

Enhanced Learning and Retention Through “Writing to Learn” in the Psychology Classroom

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We assessed the benefits of employing microthemes—short in-class writing assignments designed to facilitate active learning—as pedagogical tools in psychology courses. Students in target course sections completed 10 in-class microthemes during a semester. We designed the microthemes to serve as active learning assignments that would enhance student learning and long-term retention, as well as strengthen students’ writing skills. The instructors provided feedback to students on the content and writing quality of each microtheme. Students reported that the microthemes were effective and engaging learning tools. A comparison of essay and multiple-choice scores for students in target versus control course sections suggested the effectiveness of the microthemes for student learning, retention, and writing development.

Given the importance of writing to psychology and to the stimulation of “active learning” (engagement in the learning process; Bloom, 1956; McKeachie, 1994; Weimer, 2002), it is not surprising that approximately 15% of the more than 2,000 articles published thus far in *Teaching of Psychology* (*ToP*) concerned writing assignments. However, it is, perhaps, surprising to learn that fewer than 10 articles focused on *in-class* writing exercises, despite evidence of their learning benefits in other disciplines (Bean, 2001), and that there has been little systematic assessment of their effectiveness in psychology courses (e.g., Dunn, 1994; McGovern & Hogshead, 1990). Furthermore, none described the graded in-class writing assignments designed to facilitate active learning, or *microthemes*, that we introduce here. Although other instructors might employ variations of this technique, this article is the first to report an empirical assessment of its effectiveness.

The few assessments of ungraded in-class writing assignments in *ToP* reported divergent findings (e.g., Butler, Phillmann, & Smart, 2001; Drabick, Weisberg,

Paul, & Bubier, 2007). However, these assignments might not have fully captured the potential of strategically crafted microthemes to elicit substantial critical and elaborative thinking, followed by a small amount of writing (Bean, 2001). For example, students in one study answered factual questions about concepts to be covered on an examination (Butler et al., 2001), which facilitated their performance on corresponding examination questions. However, students received no instructor feedback and rated the assignments low in intellectual stimulation. Also missing in the literature is systematic assessment of longer term knowledge retention (e.g., over 2 months after material is taught) as a function of graded or ungraded microthemes.

We designed our technique to enhance psychology students’ mastery and retention of course content, stimulate active learning, and improve writing quality. To achieve these goals, assignments were (a) constructed to prompt students to think critically about and apply course topics, (b) followed by discussion to further stimulate active learning, (c) implemented throughout the semester to provide practice analyzing course content and communicating these analyses effectively, and (d) graded, with feedback, by instructors. We acknowledge that ungraded assignments can be beneficial (Dunn, 1994); however, our emphasis on grading in this assignment is congruent with McKeachie’s (1994) contention that active learning approaches are most effective when incorporating progress measurement.

Our previous pretest–posttest evaluation of this technique suggested its short-term effectiveness in meeting these pedagogical goals, but did not incorporate a control group, tempering interpretation of its findings (Stewart & Myers, 2008). Our new assessment employed a larger sample, introduced group

Table 1. Selected Psychology of Women Course Topics and Associated Microtheme Assignments

Images of women

Describe an advertisement you've seen recently (in a magazine, on television, on a billboard, or another venue). Relate how one or more course concepts do or do not apply to the ad. Be sure to define the course concept(s) in your own words before applying it to your analysis of the ad.

Violence against women

(a) Consider the role of fear in your life and/or the lives of your female or male friends. In what situations, if any, do you or others you know feel vulnerable and/or afraid for their safety? Does it affect the life decisions that you or your friends make? Do you or your friends take steps to feel less vulnerable? If so, what are they?

(b) What messages do women receive in our society concerning steps they should take to be "safer?" What are your thoughts concerning these messages, having read and participated in classes dedicated to this topic?

Women and achievement

(a) During the last class, you estimated how much you think you will earn in your career upon graduation and 10 years later. What factors do you think contributed to your estimate? In what way are these factors related to topics covered in class?

(b) What challenges or benefits do you think that you will face in your chosen career due to your gender? How might you deal with any anticipated challenges? What institutional/societal changes would you like to see to help make the possibility of success more equal for men and women?

The future of gender

If you could snap your fingers and magically make gender roles (personal, social, or institutional) exactly what you want them to be, what would these gender roles look like? What is one strategy that you would recommend to work toward achieving this ideal? Relate your strategy to course material. You can discuss "gender vertigo" (Risman, 1999) or any other strategy mentioned in class lectures or readings, as well as material from outside sources.

comparisons, assessed learning via multiple-choice and essay items, and documented the assignment's longer term effectiveness.

Method

Participants

Students in three sections of a psychology of women course participated. A female instructor employed microtheme assignments throughout the semester in two (target) sections—an honors ($n = 14$) and nonhonors section ($n = 20$). The control section was a nonhonors course ($n = 39$) taught by another female instructor who used the same textbook and covered the same topics, but did not assign microthemes. In all sections, the instructors lectured and assigned readings on "Images of Women" during Week 2 of classes and gave exams covering this topic during Week 7. Both instructors had taught this course numerous times and received positive student evaluations. For the assessment courses, both instructors were rated "excellent."

More than 93% of students were juniors or seniors. Students' grade point averages (GPAs) in the nonhonors target and control classes were comparable ($M_s = 3.07$ and 3.14 , respectively). GPAs for the honors students were substantially higher. Enrollment represented the university's ethnic diversity (approx-

mately 45% White, 45% African American, and 10% other groups).

Procedure

The microtheme technique. During 10 class sessions, without advance notice, target students received approximately 12 min (determined by pretesting) to write microthemes (see Table 1).

