

**Bound by Tradition:  
Teachers' Views of Crucial Grading and Reporting Issues**

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Abstract

This study explored teachers' views on several decisive issues regarding grading and reporting student learning. Data were gathered through a survey administered to 556 K-12 teachers from a medium-size, Midwest school district with a student population that closely approximates national student demographics. MANOVA analyses revealed few differences among teachers of different subject areas, but striking differences in the perceptions of elementary and secondary teachers. Elementary teachers expressed more progressive perspectives on grading, saw grades primarily as a way to communicate with parents, and more often distinguished achievement from behavior indicators in assigning grades. Secondary teachers based their grading practices on what they perceived would best prepare students for college or the work world, believed that grades helped teachers influence students' effort and behavior, and were committed to the mathematic precision of grade calculations. Possible reasons for these differences are explored and implications for reforms in grading policies and practices are discussed.

*Keywords:* grading, reporting, classroom assessment, teacher attitudes

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The grades and marks that teachers assign to students' papers and record on report cards have long been identified by those in the measurement community as prime examples of unreliable measurement (Brookhart, 1993; Stiggins, Frisbie, & Griswold, 1989). Research shows that teachers who teach the same subject or course at the same grade level in the same school often consider drastically different criteria in assigning grades to students' performance (Cizek, Fitzgerald, & Rachor, 1996; McMillan, Myran, & Workman, 2002). Even in schools where established grading policies offer guidelines to teachers for assigning grades, significant variation remains in the grading practices of individual teachers (Brookhart, 1994, McMillan, 2001).

One reason suggested for this variation is that few teachers receive any formal training on grading and reporting. Most teachers have scant knowledge of the various grading methods, the advantages and shortcomings of each, or the effects of different grading policies on students (Brookhart & Nitko, 2008; Stiggins, 1993, 2008). As a result, the majority of teachers rely on traditional grading practices, often replicating what they experienced as students (Frary, Cross, & Weber, 1993; Guskey & Bailey, 2001; Truog & Friedman, 1996). Because recollections of these experiences vary among teachers, so do the grading policies and practices they employ (Guskey, 2006a).

Despite their questionable psychometric properties, grades have powerful influence on students. As a reflection of teachers' judgment of students' achievement and behavior in school, grades ideally provide students with information they can use to improve their performance. But the grade teachers assign to students also have been shown to have strong and lasting effects on students' attitudes, persistence in school, and motivation to learn (Brookhart, 2004).

The purpose of this study was to investigate differences in teachers' views on several decisive issues regarding grading and reporting student learning. Specifically, it sought to determine the nature of K-12 teachers' perspectives on issues related to grading and reporting. In addition, it explored whether differences in teaching contexts, especially the subject area and grade level taught, influenced those perspectives. Because teachers' personal perspectives on these issues are likely to affect their grading policies and practices, a better understanding of those views is crucial in efforts to reform grading and reporting.

### **Methods**

The data for this investigation were gathered through a survey distributed electronically to 807 instructional staff members from a medium-size, Midwest school district. The demographic characteristics of the district's student population closely resemble those of national demographic trends in terms of the percent of students from economically disadvantaged homes and from various ethnic/racial groups. At the time of the survey the district had no uniform, system-wide grading and reporting policy. As a result, teachers had great autonomy in establishing the grading policies and practices used in their classes.

Of the 807 teachers who were sent the survey electronically, a total of 556 teachers began a response (response rate = 70%) and 513 completed it, providing usable data for analysis.

Among these, 224 (46%) were elementary teachers, grades K-5; 158 (28%) taught in middle schools, grades 6-8; and 141 (25%) taught at the high school level, grades 9-12. Because of the similarity in teaching situations and responsibilities, middle school and high school teachers were grouped together for most analyses as secondary teachers. Three hundred seventy-eight (74%) of the respondents were female. Since 68% of the district's teachers are female, male teachers appeared to respond at a slightly lower rate than their female colleagues. Table 1 illustrates the gender and grade level of teachers who completed the survey.

