

# Teaching of Psychology

<http://top.sagepub.com/>

---

## Reliability of Students' Self-Recorded Participation in Class Discussion

Katherine R. Krohn, Lisa N. Foster, Daniel F. McCleary, Kathleen B. Aspiranti, Meagan L. Nalls, Colin C. Quillivan, Cora M.

Taylor and Robert L. Williams

*Teaching of Psychology* 2011 38: 43

DOI: 10.1177/0098628310390846

The online version of this article can be found at:

<http://top.sagepub.com/content/38/1/43>

---

Published by:



<http://www.sagepublications.com>

On behalf of:



<http://www.sagepub.com>  
Society for the Teaching of Psychology

**Additional services and information for *Teaching of Psychology* can be found at:**

**Email Alerts:** <http://top.sagepub.com/cgi/alerts>

**Subscriptions:** <http://top.sagepub.com/subscriptions>

**Reprints:** <http://www.sagepub.com/journalsReprints.nav>

**Permissions:** <http://www.sagepub.com/journalsPermissions.nav>

>> [Version of Record](#) - Jan 1, 2011

[What is This?](#)

# Reliability of Students' Self-Recorded Participation in Class Discussion

Teaching of Psychology  
38(1) 43-45  
© The Author(s) 2011  
Reprints and permission:  
sagepub.com/journalsPermissions.nav  
DOI: 10.1177/0098628310390846  
http://top.sagepub.com



Katherine R. Krohn,<sup>1</sup> Lisa N. Foster,<sup>1</sup> Daniel F. McCleary,<sup>1</sup>  
Kathleen B. Aspiranti,<sup>1</sup> Meagan L. Nalls,<sup>1</sup> Colin C. Quillivan,<sup>1</sup>  
Cora M. Taylor,<sup>1</sup> and Robert L. Williams<sup>1</sup>

## Abstract

The study determined whether students' self-recording of their class comments differed from observers' tallies of student comments and specifically whether students overreported their comments when credit was available for participation. In three sections (51-57 students per section) of an undergraduate educational psychology course, participants received a small amount of credit toward their grade for reporting up to two comments per class session in selected course units. Participants self-recorded their comments on a specially designed card on all days set aside for discussion in all units, including the noncredit units. Agreement between participant and observer records of individual participation proved high overall, and students did not overreport their comments under credit conditions.

## Keywords

participation, college students, self-recording, reliability

The widespread emphasis on giving students credit for class participation (Bean & Peterson, 1998; Garside, 1996; Howard, James, & Taylor, 2002; Jones, 2008) necessitates a reliable and efficient means for assessing individual participation, a methodology currently lacking. Auster and MacRone (1994) claimed that instructors are more inclined to assess student participation via faculty anecdotal evidence rather than systematic empirical data. Given possible discrepancies between selected anecdotal records and actual amount of participation, some researchers (Davis, 1993; Jacobs & Chase, 1992) have cautioned against grading participation. However, students may devalue participation if not included in the course grading scheme (Janzow & Eison, 1990; Jones, 2008).

Several researchers (e.g., Howard & Henney, 1998; Zaremba & Dunn, 2004) recommended student self-assessment as a viable option for grading participation. Howard and Henney (1998) suggested that students grade their own participation in class discussion, using guidelines provided by the instructor. Zaremba and Dunn (2004) devised a self-evaluation form for students' verbal and nonverbal participation in class discussion. In both cases, students completed their assessment at the end of class instead of recording their comments during class.

One problem with self-assessment is that students estimate their participation approximately twice as high as external observers (Howard et al., 2002) and rank their participation higher than both peers and instructors (Burchfield & Sappington, 1999; Ryan, Marshall, Porter, & Jia, 2007). Using credit to increase participation (Boniecki & Moore, 2003; Sommer &

Sommer, 2007) may increase the tendency for students to overestimate their participation. However, requiring students to continually self-record their specific comments might militate against overestimation.

Regarding the accuracy of students' self-recording their participation, we sought to answer two questions: Do student self-recordings and observer recordings of participation significantly differ on days set aside for discussion? Do students overreport their participation on credit discussion days and underreport participation on noncredit discussion days?

