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ABSTRACT

This study investigated the effectiveness of a performance-based assessment (DISCOVER (Discovering Intellectual Strengths and Capabilities through Observation while allowing for Varied Ethnic Responses)) in identifying gifted minority middle school students. Research questions focused on examining the alignment between DISCOVER and Gardner's theory of multiple intelligences (MI), as well as assessing gender and ethnic differences. Middle school students (n=395) were mostly Mexican American and Native American from lower socioeconomic backgrounds) in Arizona. Analysis showed low inter-rating correlations, indicating a good fit between DISCOVER and MI theory in that students identified as gifted in one intelligence were not necessarily identified as gifted in other intelligences. Multiple analysis of variance showed no significant interaction effect or main effect for ethnicity, although a main effect for gender was found. Univariate analysis showed that males outperformed females in the mathematics activity of DISCOVER. However, no overall gender or ethnic differences in identification were revealed. In total, 12.4% of the participants were identified as gifted, suggesting that using DISCOVER for identification purposes might help in diminishing the problem of minority underrepresentation in programs for the gifted. (Contains 27 references.) (Author/DB)

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DISCOVER in Middle School:

Identifying Gifted Minority Students

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Abstract

The purpose of this study was to investigate the effectiveness of DISCOVER, a performance-based assessment, in identifying gifted minority middle school students. The research questions focused on examining the alignment between DISCOVER and Gardner's (1983) theory of multiple intelligences (MI), as well as assessing gender and ethnic differences. A secondary purpose was to explore whether using DISCOVER might reduce minority underrepresentation in programs for the gifted. The sample consisted of 395 middle school students taken from schools in Arizona. Most participants were Mexican Americans and Native Americans, from lower socioeconomic class. The results showed low inter-rating correlations, indicating a good fit between DISCOVER and MI theory. That is, students identified as gifted in one intelligence were not necessary identified in the other intelligences. Also, the 2X3 MANOVA (gender by ethnicity) showed no significant interaction effect or main effect for ethnicity. However, a main effect for gender was found. The univariate analysis showed that males outperformed females in the Math activity of DISCOVER. Finally, no overall gender or ethnic differences in identification were revealed. In total, 12.4% of the participants were identified as gifted, suggesting that using DISCOVER for identification purposes might help in diminishing the problem of minority underrepresentation in programs for the gifted.

DISCOVER in Middle School:
Identifying Gifted Minority Students

Educators have long acknowledged the problem of minority students' underrepresentation in programs for the gifted (Baker, 1996; Bernal, 2002; Cummings, 1991; Ford & Harmon, 2001; Maker, 1996). The problem is significant, especially that over the years, the underrepresentation has increased rather than decreased, specifically with respect to certain ethnic groups, such as Blacks, Hispanics and Native Americans (Ford, Harris, Tyson, & Trotman, 2002). Some educators estimate that students from these culturally diverse groups are underrepresented by as large a range as 30% to 70% (Gabelko & Sosniak, 2002).

The main reason for such underrepresentation is a "deficit perspective" which has influenced directly or indirectly the access of culturally diverse students to gifted programs (Ford et al., 2002). Educators who hold this perspective assume that students from diverse and economically disadvantaged populations, are cognitively inferior and culturally disadvantaged, and consequently, they fail to recognize the superior ability that some of these students might have. One symptom of the cognitive deficit hypothesis is the narrow definitions of intelligence and giftedness adopted in most schools. A major limitation of these definitions is that they do not take into consideration the cultural factors in conceiving and demonstrating superior cognitive abilities (Bernal, 2002). As a result of the wide belief in these traditional conceptions, identification procedures in most school districts (about 90%) still rely heavily on the scores of standardized tests, a practice which limits the access of culturally diverse students to programs for the gifted and keeps the demographics of these programs mostly White (Ford & Harmon, 2001; Ford et al., 2002).

Many educators have advocated replacing standardized tests with a new breed of instruments, namely authentic assessment, also called alternative and performance-based (Ford & Harmon, 2001; Maker, 1996, Sarouphim, 1999). The rise of authentic assessment has coincided

with the emergence of multidimensional theories of intelligence, such Gardner's (1983) theory of multiple intelligences (MI) and Sternberg's triarchic theory of intelligence (1997). Along the same lines, new conceptions of giftedness have also played a major role in promoting the development of authentic assessment. For example, Maker (1993) defined giftedness as "the ability to solve complex problems in effective, efficient, elegant, and economical ways " (p. 71).