[Insert Table 1 about here]

The survey consisted of one selection item and 29 Likert-type rating scale items. The selection item asked teachers to identify the primary purpose of grades for report cards from among six options drawn from the work of various researchers (see Airasian, 2001; Feldmesser, 1971; Frisbie & Waltman, 1992; and Linn, 1983). The remaining rating scale items asked teachers to indicate their agreement or disagreement with statements about a wide range of grading policies and practices. Items were worded both positively and negatively with regard to best practices to avoid indiscriminate response tendencies. Teachers recorded their responses on a four-point scale ranging from "Strongly Disagree" to "Strongly Agree." Pilot testing of the survey with a sample of 20 teachers from a neighboring school district showed it to have a reliability coefficient (Cronbach's alpha) of .73.

Table 2 shows the statements included in the survey along with the labels attached to each of the statements for data analysis purposes. At the end of the survey teachers were asked to enter demographic data regarding their gender and teaching assignment (grade level and

subject area). Teachers were assured anonymity in their responses and were guaranteed that only group data would be reported. The size of the district and the number of teachers involved also made it impossible to match responses to individual teachers.

[Insert Table 2 about here]

Survey results were analyzed in three stages. First, descriptive analyses were conducted by computing response frequencies across all items, mean ratings, standard deviations, and item inter-correlations for the entire sample. Next, similar descriptive statistics were computed for teachers of different subject areas, grade levels, and gender. Finally, differences among teachers with regard to subject area taught, grade level taught, and gender were explored using MANOVA techniques.

### **Results**

Descriptive analyses of the survey items showed that teachers were quite consistent in their responses to some items and quite divergent on others. In response to the first item that asked about the major purpose of grades for report cards, 74% of responding teachers indicated the purpose was to communicate the achievement status of students to their parents and others. Only 12% believed the primary purpose was to document students' performance in order to evaluate the effectiveness of instructional programs, the next highest rated purpose. Grade level results revealed, however, that 90% of the elementary teachers believed that communication with parents was the primary purpose, while 27% of the secondary teachers believed evaluation of programs was the primary purpose.

Analyses of responses to the rating scale items were comparably diverse. The most consistent responses were to items that addressed issues related to assessing student learning. For example, more than 98 % of the teachers who completed the survey agreed or strongly agreed with statements about assessments being sources of information (item 18), that assessments should be matched with teaching (item 22), and that students should know the criteria/objective being assessed (item 23). This consistency is likely due to the district's emphasis on assessment issues during recent professional development activities in which all teachers participated.

On other items, however, responding teachers were almost evenly split in their agreement or disagreement. Most of these items related to specific grading issues. For example, nearly equal percentages of teachers agreed and disagreed with statements regarding the appropriateness of averaging to obtain students' grades (item 5). Despite the strong recommendation of experts on grading that past performances should be dropped and the most current evidence used to determine students' grades (O'Connor, 2009; Stiggins, 2008), teachers were evenly divided on this issue. Similar split responses were evident in items that asked about assigning zeros for work that is missed or turned in late (item 6), assigning I's or Incomplete grades (item 11), the use of grading scales instead of percentages (item 13), and the grading of homework (item 29). The standard deviations of responses to these items were also among the highest, again reflecting the divergence of responses. Table 3 includes the percent agreement and disagreement, means, and standard deviation of all survey items.

[Insert Table 3 about here]

Close inspection of item responses revealed other intriguing differences. For example, while 82% of the teachers agreed with the statement, “Students can and do learn without grades,” only 70% agreed with the statement, “Teachers can teach without grades.” Apparently these teachers believe that grades are more important for teaching than they are for learning. Grade level differences also were apparent on this item, with elementary teachers expressing greater agreement with both of these statements than secondary teachers. These and other grade level differences in item responses are illustrated in Table 4.

[Insert Table 4 about here]

Although teachers' response were fairly evenly split on items that asked about grading criteria (e.g., should grading be done in reference to learning criteria or “on the curve”) and the inclusion of homework assignments when determining students' grades, grade level differences also seemed apparent. Elementary teachers indicated a stronger preference than did secondary teachers for the use of learning criteria in determining students' grades. Elementary teachers also were far less likely than secondary teachers to include homework assignments when assigning grades, perhaps because elementary teachers generally assign homework less frequently than do secondary teachers (Cooper, Robinson, & Patall, 2006).