## Method

### Participants

We conducted the study during one semester across three sections ( $n = 51$  to 57 students per section) of the same undergraduate human development course. All three sections had the same course number, title, syllabus, content, assessment measures, schedule, discussion format, and units. The sample consisted of approximately 76% women and 24% men, with

<sup>1</sup>University of Tennessee, Knoxville, TN, USA

### Corresponding Author:

Robert L. Williams, University of Tennessee, Department of Educational Psychology and Counseling, Knoxville, TN 37996  
Email: bobwilliams@utk.edu

14% first-year, 45% sophomore, 27% junior, 9% senior, and 5% graduate students. Although students did not indicate their age, we estimated that at least 95% were within the 18 to 21 age range.

### Procedure

The course syllabus instructed students to write a phrase or sentence to describe each comment they made during class discussion. A comment could consist of a voluntary question, a response to a question, or an opinion about an issue under discussion. Both students and observers recorded a student comment leading to a brief interchange between the student and instructor on a specific point as only one comment. Students recorded only individual comments related to content issues.

The same supervising professor trained the three graduate teaching assistants (GTAs) to ask a series of scripted questions about the assigned subject matter in the five course units (physical development, cognitive development, social development, psychological development, and values development). On 4 successive days set aside for discussion in each unit, students recorded their comments on specially designed record cards and gave the cards to their GTAs at the end of class. (The other 3 days in each unit were devoted to video presentations, short essay quizzes, instructor-led exam review, and major exams.)

On the final discussion day in each unit, two GTAs from other course sections sat in the front corners of the class to tally participant comments, using the same definition of comments as students used. Observers identified students by their name cards, which students placed directly in front of them every class period. Neither instructor nor observers informed students as to the specific reason for observer presence on these 5 days. In sum, students submitted their self-recording cards for 20 days and two GTAs tallied student comments on 5 of those 20 days.

### Credit for Participation

Instructors gave participation credit in two nonconsecutive course units, Units 2 and 4 in two sections and Units 3 and 5 in a third section. Instructors posted announcements of participation credit on the course website and on the board throughout credit units. Participants received 2 points for the first comment each discussion day and 1 point for a second comment in the credit units. Students could maximize their participation credit (3 points) each day by making at least two comments, resulting in 12 points per credit unit and 24 participation points (3 points  $\times$  4 discussion days  $\times$  2 units), which amounted to 4% of the cumulative course credit. We used participants' records of their comments in noncredit units to determine equivalence in student–observer agreement across credit and noncredit units. Students recorded all their comments on discussion days, and observers recorded all student comments each day they observed.

## Results

### Reliability of Self-Reporting

The first research question was whether student self-recordings and observer recordings of participation significantly differed. The range of student–observer correlations across all sections and units proved to be .71 to .95 between students and the two GTAs, with an average correlation of .87 for credit units and .85 for noncredit units. These correlations were not significantly different ( $p = .19$ ), and both are large according to Cohen's (1988) classification scheme. Of the student–observer correlations, 95% were .80 or greater. Consequently, the answer to the first research question is that student self-recording and observer recording of participation did not differ significantly.

### Over- and Underreporting Participation

The second research question was whether students overreported their participation under credit conditions and underreported participation under noncredit conditions. We compared students' records to observers' records under both credit and noncredit conditions, using a 2 (condition: credit or noncredit)  $\times$  2 (recorder: student or observer) repeated measures design. We collapsed all credit conditions and then all noncredit conditions by averaging the number of comments across the two units within the same credit condition or three units within the same noncredit condition for students and observers separately. Because of the very high correlation (.96 to .99, .98 overall) between the observers' records, we averaged observer ratings for each student observed.

The ANOVA yielded a significant interaction effect,  $F(1, 150) = 11.80, p < .0001$ . Tests of simple effects indicated that participants recorded more comments in the credit ( $M = 1.52, SD = 1.29, p < .001$ ) than in the noncredit ( $M = 1.14, SD = 1.30$ ) conditions, Cohen's (1988)  $d = 0.29$ . In contrast, observer records did not differ for credit ( $M = 1.60, SD = 1.58$ ) and noncredit ( $M = 1.50, SD = 1.94, d = 0.05$ ). Furthermore, observers tallied more noncredit comments ( $M = 1.50$ ) than participants ( $M = 1.14, p < .001, d = 0.28$ ), but observers and participants recorded a similar number of credit comments ( $M = 1.52$  for participants and  $M = 1.60$  for observers,  $d = 0.06$ ). Thus, the answer to the second research question regarding prevalence of students' under- and overreporting is mixed: Students recorded fewer comments than observers under noncredit units, but student and observer records did not differ significantly for the credit units.