Research on alternative assessment revealed that minority students fare better on these measures than on traditional standardized tests (Borland & Wright, 1994; Clasen, Middelton, & Connell, 1994; Reid, Udall, Romanoff, & Algozzine, 1999; Sarouphim, 2001), a factor that gained authentic assessment the reputation of being culturally bias-free and spread its use among minority groups. However, authentic assessment is not without drawbacks. Among the many criticisms of these measures are their high cost, domain underrepresentation, lack of sound psychometric properties, and their long and laborious administration (Dunbar, Koretz, & Hoover, 1991; Frechtling, 1991).

In a study on whether alternative assessment might contribute to diminishing the problem of underrepresentation of minority students in programs for the gifted, Reid et al. (1999) compared a traditional measure, the Matrix Analogies Test-Short Form (MAT-SF) with an alternate assessment, the Problem Solving Assessment (PSA), in identifying culturally and linguistically gifted students. The PSA is a measure grounded in Gardner's theory of multiple intelligences and the conceptual framework of the DISCOVER assessment (Maker, Nielson, & Rogers, 1994). The sample consisted of 600 students of White, Black, Hispanic, American Indian, and Asian origin. The results showed that through the use of MAT-SF, only 22% of the students met the criteria for identification whereas about half of the students were identified as gifted through the use of the PSA. Also, significant differences were found in the distribution of identified students. Using the MAT-SF, 11% of identified students were minority, whereas using the PSA, 39% of minority students were recommended for placement in gifted programs.

Although data on the predictive validity of the PSA were not available, the researchers concluded that anecdotal evidence was favorable, indicating that most students who were placed in programs for the gifted using the PSA were successful.

Research on the effectiveness of performance-based assessments has yielded mixed results. For example, in a study conducted to assess the effectiveness of a nontraditional assessment designed to measure multiple intelligences, Hafenstein and Tucker (1994) found mostly positive results. Trained observers assessed three, four, and five-year-old children as they worked on tasks in the seven intelligences. Following the assessment, observers classified children's abilities as "not evident", "evident", and "extremely evident" (i.e., gifted). In mid-year, teachers were asked to rate the children using the same classification. Content analysis of the two ratings revealed a great similarity between observers' and teachers' ratings. Reports from parents and teachers were similar and indicated that the use of the assessment led to adequate placement of children. Regression analysis suggested that the beginning of year assessment was predictive of future performance. The researchers concluded that the performance-based assessment used in this study was an effective process in identifying young gifted children.

A different conclusion was reached by Plucker, Callahan, and Tomchin (1996) who investigated the psychometric properties of a battery of instruments based on the theory of multiple intelligences. Participants (N=1,813) were assessed using the Multiple Intelligence Assessment Technique, based on the work of Project Spectrum and local modifications of the DISCOVER assessment. DISCOVER is an acronym that stands for *D*iscovering *I*ntellectual *S*trengths and *C*apabilities through *O*bservation while allowing for *V*aried *E*thnic *R*esponses (Maker et al., 1994). Student performance was rated as "not evident or not observed", "evident", or "extremely evident". The results showed high internal consistency of the scales; factor analysis confirmed the presence of the linguistic and logical-mathematical subscales, but the presence of the spatial and interpersonal scales could not be confirmed. Correlations were sufficiently low to

provide evidence for discriminant validity, but a relatively high correlation was found between the ITBS language subscale and the math performance assessment as well as between the math checklist and the linguistic checklist. No significant gender or ethnic differences were found. The researchers concluded that although "MI theory and alternative assessments may hold substantive implications for education of gifted students ... educators using MI theory, alternative assessments, and combinations of the two should subject the programs to rigorous evaluation" (p. 87).

In this study, the effectiveness of the DISCOVER assessment with middle school students is examined. Grounded within MI theory and Maker's (1993) definition of giftedness, DISCOVER was developed to identify gifted students from culturally diverse groups. Since its inception, DISCOVER has been administered to thousands of students from diverse populations. The data collected served as the basis for research on the reliability and validity of the instrument.

Research on DISCOVER

A series of studies were conducted to examine the psychometric properties of the K-2, 3-5, and 9-12 versions of DISCOVER. The questions addressed focused on the alignment between DISCOVER and MI theory, gender differences, ethnic differences, and concurrent validity of DISCOVER with the Raven's Progressive Matrices. Even though other research on DISCOVER exists, this section will be limited to the review of the afore-mentioned studies because their focus was similar to that of the present investigation (for a thorough review of research on DISCOVER, see Sarouphim, 2002).

