months, other than the aurora of light that glowed around his opaque lenses.

Most babies born with congenital cataracts are diagnosed, have surgery and begin treatment before they leave the hospital after birth. When this diagnosis is made the cataracts are removed and the optic nerve begins to receive the vital stimulation it needs for growth and for vision to develop during the first six months of life. Because Jude had missed the optimal development period of zero to six months, there were only questions without answers about the vision he would have after his emergency surgery. Following surgery, the Pediatric Ophthalmologist reported that Jude’s chances for some vision were good, and that, in fact, without his natural lenses blocking light and vision, he was able to see more than he ever had seen before. His sight, unassisted, was still comparable to looking through glazed glass or waxed paper. Within two weeks Jude had been fitted with contact lenses and the gifted boy began to show the world what true giftedness means.

LOOKING FOR ANSWERS – WHAT ARE THEY DOING?

Early in the 20th Century, Lewis Terman began a longitudinal study of gifted children. The study conducted at Stanford University followed 1,500 children identified as gifted over a period of 70 years. This study was originally designed to prove that the gifted were well-rounded and exceptional in most areas. Prior to Terman’s study, the gifted were considered to be somewhat frail, weak and unbalanced; educators had moved from one misconception of giftedness to yet another (Morrison, 2000). Gifted children, like all children, come in all sizes, colors, even with the limitations of a handicap. Some are well-rounded and good at everything they attempt, some are frail and some have disabilities or as one family in this study called it...a small limitation. During the past four years, it has been with amazement that the researcher watched a gifted child deal with an
overwhelming handicap and rise above it. This child must live with the daily inconvenience of a severe visual problem, yet, he knows no other life. His memory does not include a day without it. It is a life reality that just is. Until this child entered the picture the researcher never considered the possibilities of this study. Interest in this study was initially to identify the strategies that gifted/handicapped children, the twice exceptional student (Neihart, 2000), were using to overcome, and rise above their limitations and disabilities. Watching and talking to gifted children with limitations has been a learning experience. Watching and talking to their parents has been even more enlightening. One can only marvel at the methods adopted by these children and their parents that allow them to do what they need and must do. The researcher watched and participated in the struggle of her own family to accept and deal with a physical disability. Each family must go through the anguish of knowing and accepting that a precious child is going to suffer, toward determination and resolution to do whatever is necessary to allow that child to succeed. The examiner watched daily as Jude’s parents have pushed and encouraged him to do whatever he has had a desire to attempt. What were the other parents doing that allowed such phenomenal achievements in learning, creativity and personal growth to take place among gifted but “limited” children? The hope was to be able to identify strategies, those compensation methods that could be identified, both in the children themselves and the parents and teachers that worked to help them. What was occurring that allowed the gift to be exercised and the limitation to be less of a stumbling block and burden? What were they all doing? Gifted children with handicaps were finding and using methods, seemingly on their own, allowing their giftedness to move beyond the boundaries of their handicap. If these strategies and compensations could be identified, would it not be possible to teach those methods to average and lower ability students that were struggling with their own learning issues and handicaps?

THE STUDY GROUP

Identification of the group to be examined was done through informal means. Several educators were informed of the need to identify a small group of students that had been identified as gifted, but who also possessed a limitation or
handicap/disability of some type. The search immediately produced five students of various ages in a three county area.

First, there was Jude, four years old, visually handicapped, gifted verbally, mathematically, and in reason/rational thought processes. Next, Peter was identified; Peter is fifteen, and dealing with Common Variable Immune Deficiency, this disorder has caused a delay in growth and physical maturation. Peter, a twin, is gifted mathematically and creatively, especially in writing. Georgie, one of two girls in the study, is eleven. Georgie has Peter’s Anomaly, a visual handicap; she is legally blind; gifted mathematically and has memory and creative thinking/reasoning gifts. The second girl in the study was Molly, twelve, who is gifted in verbal and creative writing skills as well as in reasoning and logic ability; Molly has Cerebral Palsy that severely limits her mobility. The final student in the study is Zane, eleven, gifted in logic, reason, math and reading; Zane has been diagnosed with Asperger’s Syndrome, defined as a pervasive development disorder characterized by deficits in social communication and repetitive patterns of behavior (Neihart, 2000).