Surprisingly, only 64% of teachers agreed with the statement that “Grades have no value as punishment.” Apparently many teachers (i.e., more than 1/3) believe that grades do serve as a meaningful punishment, despite extensive evidence showing this is not the case (Canady & Hotchkiss, 1989). Grade level differences also appeared evident on this item, however, showing

that a larger percent of elementary teachers agreed with this statement than did secondary teachers (78% vs. 54% respectively).

To explore the relationship among item ratings, inter-item correlation coefficients were calculated among all items in the survey. These are shown in Table 5. The most surprising aspect of these inter-item correlations is their relatively modest values. It was anticipated that the issues presented in the items related to grading and reporting would yield consistent response patterns. But this proved not to be the case. Although as expected, items related to assessment issues yield relative high correlations, other inter-item correlations rarely exceeded a magnitude of .40, and only three were greater in magnitude than .50. This would appear to show that teachers hold fairly unconnected views on these various grading issues and consider each issue as separate.

[Insert Table 5 about here]

Finally, MANOVA was conducted to test for differences in responses among various subgroups of teachers. Specifically, subject area taught (English/reading/language arts, mathematics, science, social studies, and other), gender (male and female), and school level (elementary and secondary) were considered independent variables in the analysis; responses to the 30 items in the survey were considered a set of correlated dependent variables. In the initial analysis, the main effects of subject area and gender differences proved not to be statistically significant, but school level differences did. Two-way interactions between subject area and gender, subject area and school level, gender and school level, and the three-way interaction of subject area / school level / gender, also were not statistically significant. The model was then

revised to a more parsimonious form for a second analysis using school level as the single independent variable. The results of this analysis are shown in Table 6.

[Insert Table 6 about here]

The multivariate  $f$ -statistic again proved statistically significant ( $f = 7.328$ ;  $df = 30/482$ ;  $p < .001$ ), allowing interpretation of the univariate tests. These results revealed statistically significant school level differences for 11 of the 30 items in the survey. As described earlier, differences between elementary and secondary teachers were apparent in the overall importance they attach to grades. Specifically, secondary teachers believed grades were more important for both teaching and learning than did their elementary colleagues. This may be due to the increased importance attached to grades by both teachers and students in advanced grade levels (Brookhart & Nitko, 2008). High school grades become part of a permanent transcript that students may be asked to provide for college admission and/or job applications. Because of the high-stakes consequences that may result from decisions based on these transcripts, the grades they include have great importance.

Secondary teachers also appear to attach more importance to work habits and behaviors in assigning students' grades. Secondary teachers found it more appropriate than elementary teachers, for example, to assign zeros to students for work missed or turned in late, to assign incomplete grades, to take credit away from students for behavioral infractions, and to use grades as a form of punishment. This seems ironic since elementary teachers often assume responsibility for teaching students proper work habits and appropriate school behaviors. Perhaps because they do, elementary teachers are more reluctant than secondary teachers to

include these factors when assigning a grade that is supposed to represent students' learning or achievement. It also may be that secondary teachers believe that if students have not acquired these skills by the time they enter middle school or high school, then some form of negative consequence must be made evident.

Interestingly, elementary teachers report greater discretion than secondary teachers when it comes to differentiating the importance of various learning goals or standards. Although secondary teachers typically have greater content knowledge and expertise in the subjects they teach than do their elementary counterparts, they appear less likely to judge certain learning goals as more important than others. It remains unknown as to whether elementary teachers make these distinctions as a curriculum decision for all of their students, or as part of the process in establishing learning priorities for individual students.

Another area in which the perspectives of elementary and secondary teachers differ significantly is in regard to homework. Secondary teachers indicate they are much more likely than elementary teachers to give all students exactly the same homework assignment and to grade all homework assignments. Elementary teachers, on the other hand, report a greater tendency to involve parents in homework activities. These differences reflect what other researchers have identified as different perceptions among elementary and secondary teachers with regard to the role of homework and its importance in student learning (see Cooper, 2007).