## Discussion

The findings that student and observer overall records did not differ significantly and that students did not overreport comments under credit conditions run counter to previous findings regarding student exaggeration of self-reported participation (Burchfield & Sappington, 1999; Howard et al., 2002; Ryan et al., 2007). Continually recording one's specific comments

produces different results than making a global assessment of participation at the end of class periods, as has been done in most previous studies. A global rating of participation at the conclusion of class may be more susceptible to errors (e.g., recalling intended participation rather than actual participation, mixing peer comments with personal comments, purposeful exaggeration to improve grade) than would continual recording of specific comments during class.

For teachers who include participation in their grading scheme, student self-recording of comments provides an efficient and reliable way to determine credit for participation. Given that students tend to rate their participation higher than does the instructor (Burchfield & Sappington, 1999; Ryan et al., 2007), writing one's specific comments on an official record card would provide a more accurate basis for determining participation credit. Assigning participation credit by using this technique would help assure students of a fair assessment.

The principal limitation of the findings of the current study is that GTAs recorded student comments only 1 day per unit, and their presence might have encouraged students to be more accurate in their self-recording. Although students received no explicit information as to what these GTAs were doing, observer presence could still have affected participation. However, arranging for a concealed recording system (e.g., hidden video cameras) would have been far more technically complex than the observational system used and probably would not have met the university's standards for full disclosure in human participant research.

The current study suggests that self-recording of comments is logistically manageable in classes ranging from 50 to 60 students. For larger classes, an instructor could divide the class into subsets based on alphabetical listing of last names. Students in each subset would have an opportunity to earn participation credit on selected days, with self-records used in determining each student's level of participation. This arrangement would also magnify the responsibility to participate on selected days, as opposed to depending on others to sustain discussion.

### Declaration of Conflicting Interests

The authors declared no potential conflicts of interests with respect to the authorship and/or publication of this article.

### Funding

The authors received no financial support for the research and/or authorship of this article.

### References

- Auster, C. J., & MacRone, M. (1994). The classroom as a negotiated social setting: An empirical study of the effects of faculty members' behavior on students' participation. *Teaching Sociology, 22*, 289-300.
- Bean, J. C., & Peterson, D. (1998). Grading classroom participation. *New Directions for Teaching and Learning, 74*, 33-40.
- Boniecki, K. A., & Moore, S. (2003). Breaking the silence: Using a token economy to reinforce classroom participation. *Teaching of Psychology, 30*, 224-227.
- Burchfield, C. M., & Sappington, J. (1999). Participation in classroom discussion. *Teaching of Psychology, 26*, 290-291.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.
- Davis, B. G. (1993). *Tools for teaching*. San Francisco, CA: Jossey-Bass.
- Garside, C. (1996). Look who's talking: A comparison of lecture and group discussion teaching strategies in developing critical thinking skills. *Communication Education, 45*, 212-227.
- Howard, J. R., & Henney, A. L. (1998). Student participation and instructor gender in the mixed-age college classroom. *Journal of Higher Education, 69*, 384-405.
- Howard, J. R., & James, G. H., III, & Taylor, D. R. (2002). The consolidation of responsibility in the mixed-age college classroom. *Teaching Sociology, 30*, 214-234.
- Jacobs, L. C., & Chase, C. I. (1992). *Developing and using tests effectively: A guide for faculty*. San Francisco, CA: Jossey-Bass.
- Janzow, F., & Eison, J. (1990). Grades: Their influence on students and faculty. In M. D. Svinicki (Ed.), *The changing face of college teaching. New directions for teaching and learning no. 42* (pp. 93-102). San Francisco, CA: Jossey-Bass.
- Jones, R. C. (2008). The "why" of class participation. *College Teaching, 56*, 59-62.
- Ryan, G. J., Marshall, L. L., Porter, K., & Jia, H. (2007). Peer, professor, and self-evaluation of class participation. *Active Learning in Higher Education, 8*(1), 49-61.
- Sommer, R., & Sommer, B. A. (2007). Credit for comments, comments for credit. *Teaching of Psychology, 34*, 104-106.
- Zaremba, S. B., & Dunn, D. S. (2004). Assessing class participation through self-evaluation: Method and measure. *Teaching of Psychology, 31*, 191-193.