Perceptions of classroom assessment tasks: An interplay of gender, subject area, and grade level

Hussain Ali Alkharusi*, College of Education, Department of Psychology, Sultan Qaboos University, Oman
Salim Al-Hosni, Ministry of Education, Oman.

Suggested Citation:
Alkharusi, H. A., & Al-Hosni, S. (2015). Perceptions of classroom assessment tasks: An interplay of gender, subject area, and grade level. Cypriot Journal of Educational Sciences. 10(3), 205-217.

Received July 10, 2015; revised August 28, 2015; accepted September 10, 2015.
Selection and peer review under responsibility of Prof Dr. Huseyin Uzunboylu & Assist. Prof. Dr. Cigdem Hursen, Near East University.
©2015 SPROC LTD. Academic World Education & Research Center. All rights reserved.

Abstract

This study investigates students’ perceptions of classroom assessment tasks as a function of gender, subject area, and grade level. Data from 2753 students on Dorman and Knightley's (2006) Perceptions of Assessment Tasks Inventory (PATI) were analyzed in a MANOVA design. Results showed that students tended to hold positive perceptions of their classroom assessment tasks in terms of congruence with planned learning, authenticity, student consultation, transparency, and diversity. There were statistically significant 3-way interaction effects for gender, subject area, and grade level on congruence with planned learning and transparency. Also, there were statistically significant 2-way interaction effects for gender and grade level on authenticity and student consultation. Further, there were statistically significant 2-way interaction effects for gender and subject area on student consultation and diversity. The implications of the results for classroom assessment as well as recommendations for future research were discussed.

Keywords: assessment tasks, classroom assessment, students’ perceptions, educational assessment.

*ADDRESS FOR CORRESPONDENCE: Hussain Ali Alkharusi, College of Education, Department of Psychology, Sultan Qaboos University, Salim Al-Hosni, Oman. E-mail address: hussein5@squ.edu.om
1. Introduction

Students' perceptions of the classroom assessment have received increased attention in the educational assessment research to determine their relationship to student motivation and learning (Black & William, 1998; Brookhart, 1997, 2013; Harlen & Crick, 2003). They provide educators another lens with which to improve the classroom assessment process (Cook-Sather, 2002; Mullinix, 2001; Ryan, 2002). Indeed, it is students’ perceptions of the classroom assessment that may influence their learning, not the assessment context in itself. It has been emphasized that effectiveness of the educational change depend on the change of the students’ perceptions (Lawness & Richardson, 2002). Therefore, the investigation of these perceptions of assessment is important in understanding the learning process. Less researched, however, is how do students' perceptions of the classroom assessment tasks vary simultaneously as a function of gender, subject area, and grade level. It is reasonable to argue that these three factors may account for some variations in the perceptions of the assessment tasks. On one hand, this is due to the nature of the classroom assessment activities specific to the subject areas and grade levels. On the other hand, this is due to the well documented gender differences in learning-related perceptions and behaviors. As such, this study sought to expand the current research on students’ perceptions of the classroom assessment by examining perceptions of the classroom assessment tasks in relation to gender, subject area, and grade level. These points provide the rationale for the present study.

In an attempt to operationalize students' perceptions of assessment, Dorman and Knightley (2006) developed a 40-item Perceptions of Assessment Tasks Inventory (PATI) to measure students' perceptions of assessment tasks in terms of congruence with planned learning, authenticity, student consultation, transparency, and diversity. The PATI has been used in several research studies. For example, Dhindsa, Omar, and Waldrip (2007) found that secondary students in Brunei tended to hold weak positive perceptions of the classroom assessment tasks as measured by PATI. Also, Dhindsa et al. (2007) found statistically significant gender differences in perceived congruence with planned learning favoring females and perceived student consultation in assessment favoring males. Further, Dhindsa et al. (2007) showed statistically significant grade level differences in perceived congruence with planned learning and transparency in assessment favoring upper grades. They concluded that students’ perceptions of assessment could be improved by enhancing teachers' practices.