The researcher contacted each family and asked for an opportunity to interview the parents and the child about the issues relating to the student’s giftedness and the area of limitation and possible strategies used to overcome those limitations. All the parents were open, gracious and willing to be interviewed. The families were diverse; the families all were middle to upper class, with parent’s occupations ranging from college professors, writers, educators, a doctor, nurse, medical secretary, operations specialist and an artist/vice-president of an advertising firm. The parents themselves were highly motivated, talented, achievers and well-educated and in some cases had been identified as gifted themselves as children.

THE PARENTS
Most parents of the gifted are desperately concerned about learning and the issues that their student is dealing with. They generally want to see their child given every opportunity to make use of their gifts and want them to be taught in a way that allows them to make significant gains in their learning. They are eager
to work with the educational personnel that assist their child and are alert to areas not being addressed. The parents of gifted children with physical/emotional or social issues are carrying responsibilities that seem overwhelming and daunting, even to the researcher.

The single most obvious fact that immediately came into focus was that each parent interviewed was acting as an advocate for their child on two fronts, both as a handicapped child but even more importantly as a gifted child. Assuming the often thankless job of going to bat for their son or daughter not just as a gifted child, but also as a child with a disability is a time-consuming and laborious task. The researcher was reminded of a mother with many, many children, who, when asked how she loved so many replied, “You just give all the love you have...whether you have one or ten.” This is true of the parents of the gifted and handicapped; there was no question of whether or not they would do what they were doing, they just did what had to be done. The parents interviewed were in the process of giving all that they had to give, seemingly without thought for their own difficulty or exhaustion. If a need was presented they were actively trying to meet that need; not all needs could be met, but these parents were diligently trying, sparing no expense and often with the care of other children included.

Another commonality among the parents was the acknowledgement that they had begun to address both the giftedness and the disability as soon as they were identified. An initial assumption was that identifying the giftedness prior to identification of the limitation had made an impact upon the positive way the parent and others responded to the child. While there is not enough data to determine the answer to that question from these five families, this did not seem to be the case. All the children in this study were identified as having a handicap before the giftedness was actually demonstrated or identified. However, in two of the five cases giftedness had been assumed by the parents from the first months....one parent stated that the family had just expected the child to be “bright”, and the child was treated as very bright from the first moments of life. This early recognition and expectation of giftedness obviously plays a part in the way a parent responds to a child, the way the parent answers questions and the information and assistance a parent provides. By addressing the giftedness,
answering questions honestly, and expressing openness while holding high expectations, gifted children begin to understand that parents believe in their ability and that they are valuable, reasoning, thinking human beings.

All five sets of parents were able to identify and explain what had caused them to view the child as gifted. Even the parents that lacked teaching backgrounds were able to identify the qualities and situations that alerted them to their child's ability. Each one of the parents spoke of advanced verbal and reasoning skills. Recognition of unusual abilities such as an 18 month old, Jude, stating from his car seat, "That big truck back there has no lights on it!", to Molly reciting the alphabet in reverse order at 2 years, seem to be a theme rather than a side note. These parents saw unusual ability and began to help each child strengthen that area. Strengthening the area of giftedness became the focus rather than the side issue of a disability. Rather than wait for school to address either the gift or the limitation these parents began immediately to work on both the areas of giftedness and the handicap/limitation. From the interviews, it would appear that much more emphasis was placed on reinforcing the giftedness. While the limitation was in each case recognized and addressed completely, it did not seem to be the focus for the parent or the child. The area of strength (the gift) was used to pull the student in a direction that de-emphasized the area of weakness or handicap.