### **Conclusions and Implications**

Because the data in this investigation were drawn from a single school district, the generalizability of these findings may be questioned. The perceptions of other teachers in other districts with different student populations and different histories of grading traditions and

practices may not be analogous. Nevertheless, the similarities of these findings to those of other researchers (e.g., McMillan, 2001; McMillan, Myran, & Workman, 2002) lend some confidence to the broader applicability of the results.

The evidence gathered in this study shows that nearly all teachers believe grading students' performance in school is both necessary and important. The perspectives of most teachers, however, and especially those who teach at the secondary level, reflect very traditional views of grading. Teachers' perspectives regarding several vital grading issues also were found to vary widely, reflecting little consensus or agreement, even among teachers who teach at the same level. This may be due to a lack of clear grading policies at the school level or a lack of training on the effects of various grading policies and practices. It implies, however, that students are likely to face strikingly different grading practices as they move from class to class within the same school, and especially as they advance in grade level from elementary to secondary school.

These data also show that elementary and secondary teachers differ significantly in their views on grading. Elementary teachers tend to see grading and reporting much more as a process of communication with parents and with students. They are more likely than their secondary colleagues to use discretion in differentiating the importance of various learning goals or standards when assigning grades. They also are more likely to vary learning priorities for individual students.

Secondary teachers, on the other hand, tend to see grading and reporting as a vital component of classroom management and control. Compared to their elementary colleagues, secondary teachers find it more acceptable to assign zeros to students for work missed or turned

in late, to assign incomplete grades, to take credit away from students for behavioral infractions, and to use grades as a form of punishment.

The reasons for secondary teachers' perceptions of grades as a means of management and control remain unclear. It may be that secondary teachers perceive that they have little direct influence over the privileges students most value or the punishments they most fear. Teachers cannot, for example, restrict students' access to automobiles, computer games, or television. Nor can they limit students' social activities. But teachers do control grades, and grades can indirectly influence those privileges and punishments. A low grade often prompts parents to enforce punishments that are more persuasive and more compelling to students than those the teacher can enforce. The threat of a zero and the resulting low grade, therefore, allows teachers to impose their will on students who otherwise may be indifferent to the teachers' demands (see Guskey, 2004).

Regardless of the reasons for these differences among elementary and secondary teachers, they point to the necessity of different approaches to reform in grading policies and practices. These differences also may help to explain the difficulties so many schools have experienced in their attempts to revise grading and reporting.

Because elementary teachers' emphasize the communication aspects of grades and report cards, reform efforts at the elementary level should focus on this feature. Revisions in elementary report cards should be designed to help teachers communicate better and more meaningful information to parents and others. Standards-based approaches to grading and reporting may be helpful in such efforts, but they must build on the principals of effective communication. They should help teachers enhance the quality and utility of the information they offer parents and students while not creating book-keeping hardships for teachers.

For secondary teachers who view the management and control aspects of grades as essential, reform efforts must be mindful of these features. Efforts to revise secondary report cards that require teachers to consider academic evidence only and eliminate consideration of behavioral factors when determining students' grades are unlikely to be welcomed. High school teachers especially believe that demonstrations of responsibility (e.g., turning in assignments on time) and other work habits (e.g., class participation and completing homework assignments) are vital aspects learning and need to be considered. An alternative approach that allows teachers still to consider these factors but report them separately from academic indicators (see Guskey, 2006b) may be more readily accepted.

Providing fair, accurate, and meaningful grades to students will continue to challenge educators. Professional development efforts that offer teachers research-based evidence on the advantages and shortcomings of various grading policies and practices, while rare at this time, will be vital to those efforts. Programs that are sensitive to the differences in the perspectives among elementary and secondary education noted in this study with regard to grading would appear likely to yield better results than those unaware of these differences.