Gao (2012) found that classroom assessments in mathematics as perceived by high school students tended to have a strong congruence with instruction, adequate transparency, inadequate authenticity, little student consultation, and diversity. Statistically significant gender differences were found in assessment authenticity and transparency favoring females. Gao (2012) called for more research on students’ perceptions of classroom assessment in other subject areas and grade levels. Alkharusi, Aldhafri, Alnabhani, and Alkalbani (2013b) found that students tended to hold positive perceptions of their classroom assessment tasks as measured by PATI. In addition, congruence with planned learning, student consultation, and transparency were significantly associated with students’ academic achievement whereas authenticity and diversity did not contribute significantly to the variance explained in academic achievement. Alkharusi et al. (2013b) concluded that classroom assessment environment as perceived by students could contribute to student achievement-related outcomes.

Research has also examined perceptions of assessment tasks in relation to students’ motivational beliefs and study approaches. For example, Alkharusi et al. (2013a) found that students’ perceptions of assessment tasks had direct and indirect effects on academic self-efficacy and perceptions of task value. Alkharusi et al. (2013a) concluded that teachers should develop assessment tasks in ways that activate students’ sense of efficacy to accomplish the tasks and enhance their value of engaging in the tasks. Another study by Alkharusi (2013) found that although students’ perceptions of assessment tasks and study approaches did not vary by gender; high degrees of authenticity, transparency, and diversity in assessment tasks tended to be associated with deep learning strategies adopted by students. Also, high degrees of congruence with planned learning and low degrees of task authenticity tended to be associated with surface learning strategies. Alkharusi (2013) concluded that students’ perceptions of
In summary, the aforementioned studies reported the importance to give attention to the students’ perceptions of the classroom assessment tasks in order to understand their motivational beliefs and achievement-related outcomes. The present study intended to extend previous research by questioning how do students’ perceptions of the assessment tasks vary as a function gender, subject area, and grade level. This is because students’ experiences with classroom assessment depend usually upon their classroom contextual features (Brookhart & Bronowicz, 2003).

1.1 Purpose of the Study and Research Questions

This study aimed at investigating students’ perceptions of their classroom assessment tasks as a function of gender, grade level, and subject area. The study was guided by the following research questions:

1. How do students perceive their classroom assessment tasks?
2. How do perceptions of classroom assessment tasks differ as a function of student gender, grade level, subject area, and their interactions?

2. Methods

2.1 Participants

The participants in this study were 2753 Omani students (1458 females and 1295 males) selected from public schools across all governorates in the Sultanate of Oman. They were selected from grade 10 (1291 students) and grade 11 (1462 students). Their ages ranged from 14 to 19 years with an average of 16 and a standard deviation of 1.11. The following subjects were represented in the sample: Arabic language (27.5%), English language (9.9%), Islamic education (9.7%), mathematics (16.2%), science (22.2%), and social studies (14.5%).
2.2 Procedures

Permission was requested from Ministry of Education and school principals to collect data from the students during a regular scheduled class meeting in Spring 2013 semester. The students were informed that a study about their perceptions of the classroom assessment tasks is being conducted. They were informed that they were not obligated to participate in the study, and if they wished to participate, their responses would remain confidential. They were also told that participation in the study would not influence their grades or relations with the teacher in any way. Students who wished to participate were asked to respond to a self-report questionnaire, which will be described in the next section of this study. The questionnaire was administered by assistant researchers during a scheduled class meeting. The administration took about one class period, and was preceded by a brief set of instructions about how to complete the questionnaire.

2.3 Instrument

The instrument used was a self-report questionnaire with two main sections: Basic information and perceptions of assessment tasks. The questionnaire items were subjected to a content validation process done by a panel of five experts in the areas of educational measurement and psychology from Sultan Qaboos University and Ministry of Education. They were asked to judge the clarity of wording and appropriateness of each item for the use with the targeted participants and its relevance to the construct being measured. Their feedback was used for refinement of the items. Internal consistency reliability was established using Cronbach’s alpha. Following is a description of the two sections.

2.3.1 Basic information

The basic information of the questionnaire covered gender, age, grade level, and subject being considered in the class.