Each parent spoke of the importance of conversation and being straightforward and answering questions with complete honesty. The conversation described was perhaps not what the average parent would use. The relationships these parents described were respectful and honoring of the intelligence that they recognized in the child. Each parent seemed to be describing a role that placed them in the position of "interpreter" for their child, translating information into an easily assimilated essence for the child, even distilling information and giving it to the child in bytes that could be understood and processed. The children were not patronized by being talked down to, and the information, even unpleasant news, was delivered with explanation. Each parent seemed to be describing a partnership with the child that facilitated the child's learning, understanding and acceptance of situations.
Another common strategy mentioned by all the parents was that of seeking outside assistance. The parents were making use of any and all help that could be uncovered from medical facilities, libraries, government agencies, and technology to peer and support groups. These parents did not wait; they were pursuing every avenue of possible assistance. Again, the area of giftedness was being addressed with special classes, and/or special materials, while the area of limitation was being strengthened or efforts were being made to address that area. While none of the families interviewed are economically underprivileged, neither are they extremely wealthy; all were going out of the way to provide for and to seek assistance for both the gift and the limitation. Regardless of the financial burden, these parents were providing assistance even to the point of placing themselves in financial hardship.

All the parents placed emphasis on the importance of consistency and support, stressing the need to always do what you had said you would do. These parents were in the process of building and sustaining the trust of their children. Touch seemed to be an important factor in dealing with the issues surrounding the handicap. One parent spoke of holding her child to reduce stress, two spoke of massage therapy, and another spoke of physically walking the child through new and different situations. This “touch therapy” allowed the child to experience a sense of connectedness to the parent and helped the child to handle the stress of dealing with the handicap, especially in new situations.

Acceptance of the child and the recognition of their uniqueness was expressed by all the parents. All these parents recognized the qualities that made their child unique and special, noting the giftedness and the limitation. Each parent that was interviewed was making a conscious effort to teach the child to think more clearly, to ask appropriate questions and to process information. As the parents spoke of the child they each expressed an appreciation of the gifts that the child had been given and expressed desire to see that gift fully developed. All the parents were providing extra classes or tutors to encourage the growth of gifts, and while all were actively addressing the areas of limitation, those areas were not the focus of attention. This de-emphasis seems to relegate the “handicap” to
a position of lesser importance and seemed to say to the child, “Yes, you have a limitation, however, it does not define you...it is just something that we have to manage as you move ahead.”

THE CHILDREN

Perhaps the most interesting thing that was observed during the discussions with the students was their self-assuredness, confidence and lack of inhibition about discussing even their limitations. Even the youngest, Jude, at four, was straightforward and sure about his answers. He knew what he thought and was not shy about his position. He expressed with confidence the knowledge that he was smart, that he believed himself to be smarter than his best friend and he knew in what areas he was smart. This self-confidence in ability seems to the examiner to come from the level of responsibility the students have been given by their parents. Each of these students has been entrusted with a great deal of authority to determine various aspects of their own lives. By recognizing the cognitive prowess of the child and allowing, even encouraging the child to be informed about issues that concern them, parents have created a child who is more aware and cognizant of their own life issues.

Each parent, when asked about strategies that the child had adopted to cope with the issues of their disability, was able to pinpoint specific things that the child had learned to do to cope. Most often the strategies were adaptations of things that the parents or teachers had introduced to help with the limitation. For those with sight issues, the strategies included holding objects close to the eyes for viewing and repositioning the body to allow for the maximum amount of vision to take place. The parents spoke of the need for organization and putting things back in the same location from where they were retrieved. For Molly, with her mobility issues, it is her incredibly outgoing nature and friendliness that draws people to her, she has learned to be open and engaging and entertaining. Her physical handicap becomes merely a limitation that has shaped her personality to make her who she is. When Molly was asked what she wished for she stated, “I wouldn’t wish not to have CP (Cerebral Palsy), it is part of who I am.” Peter has learned to use humor to ease the areas that cause stress to himself and those
around him. He spoke of making a joke of things that he couldn’t do, to put others at ease.

The strategies used by the gifted seem to be adapted from strategies that the parent or an educator has previously introduced. For Zane, it is applying physical pressure to his own body to simulate an area of control. For Jude, it is placing his hands over his ears to block auditory stimulation and allow more concentration for vision. For Molly, it is adapting technology, using a laptop to allow her to write legibly. For Peter and Molly, it is escape into creative writing that allows them to leave the limitations of the physical world behind. For Georgie, it is using her incredible memory and imagination to compensate for reduced vision.

CONCLUSIONS
Those strategies that seem to be most transferable to average slow learners and other handicapped students are not the ones that the researcher was expecting to discover. But, upon reflection, they are strategies that, if used, would make the most difference in any student’s academic or social success.