Sarouphim (2000) investigated the alignment of DISCOVER with the theory of multiple intelligences through a series of inter-observer correlations. The sample consisted of 254 elementary students, predominantly from economically disadvantaged Native American and Hispanic groups. All participants took either the K-2 or the 3-5 version of DISCOVER,

depending on their grade level. The results showed low inter-observer correlations, indicating that students who were identified as gifted in one intelligence were not necessarily identified as gifted in the other intelligences. The results suggested that the different DISCOVER activities with distinguishable cognitive tasks may measure different intelligences, a finding which might provide support to the consistency between DISCOVER and Gardner's MI theory.

In another study, Sarouphim (2001) examined the concurrent validity of DISCOVER with the Raven's Progressive Matrices. The study also examined gender differences and whether through the use of DISCOVER, the number of minority students identified would be higher than that yielded by traditional standardized tests. The results based on a sample of Native American and Hispanic students showed a high correlation between the students' scores on the Raven's and their ratings in the spatial activities of DISCOVER, and low correlations between the students' Raven scores and their ratings in the linguistic activities of DISCOVER, giving evidence for the convergent and discriminant validity of DISCOVER. The results also showed that through the use of the DISCOVER assessment, 22.9% of the students were identified. In addition, no significant gender differences were found in identification, possibly indicating that the assessment is mostly fair and does not discriminate against males, females, or ethnic origin.

Finally, Sarouphim (2002) investigated the psychometric properties of the 9-12 version of DISCOVER. The sample consisted of 303 ninth graders, predominantly Hispanic and Native American students. The results provided evidence for an alignment of the assessment with the theory of multiple intelligences. Also, no overall gender or ethnic differences were found in identification. In addition, the results suggested that the use of the DISCOVER assessment might help in reducing the problem of minority students' underrepresentation in programs for the gifted as 29.3% of the high school students who participated in the study were identified as gifted

In the present study, the focus was on the validity of the 6-8 version of DISCOVER in identifying gifted middle school students from culturally diverse groups. Four questions guided

this inquiry; these are:

(a) Are DISCOVER and MI theory aligned? That is, does DISCOVER tap into the different intelligences as identified by Gardner?

(b) Do gender differences appear through the use of DISCOVER?

(c) Do ethnic differences appear through the use of DISCOVER?

(d) Could DISCOVER be used to reduce minority underrepresentation in programs for the gifted?

Method

Participants

The sample of this study consisted of 395 male (54%) and female (46%) 6th, 7th, and 8th graders taken from 18 schools located in the northern and southern regions of the state of Arizona. Participants were mostly from low socioeconomic class, as evidenced by their place of residence and their participation in the schools' free lunch program. Participants were essentially Native Americans from the Navajo tribe (47%) and Mexican-Americans (38.5%) with a small percentage of White Americans (14.5%). Participants' gender and ethnic distribution appears in Table 1.

Instrument

DISCOVER is a performance-based assessment which consists of five activities designed to measure individuals' problem-solving abilities in each of the following intelligences: Pablo® (spatial), Tangrams (spatial/logical-mathematical), Math (logical-mathematical), Storytelling (linguistic), and Storywriting (linguistic). Each activity proceeds through a series of tasks which progress from structured to more open or "fuzzy" problems. To avoid observer bias, observers rotate at the completion of each activity so that each student is assessed only once (i.e., during one activity only) by the same observer. The following is a brief description of each activity (for a thorough description of DISCOVER, see Maker, 1992 and Sarouphim, 1999).

Pablo®: The material for this activity consists of colored cardboard pieces of different shapes, designs, and sizes. Students are asked to make different constructions (e.g., geometrical designs, a container, a machine, and a construction of their choice) using the Pablo® pieces.

Tangrams: Each student is given a set of Chinese Tangrams (21 pieces of three different shapes: triangles of three different sizes, squares and parallelograms). Students are requested to make a parallelogram using as many Tangram pieces as possible; then each student is given a booklet of six puzzle sheets arranged in ascending order of difficulty and asked to solve them. Students who complete this task are then provided with "Challenge Sheets" which consists of more difficult puzzle problems.

Storytelling: Students are given an array of toys and are asked to describe one and then two of their toys using as many descriptors as possible. Then students are asked to tell a story of their choice which incorporates some or all of the toys they have been given.

Storywriting: Students are asked to produce a written piece of their choice (story, poem, etc.) about the topic of their choice as well.