2.3.2 Perceptions of assessment tasks

This section of the questionnaire included 35 items from Dorman and Knightley’s (2006) Perceptions of Assessment Tasks Inventory (PATI). The items measure students’ perceptions of assessment tasks in terms of congruence with planned learning (7 items; \( \alpha = .73 \); e.g., ”I am assessed on what the teacher has taught me”), authenticity (7 items; \( \alpha = .75 \); e.g., ”My assessment tasks in this class are meaningful”), student consultation (7 items; \( \alpha = .74 \); e.g., ”I am asked about the types of assessment I would like to have in this class”), transparency (7 items; \( \alpha = .85 \); e.g., ”I am told in advance when I am being assessed”), and diversity (7 items; \( \alpha = .63 \); e.g., ”I am given a choice of assessment tasks”). Responses were obtained on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Alkharusi (2013) tested the validity and reliability of the PATI for the use with Omani students. As reported by Alkharusi (2013), internal consistency coefficients for the measures of congruence with planned learning, authenticity, student consultation, transparency, and diversity were .71, .72, .65, .66, and .63 as indicated by Cronbach’s alpha, respectively. The score reliabilities of the current sample seem comparable to those reported by Dorman and Knightley (2006) and Alkharusi (2015). Specifically, internal consistency coefficients in this study for the measures of congruence with planned learning, authenticity, student consultation, transparency, and diversity were .69, .66, .61, .74, and .60 as indicated by Cronbach’s alpha, respectively. Each measure was constructed by averaging its corresponding items.
2.4 Data Analysis

In relation to the aforementioned purpose of the study, the following statistical procedures were employed:

1. Descriptive statistics in terms of means, standard deviations, frequencies, and percentages were computed to examine students’ perceptions of the assessment tasks.

2. A three-way multivariate analysis of variance (MANOVA) was used to examine differences in students’ perceptions of the assessment tasks with respect to student gender, grade level, subject, gender by grade level, gender by subject, grade level by subject, and gender by grade level by subject. There were no violations in the data with respect to the assumptions of normality, homogeneity of variance-covariance matrices, and multicollinearity.

3. Results

3.1 Descriptive Analysis

Table 1 presents descriptive statistics for students’ perceptions of the classroom assessment tasks. As shown in Table 1, on average, the students tended to hold positive perceptions of their classroom assessment tasks in terms of congruence with planned learning, authenticity, student consultation, transparency, and diversity. More than 80% of the students perceived their classroom assessment tasks as having high or very high degree of congruence with the classroom instruction and transparency. About 80% of the students perceived their classroom assessment tasks as having high or very high degree of authenticity. Nearly half of the students perceived that they have been consulted regarding the assessment tasks with a high or very high degree and that there was high or very high degree of diversity in the assessment tasks.

Table 1. Descriptive statistics for students’ perceptions of the classroom assessment tasks (N = 2753)

| Perceptions of assessment tasks | Scale value | M   | SD  |
|--------------------------------|-------------|-----|-----|
|                                | 1.00-1.79   |     |     |
|                                | 1.80-2.59   |     |     |
|                                | 2.60-3.39   |     |     |
|                                | 3.40-4.19   |     |     |
|                                | 4.20-5.00   |     |     |
|                                | Very low    |     |     |
|                                | Low         |     |     |
|                                | Moderate    |     |     |
|                                | High        |     |     |
|                                | Very high   |     |     |
| Congruence with planned learning |            |     |     |
| Authenticity                   | 7 (0.3)     | 86 (3.1) | 363 (13.2) | 1372 (49.8) | 925 (33.6) | 3.92 | .60 |
| Student consultation           | 7 (0.3)     | 106 (3.9) | 449 (16.3) | 1472 (53.5) | 719 (26.1) | 3.81 | .62 |
| Transparency                   | 25 (0.9)    | 311 (11.3) | 919 (33.4) | 1226 (44.5) | 272 (9.9) | 3.40 | .64 |
| Diversity                      | 10 (0.4)    | 70 (2.5)     | 338 (12.3) | 1222 (44.4) | 1113 (40.4) | 4.00 | .63 |