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Table 1

*Number and Percent of Teachers by Gender Grade Level*

Grade	Number		Total	Percent
	Female	Male		
1	34	1	35	6.82
2	42	2	44	8.58
3	29	2	31	6.04
4	32	7	39	7.60
5	33	6	39	7.60
6	28	8	36	7.02
7	39	16	55	10.72
8	32	17	49	9.55
9	28	24	52	10.14
10	19	11	30	5.85
11	26	14	40	7.80
12	36	27	63	12.28
Total	378	135	513	100.00

Table 2

*Survey Items, Labels, and Descriptions*

Item	Label	Description
1	Purpose	If the District were to identify the major purpose of grades for report cards, which of the following do you believe that purpose should be:
2	Tch w/o grds	Teachers can teach without grades.
3	Lrn w/o grds	Students can and do learn without grades.
4	Math prec	Mathematical precision does not yield fairer or more objective grading.
5	Average	Averaging to obtain a course grade is a questionable practice.
6	Zeros	Giving zeroes for work missed or worked turned in late is a questionable practice.
7	Infractions	Taking credit away from students for infractions is a questionable practice.
8	Recent	I give priority to the most recent evidence when determining grades.
9	Comprehensive	I give priority to the most comprehensive evidence when determining grades.
10	Import goals	I give priority to the evidence related to the most important learning goals or standards when determining grades.
11	Incomplete	I assign "I" for incomplete grades.
12	Beh separate	I report behavioral aspects separately.
13	Scales	I use grading scales instead of percentages.
14	Reward	Grades have some value as rewards but no value as punishments.
15	Criteria	Grading and reporting should always be done in reference to learning criteria-never on the curve.
16	Percent	High percentages are not the same as high standards.
17	Parent lang	I use language clearly understood by parents.
18	Info source	Assessments must be sources of information for student and teachers.
19	Correctives	When I give an assessment I give corrective feedback.
20	2 <sup>nd</sup> chance	When I give assessments I give students a second chance to show improvement.
21	Collaborate	I work with other teachers on classroom assessments.
22	Explicit	I match assessments to what I am explicitly teaching (i.e. I don't use trick questions, new formats, or unfamiliar material).
23	Studs know	My students know the criteria/objective to be assessed.
24	Oppt for risk	I give students the opportunity to take risks in my classrooms.
25	Hwk>ach	I believe homework increases student achievement.
26	Pnts w/ hwk	I involve parents in homework.
27	Hwk clubs	I believe that after school homework clubs improve student achievement.
28	Same hwk	All students in my classroom are given the same homework assignments.
29	Grade hwk	I grade all homework.
30	Mean hwk	I believe the extent to which my homework is completed relies on the how

meaningful it is to students.

Table 3

*Item Response Percentages, Means, and Standard Deviations (n = 513)*

Item	% Disagree or Strongly Disagree	% Agree or Strongly Agree	Mean	Standard Deviation
2. Tch w/o grds	28.9	71.1	2.86	0.75
3. Lrn w/o grds	18.5	81.5	3.00	0.70
4. Math Prec	34.7	65.3	2.72	0.65
5. Average	50.0	50.0	2.55	0.71
6. Zeros	45.3	54.7	2.55	0.88
7. Infractions	32.1	67.9	2.82	0.81
8. Recent	42.6	57.4	2.62	0.63
9. Comprehensive	11.5	88.5	3.00	0.51
10. Import goals	10.6	89.4	3.03	0.53
11. Incomplete	46.9	53.1	2.48	0.72
12. Beh separate	8.4	91.6	3.18	0.60
13. Scales	56.2	43.8	2.40	0.69
14. Reward	36.4	63.6	2.69	0.66
15. Criteria	27.3	72.7	2.89	0.68
16. Percent	7.5	92.5	3.15	0.55
17. Parent lang	3.6	96.4	3.19	0.47
18. Info source	1.4	98.6	3.35	0.52
19. Correctives	3.4	96.6	3.18	0.47
20. 2 <sup>nd</sup> chance	17.1	82.9	3.04	0.64
21. Collaborate	13.0	97.0	3.04	0.58
22. Explicit	1.7	98.3	3.49	0.53
23. Studs know	1.3	98.7	3.39	0.51
24. Oppt for risk	2.1	97.9	3.32	0.51
25. Hwk>ach	29.6	70.4	2.79	0.68
26. Pnts w/ hwk	26.9	73.1	2.82	0.60
27. Hwk clubs	15.9	84.1	2.98	0.60
28. Same hwk	63.4	36.6	2.33	0.68
29. Grade hwk	56.8	43.2	2.46	0.76