Math: Worksheets consisting mostly of open-ended numerical problems are used to assess this intelligence. The problems increase in openness and difficulty, with the last problem consisting of creating as many problems as possible (fractions, multiplication, division, etc.) having a pre-specified number as the answer.

Procedures

All participants were assessed through DISCOVER for identification purposes. Trained observers administered the spatial, logical-mathematical, and verbal linguistic activities in class and took notes while students worked in groups of four or five students. In most classes, teachers read the instructions, but in a few instances where teachers preferred not to take part in the process, one of the DISCOVER observers gave standard instructions. For accuracy purposes, the

administration sessions were videotaped and the students' stories were tape recorded and transcribed verbatim at a later time. A day preceding or following the group activities, the students worked individually on the written linguistic and math worksheet components of DISCOVER.

Following data collection, the DISCOVER observers met and discussed the students' performance; they, then ranked students' performance in each of the activities according to a 4-category rating scale: *Unknown, Maybe, Probably, and Definitely*, with the last rating category being the highest and corresponding to superior problem-solving ability or giftedness. Usually, students given the *Definitely* rating category in at least two of the activities are identified as gifted; however, the identification criteria are flexible (e.g., in some schools, students given three *Definitely* ratings are identified as gifted) and depend on the school district identification procedures and the nature and scope of programs for the gifted offered at each particular school.

To assign a rating, observers are guided by a checklist which they complete for each child. Items on the checklist represent superior problem-solving behaviors (process) and characteristics of products. For example, in Pablo®, observers note how the final construction was produced and whether the constructions are three dimensional, complex, and original, and incorporate many pieces. In Tangrams, observers note the number of puzzle sheets solved, the strategies used, the time it takes students to solve them and the number of Tangram pieces used to complete a square or a triangle. In Storytelling and Storywriting, observers look for fluency, well-constructed plots, appropriate sequence of events, and the quality of words and sentences. In Math, strategies as well as the number of problems solved are taken into consideration. Even though the checklist constitutes an important element in ranking students, it is not exclusive in the decision-making process. That is, the observers' classification is also based on noting superior problem-solving behavior not included in the checklist. The rationale is that giftedness is not limited to a few behaviors, so observers need to keep an open mind and note all performance that

might denote superior ability.

Results

To assess the alignment of DISCOVER with MI theory, the ratings given to students in the five DISCOVER activities were correlated, yielding a matrix of observers' inter-rating correlations. For gender and ethnic differences in activity (i.e., per intelligence), a 2X3 MANOVA (gender by ethnicity) and follow-up ANOVA were calculated, whereas for gender and ethnic differences in identification (i.e., the number of identified students per gender and ethnicity), the chi-square statistic was used.

Alignment of DISCOVER with MI Theory

As seen in Table 2, all correlations were low, though some were significant. The lowest correlation was found between the two activities of Math and Pablo® ($r(390) = .02$, ns) and the highest between the two activities of Math and Storywriting ($r(388) = .26$, $p < 0.01$), suggesting that students' ratings (i.e., performance) were not similar in the different DISCOVER activities.

Gender and Ethnic Differences by Activity

Data were coded as follows: 1 for *Unknown*, 2 for *Maybe*, 3 for *Probably*, and 4 for *Definitely*. Table 3 shows the students' mean ratings and standard deviations in all activities. The means ranged between *Maybe* and *Probably* with the highest mean rating given to White males in the Math activity (3.11) and the lowest to Native American males in the Storywriting activity (2.36). The multivariate analysis of variance showed no significant interaction effect between gender and ethnicity ($F(6,562) = 1.61$, $p < 0.11$). Similarly, the results revealed no significant main effect for ethnicity ($F(6, 562) = 1.03$, $p < 0.21$); however, a significant main effect for gender was found ($F(4,541) = 9.67$, $p < 0.01$). Post-hoc univariate analysis showed that males performed better than females in Math ($F(1,373) = 7.57$, $P < 0.01$), (i.e., males were given higher ratings), yielding an effect size of 0.69.

Gender and Ethnic Differences by Identification

As shown in Table 4, the number of males and females identified as gifted (i.e., given at least two *Definitely* ratings) in the DISCOVER activities was calculated. The results revealed that identified males (13.8%) slightly but not significantly outnumbered identified females (11.6%). Also, the Mexican-American group had the highest percentage of identified students (13.2%), followed by Native Americans (12.3%) and Whites (10.3%). The chi-square test showed no significant overall gender or ethnic differences in identification ($X^2(2,94)=0.346$, ns). In total, 12.4% of participants were identified as gifted.