3.2 Multivariate Analysis of Variance

Table 2 presents means and standard deviations of students’ perceptions of assessment tasks with respect to gender, grade level, and subject. As presented in Table 2, it seems that there were differences in students’ perceptions of the classroom assessment tasks as a function of gender, grade level, and subject. A 3-way MANOVA was used to examine these differences.
Table 3 summarizes results of the 3-way MANOVA about differences in the students’ perceptions of the assessment tasks with respect to gender, grade level, subject, and their interactions. As shown in Table 3, there were statistically significant multivariate main and interaction effects for gender, grade level, and subject on the students’ perceptions of the assessment tasks. The 3-way interaction effect for gender, grade level, and subject explained 0.4% of the variance in the students’ perceptions of the classroom assessment tasks.

Using Bonferroni adjustment for type one error rate at $\alpha = .01$, the univariate analysis showed statistically significant 3-way interaction effects for gender, grade level, and subject on congruence with planned learning; $F(5, 2729) = 3.32$, $p = .005$, partial $\eta^2 =.006$; and transparency; $F(5, 2729) = 6.46$, $p = .002$, partial $\eta^2 =.007$. There were no statistically significant 3-way interaction effects for gender, grade level, and subject on authenticity, student consultation, and diversity. Figure 1 displays the interaction effect between subject and grade level on congruence for male students. As displayed in Figure 1, grade 11 male students tended to hold more positive perceptions of the assessment tasks in Islamic education as being
congruent with the classroom instruction than grade 10 male students. On the contrary, grade 10 male students tended to hold more positive perceptions of the assessment tasks in Arabic language, mathematics, science, and social studies as being congruent with the classroom instruction than grade 11 male students. There were no differences between grade 10 male students and grade 11 male students on the perceptions of the assessment tasks in English language as being congruent with the classroom instruction. Figure 2 displays the interaction effect between subject and grade level on congruence for female students. As displayed in Figure 2, grade 10 female students tended to hold more positive perceptions of the assessment tasks as being congruent with the classroom instruction than grade 11 female students across all subjects.

Figure 1. Interaction of subject by grade level for males on congruence

Figure 2. Interaction of subject by grade level for females on congruence

Figure 3 displays the interaction effect between subject and grade level on transparency for male students. As displayed in Figure 3, grade 11 male students tended to hold more positive perceptions of the assessment tasks in terms of transparency in Islamic education and English language than grade 10 male students. On the contrary, grade 10 male students tended to hold more positive perceptions of the assessment tasks in terms of transparency in science and social studies than grade 11 male students. There were no differences between grade 10 male
students and grade 11 male students on the perceptions of the assessment tasks in terms of transparency in Arabic language and mathematics. Figure 4 displays the interaction effect between subject and grade level on transparency for female students. As displayed in Figure 4, grade 10 female students tended to hold more positive perceptions of the assessment tasks in terms of transparency than grade 11 female students across all subjects.