30. Mean hwk	31.5	68.5	2.75	0.70
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Table 4

*Item Means and Standard Errors for Elementary and Secondary Teachers*

Item	Elementary M (n = 224)	Elementary SE	Secondary M (n = 299)	Secondary SE
1. Purpose	1.66	0.097	1.85	0.094
2. Tch w/o grds	2.94	0.048	2.76	0.050
3. Lrn w/o grds	3.15	0.042	2.85	0.047
4. Math Prec	2.75	0.044	2.70	0.043
5. Average	2.54	0.047	2.54	0.046
6. Zeros	2.74	0.051	2.40	0.059
7. Infractions	2.94	0.048	2.71	0.055
8. Recent	2.70	0.043	2.56	0.040
9. Comprehensive	3.03	0.038	2.98	0.031
10. Import goals	3.08	0.035	2.95	0.034
11. Incomplete	2.28	0.050	2.63	0.046
12. Beh separate	3.23	0.041	3.14	0.039
13. Scales	2.58	0.046	2.25	0.045
14. Reward	2.76	0.043	2.59	0.046
15. Criteria	2.93	0.046	2.86	0.045
16. Percent	3.17	0.037	3.12	0.037
17. Parent lang	3.21	0.034	3.17	0.030
18. Info source	3.36	0.038	3.35	0.033
19. Correctives	3.18	0.036	3.18	0.029
20. 2 <sup>nd</sup> chance	3.05	0.041	3.05	0.044
21. Collaborate	3.11	0.040	3.00	0.037
22. Explicit	3.50	0.036	3.48	0.036
23. Studs know	3.38	0.034	3.40	0.035
24. Oppt for risk	3.34	0.036	3.31	0.033
25. Hwk>ach	2.77	0.044	2.85	0.047
26. Pnts w/ hwk	3.03	0.036	2.62	0.040
27. Hwk clubs	3.00	0.042	2.97	0.039
28. Same hwk	2.18	0.047	2.49	0.044
29. Grade hwk	2.32	0.055	2.62	0.048