Discussion

The purpose of this study was to investigate the psychometric properties of the middle school version of DISCOVER. Questions addressed focused on the alignment between DISCOVER and MI theory and an examination of gender and ethnic differences. The results showed a good fit between DISCOVER and MI theory and an absence of significant gender and ethnic differences in identification. However, the univariate analysis showed that males outperformed females in the Math activity of DISCOVER. Finally, the percentage of students identified as gifted through the use of DISCOVER was higher than the traditional 3% customarily identified through the use of traditional standardized tests.

In this study, the low inter-rating correlations indicate that a student who was given a high rating in one intelligence (i.e., identified as gifted) was not necessarily given the same high rating in the other intelligences. In other words, the findings reveal that DISCOVER does tap indeed into a variety of intelligences, suggesting a good fit between DISCOVER and MI theory. However, the activities included in DISCOVER do not cover the whole spectrum of Gardner's recognized intelligences, namely, bodily-kinesthetic, musical, naturalist, existentialist, and the personal intelligences. The rationale for focusing on spatial, mathematical, and linguistic intelligences is that a good match must exist between an assessment and a placement program

and at this time, programs for the gifted emphasize mostly these three intelligences. However, one recommendation which stems for this study is that for DISCOVER to be faithful to the MI theory, all intelligences must be given equal weight, thus assessed in similar ways. Therefore, activities for all intelligences need to be developed. Similarly, another recommendation is that school officials who intend to use DISCOVER for placement purposes need to be made aware of the limitations of the assessment, especially if a discrepancy exists between the focus of the gifted program and that of DISCOVER.

An interesting finding is the absence of gender and ethnic differences in identification. Educators have long deplored the ethnic bias in identification (Bernal, 2002; Ford & Harmon, 2001). The absence of such bias in this study as well as the high percentage of identified students (12.4%) suggests that the use of DISCOVER might help in reducing the problem of minority underrepresentation in programs for the gifted. This finding is compatible with the results of other studies in which a performance-based assessment was used for identification purposes (Borland & Wright, 1994; Clasen et al., 1994; Hafenstein & Tucker, 1994; Reid et al., 1999). In these studies, the final pool of identified students was larger than that usually found through the administration of standardized tests. However, the identification of a large number of minority students does not justify the use of DISCOVER or any other performance-based assessment. Rather, the use of an instrument must be justified by evidence on its effectiveness. Even though preliminary research results provide evidence for the high reliability and validity of DISCOVER, data on the predictive validity of the assessment, which constitutes a better indicator on its effectiveness, are still missing. At this time, a longitudinal study is underway to follow the academic progress of a group of Native American students (the "Step Up" group) who were all identified through DISCOVER and placed in different programs for the gifted. But until the results are out, solid conclusions on the predictive validity of DISCOVER cannot yet be drawn.

A noteworthy finding is that the White students performed as well as the minority

participants in the DISCOVER activities, which might indicate that DISCOVER could be used for the identification of the majority students as well. However, the sample of White students in this study was too small to warrant such an assumption. In further studies, larger numbers of anglo students must be included in the research sample for a clarification of this issue.

The finding that males received higher ratings in the Math activity is congruent with a body of research on gender differences in mathematical intelligence (e.g., Lubinski & Benbow, 1992). In previous studies on the K-2, 3-5, and 9-12 versions of DISCOVER, gender differences in the math activity were not found (Sarouphim, 1999; in press). One explanation might be that the Math activity in the middle school version of DISCOVER is more sensitive to students' strengths and taps better into this intelligence. Such explanation entails a revision of the math activity in the other versions of DISCOVER for a more valid assessment of this intelligence in the other grade levels. However, other explanations might be specific to the population of middle school students. For example, during adolescence, girls start showing interest in boys and their behavior becomes gender specific. That is, they are more careful to act `feminine'. Traditionally, superiority in math has been associated with a male's characteristic, and consequently, an outstanding performance in math might not be considered `feminine' which might explain the drop in the girls' math performance in the 6-8 version of DISCOVER. However, further research is needed to explain the reasons for such finding.