The univariate analysis also showed statistically significant interaction effects for gender and grade level on authenticity; \( F(1, 2729) = 6.95, p = .008 \), partial \( \eta^2 = .003 \); and student consultation; \( F(1, 2729) = 13.00, p = .000 \), partial \( \eta^2 = .005 \). There were no statistically significant interaction effects for gender and grade level on diversity. Figure 5 displays the interaction effect between gender and grade level on authenticity. As displayed in Figure 5, female students tended to hold more positive perceptions of the assessment tasks in terms of authenticity than male students across all grade levels. Figure 6 displays the interaction effect between gender and grade level on student consultation. As displayed in Figure 6, female students tended to hold more positive perceptions of the assessment tasks in terms of student consultation than male students in grade 10. There was no difference between males and females in grade 11 with respect to the perceptions of the assessment tasks in terms of student consultation.
Further, the univariate analysis showed statistically significant interaction effects for gender and subject on student consultation; $F(5, 2729) = 3.31, p = .006$, partial $\eta^2 = .006$; and diversity; $F(5, 2729) = 3.91, p = .002$, partial $\eta^2 = .007$. There were no statistically significant interaction effects for gender and subject on authenticity and transparency. Figure 7 displays the interaction effect between gender and subject on student consultation. As displayed in Figure 7, female students tended to hold more positive perceptions of the assessment tasks in terms of student consultation than male students across all subjects. Figure 8 displays the interaction effect between gender and subject on diversity. As displayed in Figure 8, female students tended to hold more positive perceptions of the assessment tasks in terms of diversity than male students in Islamic education, Arabic language, and mathematics. On the contrary, male students tended to hold more positive perceptions of the assessment tasks in terms of diversity than female students in English language and social studies. There was no difference between males and females with respect to the perceptions of the assessment tasks in terms of diversity in science.
In addition, the univariate analysis showed statistically significant interaction effects for grade level and subject on authenticity; $F(5, 2729) = 3.98, p = .001$, partial $\eta^2 = .007$; and diversity; $F(5, 2729) = 3.31, p = .006$, partial $\eta^2 = .006$. There were no statistically significant interaction effects for grade level and subject on congruence and student consultation. Figures 9 and 10 display the interaction effects between grade level and subject on authenticity and diversity, respectively. As displayed in both Figures 9 and 10, grade 11 students tended to hold more positive perceptions of the assessment tasks in terms of authenticity and diversity than grade 10 students in Islamic education. On the contrary, grade 10 students tended to hold more positive perceptions of the assessment tasks in terms of authenticity and diversity than grade 11 students in all subjects except Islamic education.
4. Discussion and Conclusion

A central aim of the current study was to examine students’ perceptions of the assessment tasks as a function of gender, subject area, and grade level. The results demonstrated that students tended to hold positive perceptions of their classroom assessment tasks in terms of congruence with planned learning, authenticity, student consultation, transparency, and diversity. There were statistically significant 3-way interaction effects for gender, subject area, and grade level on congruence with planned learning and transparency. Also, there were statistically significant 2-way interaction effects for gender and grade level on authenticity and student consultation. Further, there were statistically significant 2-way interaction effects for gender and subject area on student consultation and diversity. These results lead to a conclusion that students differ in their perceptions of the assessment tasks due the nature of the classroom assessment activities driven by the subject area and grade levels.

The results of the present study add support to the findings of previous studies concerning univariate differences in students’ perceptions of assessment as a function of gender (e.g., Dhindsa et al., 2007; Gao, 2012), grade level (e.g., Dhindsa et al., 2007) and subject area (e.g., Iannone & Simpson, 2013). However, they point to the complexity of the relationship between
students’ perceptions of assessment and classroom contextual features. There is a need for special attention to the nature of class gender, subject area, and grade level when considering conditions for classroom assessment to steer student motivational beliefs and learning strategies. The current study uncovered interesting interactions in students’ perceptions of the assessment tasks. It will be useful to supplement the quantitative investigation with a qualitative inquiry to uncover the meanings of these interactions.

The present study adds support to the value of incorporating students’ perceptions of the classroom assessment tasks in order to understand the consequential validity of the assessment process. The unique findings of interactions between gender, subject area, and grade level deserve additional attention by teachers and policy makers regarding the design of classroom assessment tasks and professional training programs for teachers. The present findings imply that perceptions of the classroom assessment tasks might be directly related to the nature of content of the subject area within a specific grade level as well as the overall classroom atmosphere which varies by gender of the class. This situation suggests the necessity to tailor classroom assessments to meet the requirements of the subject areas and grade levels and to take into consideration ability expectations of the class.

Despite the fact that the educational assessment system in the Sultanate of Oman is centrally regulated for all public schools by the Ministry of Education, teachers tend to vary in their practices of the assessment regulations which in turn might influence students’ perceptions of the assessment. It is natural, however, that teachers attempt to accommodate the educational assessment policy regulated by the Ministry to the specific needs of the students and classroom curriculum. Yet, professional development programs are needed to increase teachers’ awareness of the consequences of their classroom assessment practices on students.