First and foremost, every child needs an advocate. In a best case scenario, this advocate is the parent, that individual that loves and cares for the child in a selfless, self-sacrificing way. Second best would be a teacher or caregiver that is interested in the child’s education and future. Without this group of parents, these five gifted/limited children would be in very different situations.

Attention and encouragement of the giftedness, as well as early and immediate intervention for the disability was an overriding theme among all the comments. These parents were all addressing both issues, and not allowing the disability to overshadow the wonderful qualities of giftedness. Indeed, these parents were expecting and looking for areas of giftedness. It was not a case of, “Oh, let’s see what this handicapped child might be good at,” but rather, “This child is bright, of course, the child is bright! We need to nurture this gift.” So, an expectation of giftedness seems to be a theme among the parents interviewed. Would the
expectation of giftedness, actually looking for it among average or academically challenged children make a difference? It would seem so.

While the researcher initially expected that the order of identification between giftedness and the limitation would have made a difference in expectation and intervention by the parent and the school system, this does not seem to be the case. Of the five children studied, all were diagnosed with their limitation prior to the formal identification of giftedness. Research indicates that identification of gifted and handicapped individuals is more difficult and that more of these individuals are overlooked, but once identified these students seem to advance rapidly and are able to use their giftedness to overcome huge obstacles to their success in learning. Again, early identification for these students was predicated upon the intervention and expectation of their primary advocates, their parents.

Perhaps the most transferable bit of information from this study was the necessity of focusing on the areas of strength. Instead of working from a position of pushing from behind...the attention was placed on pulling from the stronger area. Use of strength (the gift) to overcome the areas of limitation or deficiency seems to place that limitation in a secondary position and relegate it to a handicap that one could overcome.

During the discussions with the students and their parents, there were many strategies that seemed to stand out. However, all was not as the researcher initially assumed. After interviewing the parents and the students themselves the data was pointing to some very different, and for the researcher, surprising conclusions. Those initial assumptions had to be reevaluated.

Was it possible that gifted students with physical limitations or a handicap learned to relate to other students more quickly and could then more easily adapt to the challenges of the handicap and to learning? The research seems to point to relationships, yes; however, the relationships that were trusted and most used for strength were those of parent and child. The strength of this relationship seems to have built strength and a will to succeed in the gifted/handicapped students. A strong relationship with a primary adult is a key to a successful child,
whether gifted or handicapped or both. Encouraging a strong trusting relationship with a caring adult is of vital importance.

A point worth noting during the interviews was the discussion and dialog that the researcher observed between the parents and their children. There was no talking down to the student. Each student was spoken of and spoken to as a respected and important person. The students were afforded much more independence and latitude in decision making. They were encouraged to venture out; their opinions and wishes were considered and honored. The parents had all, to varying degrees, given a great deal of responsibility to their child. Even the youngest had been taught to do things that were beyond the scope of the average child of the same age. These parents exhibited enough trust in the child's judgment to allow decision-making to be a part of their daily world.

Were these students making greater strides toward life success because they had learned strategies that allowed acceptance within the school and social community, or were they overcoming their limitations due to other factors? The students had indeed adapted strategies to compensate for their limitations, however, most of the strategies seem to have been learned from trial and error or had been directly taught or suggested by a teacher or parent. The strategies were varied to accommodate each unique disability, and were a combination of behaviors that the students had been taught and those that they had learned and adapted to fit their own need. The initial teachers were the parents who following suggestions and helps from outside sources, but also watching their child and helping him or her to adapt and make changes to the methods as needs arose. So, both the child and the parents were teaching and learning together, often teaching the professionals that were assisting in learning.

Could these same strategies be used with students who are also limited in academic success and not gifted; or indeed with the average learner? Yes, an unqualified yes. To have a champion, to be considered bright and promising, to have an adult that answers questions without becoming patronizing could do nothing but accelerate the average learner; it would greatly enhance the learning of any special needs child.
This study has just begun; the first five families of the gifted and handicapped have already changed the thoughts of the researcher. Educators have so much to learn about working with the gifted/limited child and those parents that are the first teachers. The recommendations for further study would be to look at a much larger population, expanding the study to include other handicaps and especially including those from other economic backgrounds, as well as ethnic and minority groups.
References