Moreover, in previous research on DISCOVER, the percentages of identified students were higher (i.e., 22.9% in K-5, and 29.3% in 9-12). An explanation of this finding might be grounded in the population studied. Middle school is the bridge between elementary and secondary school and constitutes a period of academic transition (Coleman, 2001). Researchers have long noticed a drop in the academic performance of middle school students; some have attributed this decline to a traditional classroom environment which does not match early adolescents' needs and interest (Eccles, Wigfield, Midgley, Reuman, Mac Iver, & Feldlaufer,

1992). Therefore, the lower percentage of identified students in this study might reflect the general academic decline that accompanies the transition from elementary to middle school. However, the reason might also be related to the specific tasks of the 6-8 version of DISCOVER. Again, further examination of the activities in DISCOVER through a thorough content analysis of the tasks involved is needed to clarify this point.

The results of this study provide positive evidence for the use of the DISCOVER assessment with culturally diverse groups. The implications are of significance to the practitioners and researchers alike who have been striving relentlessly to find means to rectify the long-standing injustice of minority underrepresentation in programs for the gifted. Thus, DISCOVER can be used for identification purposes, especially for the placement of students in gifted programs that match the theoretical bases of the assessment (i.e., multiple intelligences). A paradigm shift in assessment procedures can contribute significantly to the solution of minority students' underrepresentation in gifted programs. In the continuous struggle to establish equity in gifted education, the use of authentic assessment seems to be promising. Instruments such as DISCOVER can greatly contribute to changing the demographics of gifted education towards a more just and diversified distribution. Until that goal is reached, educators "should and can exercise greater vigilance in pursuit of educational values that will move alternative assessment reform in educationally rigorous, equitable, and sustainable directions" (Hargreaves, Earl, & Schmidt, 2002, p. 93).

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Table 1

Participants' gender and Ethnic Distribution

	Mexican American	Native American	White American	Total
Males	78	101	35	214
Females	73	85	23	181
Total	151	186	58	395

Table 2

Observers' Inter-Rating Correlations

Activity	1	2	3	4	5
Pablo®	--	0.239**	0.023	0.074	0.012
Tangrams	--	--	0.102	0.084	0.083
Math	--	--	--	0.183*	0.267**
Story	--	--	--	--	0.158*
Writing	--	--	--	--	--

Note. $^{*}p < 0.05$. $^{**}p < 0.01$

Table 3

Students' Mean Ratings and Standard Deviations (in parentheses) by Gender and Ethnicity

	Mexican American	Native American	White American	All
Pablo®				
M	2.65 (0.97)	3.01 (0.84)	2.90 (0.73)	2.85 (0.84)
F	2.71 (0.91)	2.79 (0.89)	2.84 (0.80)	2.78 (0.86)
All	2.68 (0.94)	2.90 (0.86)	2.87 (0.76)	2.81 (0.85)
Tangrams				
M	2.65 (0.86)	2.58 (0.72)	2.70 (0.91)	2.64 (0.83)
F	2.71 (0.91)	2.60 (0.81)	2.65 (0.79)	2.65 (0.83)
All	2.68 (0.88)	2.59 (0.76)	2.67 (0.85)	2.64 (0.83)
Math				
M	2.97 (0.65)	3.01 (0.98)	3.11 (1.02)	3.03 (0.88)
F	2.54 (0.88)	2.48 (0.79)	2.63 (1.13)	2.55 (0.93)
All	2.75 (0.76)	2.74 (0.88)	2.87 (1.07)	2.79 (0.90)

Table 3 (continued)

Students' Mean Ratings and Standard Deviations (in parentheses) by Gender and Ethnicity

	Mexican American	Native American	White American	All
Storytelling				
M	2.92 (0.87)	2.85 (0.71)	3.05 (0.87)	2.94 (0.81)
F	2.98 (0.93)	2.71 (0.89)	3.02 (0.92)	2.90 (0.91)
All	2.95 (0.90)	2.78 (0.80)	3.03 (0.89)	2.92 (0.86)
Storywriting				
M	2.51 (0.76)	2.36 (0.84)	2.43 (0.73)	2.43 (0.77)
F	2.74 (0.82)	2.64 (0.88)	2.86 (0.81)	2.74 (0.83)
All	2.62 (0.79)	2.50 (0.86)	2.64 (0.77)	2.58 (0.80)

Note. *Unknown* = 1, *Maybe* = 2, *Probably* = 3, *Definitely* = 4.

Table 4

Gifted Participants by Gender and Ethnicity

	Mexican American		Native American		White		Total	
	All	Gifted	All	Gifted	All	Gifted	All	Gifted
Males	78	11	101	13	35	4	214	28
Females	73	9	85	10	23	2	181	21
Total	151	20	186	23	58	6	395	49

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