Although students’ perceptions of the classroom assessment is of critical importance for understanding the impact of assessment practices on student learning and motivation, the reliance on self-report surveys is a limitation of the study. It would be optimal to utilize multiple methods in future research to examine the extent to which students’ perceptions reflect actual features of the classroom assessment. Also, future research should consider more grade levels to enhance generalizability of the results.

References

Alkharusi, H. (2013). Canonical correlational models of students’ perceptions of assessment tasks, motivational orientations and learning strategies. *International Journal of Instruction, 6*, 21-38.

Alkharusi, H. (2015). An Evaluation of the measurement of perceived classroom assessment environment. *International Journal of Instruction, 8*, 45-54.

Alkharusi, H., Aldhafri, S., Alnabhani, H., & Alkalbani, M. (2013a). The impact of students’ perceptions of assessment tasks on self-efficacy and perception of task value: A path analysis. *Social Behavior and Personality: An international Journal, 41*, 1681-1692.

Alkharusi, H., Aldhafri, S., Alnabhani, H., & Alkalbani, M. (2013b). *The Relationship between Students’ Perceptions of the Classroom Assessment Tasks and Academic Achievement*. Paper presented at the 15th Annual International Conference on Education, Athens, Greece, May 20-23, 2013. ATINER’S Conference Paper Series, No: EDU2013-0404.

Black, P., & Wiliam, D. (1998). Inside the black box: Raising standards through classroom assessment. *Phi Delta Kappan, 80*, 139 – 148.

Brookhart, S. M. (1997). A theoretical framework for the role of classroom assessment in motivating student effort and achievement. *Applied Measurement in Education, 10*, 161-180.

Brookhart, S. M. (2013). Classroom assessment in the context of motivation. In J. H. McMillan (Ed.), *SAGE handbook of research on classroom assessment* (pp. 35 – 54). Los Angeles, CA: SAGE Publications.

Brookhart, S. M., & Bronowicz, D. L. (2003). ‘I don’t like writing. It makes my fingers hurt’: Students talk about their classroom assessment. *Assessment in Education: Principles, Policy & Practice, 10*, 221 -242.
Cook-Sather, A. (2002). Authorizing students’ perspectives: Toward trust, dialogue, and change in education. *Educational Researcher, 31*, 3-14.

Dhindsa, H. S., Omar, K., & Waldrip, B. (2007). Upper secondary Bruneian science students’ perceptions of assessment. *International Journal of Science Education, 29*, 1261-1280.

Dorman, J. P., & Knightley, W. M. (2006). Development and validation of an instrument to assess secondary school students’ perceptions of assessment tasks. *Educational Studies, 32*, 47-58.

Gao, M. (2012). Classroom assessments in mathematics: High school students' perceptions. *International Journal of Business and Social Science, 3*, 63-68.

Harlen, W., & Crick, R. D. (2003). Testing and motivation for learning. *Assessment in Education: Principles, Policy & Practice, 10*, 169-207.

Iannone, P., & Simpson, A. (2013). Students’ perceptions of assessment in undergraduate mathematics. *Research in Mathematics Education, 15*, 17-33.

Lawness, C. J., & Richardson, J. T. E. (2002). Approaches to studying and perceptions of academic quality in distance education. *Higher Education, 44*, 257-282.

Lindblom-Ylänne, S., & Lonka, K. (2001). Students’ perceptions of assessment practices in a traditional medical curriculum. *Advances in Health Science Education, 6*, 121-140.

Mullinix, B. B. (2001). Learning, connections, assessment, and testing: Voices from the inside. *Educational Horizons, 79*, 177-181.

Ryan, K. (2002). Assessment validation in the context of high-stakes assessment. *Educational Measurement: Issues and Practice, 21*, 7-15.

Van Dinther, M., Dochy, F., Segers, M., & Braeken, J. (2014). Student perceptions of assessment and student self-efficacy in competence-based education. *Educational Studies, 40*, 330-351.

Watering, G., Gijbels, D., Dochy, F., & Rijt, J. (2008). Students’ assessment preferences, perceptions of assessment and their relationships to study results. *Higher Education, 56*, 645-658.