30. Mean hwk                      2.70                      0.050                      2.78                      0.046

Table 5

*Inter-item Correlation Coefficients (n = 513)*

*[Bold: p < .01]*

Item	School	Grade	Gender	Purpose	Tch w/o grds	Lrn w/o grds	Math prec	Average	Zeros	Infractions	Recent	Comprhnsv	Import goals	Incompletes
Grade	<b>.82</b>													
Gender	<b>.26</b>	<b>.30</b>												
Purpose	.07	.07	.11											
Tch w/o grds	-.13	-.15	-.09	-.02										
Lrn w/o grds	<b>-.21</b>	<b>-.20</b>	-.06	.01	<b>.70</b>									
Math prec	-.03	-.07	-.08	.06	<b>.32</b>	<b>.26</b>								
Average	-.05	-.07	.02	.12	<b>.28</b>	.19	<b>.35</b>							
Zeros	<b>-.24</b>	<b>-.26</b>	-.14	.02	<b>.28</b>	<b>.26</b>	<b>.27</b>	<b>.39</b>						
Infractions	-.17	<b>-.22</b>	-.14	.02	<b>.26</b>	<b>.23</b>	<b>.21</b>	<b>.28</b>	<b>.44</b>					
Recent	-.13	-.11	-.03	.01	.14	.12	<b>.21</b>	.15	.13	.18				
Comprhnsv	-.06	-.02	-.01	-.01	.16	<b>.21</b>	.13	.14	.16	<b>.20</b>	<b>.25</b>			
Import goals	-.15	<b>.21</b>	-.13	-.01	.27	<b>.24</b>	.17	.18	<b>.21</b>	<b>.25</b>	<b>.29</b>	<b>.45</b>		
Incomplete	<b>.24</b>	<b>.21</b>	.08	.07	-.01	-.01	.01	.04	-.02	.03	.05	.05	.05	
Beh separate	-.09	-.13	-.08	.04	<b>.23</b>	<b>.25</b>	.11	.09	<b>.23</b>	<b>.32</b>	<b>.22</b>	<b>.22</b>	<b>.25</b>	-.05
Scales	<b>-.23</b>	<b>-.25</b>	-.14	.02	.14	.14	.19	<b>.24</b>	<b>.25</b>	<b>.22</b>	.15	.12	.19	.10
Reward	-.13	-.16	-.14	.06	.18	.19	<b>.22</b>	.18	<b>.23</b>	<b>.27</b>	.18	.16	.19	-.04
Criteria	-.08	-.11	-.01	.05	<b>.22</b>	<b>.20</b>	<b>.25</b>	<b>.27</b>	<b>.22</b>	<b>.33</b>	.14	<b>.23</b>	<b>.25</b>	.05
Percent	-.03	-.05	.06	.04	<b>.26</b>	<b>.26</b>	<b>.30</b>	<b>.27</b>	.19	<b>.26</b>	<b>.20</b>	<b>.24</b>	<b>.30</b>	.01
Parent lang	-.04	-.05	-.08	.08	.03	.03	.07	.05	-.01	.13	<b>.21</b>	.17	<b>.22</b>	.02
Info source	-.03	-.05	-.02	.04	<b>.21</b>	<b>.22</b>	.14	.16	<b>.21</b>	.18	.17	<b>.22</b>	<b>.28</b>	-.06
Correctives	.01	.01	-.04	.01	.10	.10	.08	-.01	.09	.08	.08	<b>.20</b>	<b>.20</b>	.08
2 <sup>nd</sup> chance	-.06	-.11	-.04	.02	<b>.31</b>	<b>.27</b>	<b>.20</b>	<b>.22</b>	<b>.27</b>	<b>.27</b>	.18	.16	<b>.21</b>	.04
Collaborate	-.13	<b>-.20</b>	-.14	.03	.15	.10	.04	.07	.18	.16	.10	.07	.14	-.03
Explicit	-.01	-.04	-.11	.02	.14	.13	.11	.07	.08	.18	.16	.12	<b>.21</b>	-.08
Studs know	.04	.01	-.06	-.01	.08	.06	.09	.06	.04	.14	.16	.16	.18	.00
Oppt for risk	-.04	-.08	-.04	-.01	<b>.21</b>	<b>.20</b>	<b>.21</b>	<b>.23</b>	.18	<b>.26</b>	.19	.17	<b>.28</b>	.04
Hwk>ach	.10	.06	-.02	-.03	-.19	-.15	-.16	<b>-.22</b>	-.17	-.19	-.07	-.01	-.06	.03
Pnts w/ hwk	<b>-.35</b>	<b>-.39</b>	-.19	.02	.14	.09	.03	.04	.15	.11	.06	-.04	.07	.02
Hwk clubs	-.05	-.02	-.08	-.05	-.01	-.02	-.11	-.11	-.03	.00	-.05	-.02	.02	.04
Same hwk	<b>.26</b>	<b>.26</b>	.09	.05	-.13	-.16	-.12	-.12	-.17	-.19	-.07	-.12	<b>-.20</b>	.01
Grade hwk	<b>.22</b>	<b>.22</b>	.04	-.03	-.13	-.16	-.18	-.11	-.16	-.14	-.06	-.03	-.07	.16

Mean hwk .05 .04 .03 .05 .13 .07 .16 .18 .13 .12 .14 .12 .13 .08

Table 5 (Continued)

Item	Scales	Reward	Criteria	Percent	Parent lang	Info source	Correctives	2 <sup>nd</sup> chance	Collaborate	Explicit	Studs know	Oppt for risk	Hwk>ach	Pnts w/ hwk
Beh separate	.05													
Scales	<b>.24</b>	.14												
Reward	<b>.22</b>	.19	<b>.24</b>											
Criteria	<b>.25</b>	.17	<b>.20</b>	<b>.28</b>										
Percent	<b>.23</b>	.13	.18	.16	.16									
Parent lang	<b>.30</b>	.14	.08	.18	<b>.29</b>	<b>.34</b>								
Info source	.19	.04	.12	.14	<b>.21</b>	<b>.29</b>	<b>.43</b>							
Correctives	<b>.26</b>	.12	.18	<b>.20</b>	.19	.19	<b>.30</b>	<b>.36</b>						
2 <sup>nd</sup> chance	<b>.24</b>	-.02	.19	.12	.03	<b>.20</b>	<b>.25</b>	<b>.21</b>	<b>.35</b>					
Collaborate	<b>.28</b>	-.06	.07	.13	.17	<b>.32</b>	<b>.42</b>	<b>.34</b>	<b>.31</b>	<b>.26</b>				
Explicit	<b>.26</b>	-.04	.01	.15	.11	<b>.38</b>	<b>.31</b>	<b>.36</b>	<b>.35</b>	<b>.21</b>	<b>.65</b>			
Studs know	<b>.33</b>	.11	.18	<b>.24</b>	<b>.24</b>	<b>.29</b>	<b>.33</b>	<b>.28</b>	<b>.37</b>	<b>.24</b>	<b>.46</b>	<b>.49</b>		
Oppt for risk	-.05	-.07	-.10	-.07	-.10	.04	-.08	.15	-.10	.09	.08	.10	-.08	
Hwk>ach	.06	.13	.17	.11	.01	.10	.17	.17	<b>.20</b>	<b>.30</b>	.14	.09	.18	<b>.20</b>
Pnts w/ hwk	.09	-.02	-.06	-.05	-.01	.12	.07	<b>.22</b>	.17	.07	.13	<b>.20</b>	.11	.14
Hwk clubs	-.06	-.11	-.06	-.08	-.04	.02	-.11	-.08	-.15	-.12	-.01	-.04	<b>-.20</b>	.13
Same hwk	-.10	-.10	-.08	-.11	-.06	.09	-.05	.14	.05	.05	.06	.08	-.03	.19
Grade hwk	.10	.15	.15	.12	.12	.06	.09	.07	.13	.07	.04	.11	.15	-.07
Mean hwk	.05	.14	<b>.24</b>	<b>.28</b>	.16	<b>.34</b>	<b>.43</b>	<b>.36</b>	<b>.35</b>	<b>.26</b>	<b>.65</b>	<b>.49</b>	-.08	<b>.20</b>

Table 5 (Continued)

Item	Pts w/ hwk	Hwk clubs	Same hwk	Grade hwk
Hwk clubs	.15			
Same hwk	-.06	.03		
Grade hwk	.06	.04	<b>.23</b>	

Mean hwk    .02   -0.03   .05   .07

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Table 6

*MANOVA and Univariate Results**[Bold:  $p < .01$ ]*

<b>MANOVA Results</b>				
<b>Wilks' Criterion</b>	<b>F statistic</b>	<b>Degrees of Freedom</b>		<b>Probability</b>
		<b>Numerator</b>	<b>Denominator</b>	
0.60520	7.328	30	482	0.001

  

<b>Univariate Results</b>		
<b>Item</b>	<b>F statistic</b>	<b>Probability</b>
1. Purpose	0.29	0.591
2. <b>Tch w/o grds</b>	7.95	0.005
3. <b>Lrn w/o grds</b>	28.42	0.001
4. Math Prec	1.26	0.262
5. Average	0.08	0.773
6. <b>Zeros</b>	12.80	0.001
7. <b>Infractions</b>	9.77	0.002
8. Recent	3.06	0.081
9. Comprehensive	2.67	0.103
10. <b>Import goals</b>	7.23	0.007
11. <b>Incomplete</b>	20.89	0.001
12. Beh separate	2.98	0.085
13. <b>Scales</b>	26.70	0.001
14. <b>Reward</b>	8.29	0.004
15. Criteria	1.39	0.239
16. Percent	0.73	0.392
17. Parent lang	0.86	0.355
18. Info source	0.15	0.699
19. Correctives	0.16	0.689
20. 2 <sup>nd</sup> chance	0.00	0.983
21. Collaborate	3.03	0.082
22. Explicit	0.04	0.847
23. Studs know	0.95	0.331
24. Oppt for risk	0.77	0.382
25. Hwk>ach	0.35	0.554
26. <b>Pnts w/ hwk</b>	55.73	0.001
27. Hwk clubs	0.16	0.686
28. <b>Same hwk</b>	22.68	0.001
29. <b>Grade hwk</b>	19.17	0.001

30. Mean hwk

0.19

0.662

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