The instructors used customized grading rubrics to score the microthemes on a 10-point scale assessing accuracy, thoroughness, application of course concepts, and writing quality. For the "Images of Women" assignment, students could earn up to 2 points for naming an ad, 2 points for accurately naming and defining concepts, 2 points for applying concepts, 2 points for general reactions, and 2 points for writing quality. Clear responses incorporating proper mechanics, with few spelling, grammar, and punctuation errors, earned full writing quality credit. Conversely, responses that were difficult to follow and contained reoccurring errors earned no points. Partial credit was possible. Graders provided written feedback and suggestions for maximizing future performance (e.g., "Be sure to address each question to earn full credit"; "Expanding your analysis would produce an even stronger discussion").

The assessment. During Week 10, with instructors absent, participants completed the following assessment: 15 multiple-choice questions assessing

recognition-based knowledge of “Images of Women” material; an “Images of Women” microtheme assignment not previously administered; and three questions about the class sessions’ perceived facilitation of expression, engagement, and overall learning rated on a scale ranging from 1 (*most negative*) to 7 (*most positive*). Target students also rated the microthemes’ facilitation of these functions.

A third party randomly assigned code numbers to the microthemes and assigned half to each instructor for scoring. A subset representing about 10% of all microthemes ($n = 8$) was graded by both instructors, yielding 88% interrater reliability. Interrater reliability was calculated using a standard approach in qualitative research in which number of “agrees” is divided by total observations (Miles & Huberman, 1994). Rubric criteria for the microtheme included following assignment (2 points), knowledge and application of course content (2 and 4 points, respectively), and writing quality (grammar and clarity; 2 points). Students could earn fractional points (e.g., 1.5).

Results

We conducted t tests to examine the effect of class type (target vs. control) on nonhonors students’ multiple-choice and overall microtheme scores. Table 2 reveals, as predicted, that nonhonors target students earned higher scores than nonhonors control students on both measures: multiple-choice, $t(57) = 3.33$, $p < .002$, Cohen’s $d = .89$; and microtheme, $t(57) = 2.27$, $p < .03$, Cohen’s $d = .60$.

Analysis of writing quality subscores also demonstrated higher scores for nonhonors target students than for nonhonors control students, $t(57) = 2.12$, $p < .04$, Cohen’s $d = .56$.

ANOVAs and post hoc contrasts of all class sections considered separately revealed that target honors students performed better than students in nonhonors sections on the multiple-choice and overall microtheme measures. However, honors and nonhonors target students earned equally high writing scores.

A MANOVA of the perception items as a function of class type, with target sections combined, illustrated target students’ more positive views of class sessions, $F(3, 69) = 4.65$, $p < .005$, $\eta^2 = .17$. Descriptive data revealed that target students rated the microtheme assignments positively (all M s > 5.15).

Discussion

Our assessment demonstrated that graded in-class microtheme assignments can facilitate psychology students’ active learning and retention of course material, as well as their writing development. Students who completed microthemes throughout the semester scored higher than comparable students who did not on writing quality and on knowledge and application of material taught 10 weeks earlier. In fact, nonhonors microtheme students, but not control students, earned writing scores equivalent to those of honors microtheme students, underscoring the utility of this technique for writing development. Furthermore, target students evaluated the microtheme assignments positively and rated their class session experience more positively than control students. This assessment

Table 2. Performance on Microtheme and Multiple-Choice Items as a Function of Class Section

	Control Section ^a		Target Microtheme Section I ^b		Target Microtheme Section II: Honors ^c	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Microtheme: Understanding of assignment	1.54	.51	1.60	.50	1.86	.36
Microtheme: Knowledge of material	1.95	.72	2.20	.70	2.43	.51
Microtheme: Application of material	1.77	.67	2.15	.59	2.64	.50
Microtheme: Writing quality	1.54	.60	1.85	.37	2.00	.00
Microtheme: Total score	6.79	1.63	7.80	1.58	8.93	1.00
Multiple-choice	8.58	2.13	10.40	1.67	13.08	1.71

Note. Microthemes were graded on a 10-point scale: Understanding/following assignment (2 points); knowledge of material (3 points); application of material (3 points); and writing quality (2 points). Multiple-choice scores could range from 0 to 15. Multiple-choice and overall microtheme scores significantly differed for all group comparisons.

^a $n = 39$. ^b $n = 20$. ^c $n = 14$.

cannot speak to the effectiveness of microthemes unaccompanied by class discussion; however, we consider discussion to be a core component of these assignments and advise against its omission.

We predict that other psychology courses will find this technique to be effective in facilitating active learning and improving retention and communication of course material. Due to their brevity and the use of grading rubrics, microthemes are less time-consuming to grade than are many other writing assignments. Ideally, microthemes exemplify “the principle of leverage: a small amount of writing preceded by a great amount of thinking” (Bean, 2001, p. 80). Based on our experiences employing microthemes, we expect instructors of classes of fewer than 75 students to find grading microthemes to be manageable. Larger classes might necessitate grading assistance or less frequent administration of assignments.

Although the control and target groups in our assessment were comparable across key dimensions such as course material, lag between material coverage and assessment, student GPA, and instructor effectiveness ratings, they differed in class size and instructor. Therefore, we cannot rule out the possibility that these differences contributed to our findings. Somewhat allaying these concerns are the findings of the pretest–posttest assessment of this technique, in which class size and instructor were constants, which suggested a similar pattern of benefits associated with microthemes. Nonetheless, future research with target and control groups of equal size and the same instructor would further elucidate this technique’s benefits.

Writing Across the Curriculum (WAC) programs have sometimes faltered due to limited support for smaller, writing-intensive classes (McLeod, 1989). Assessments such as this one, which document the effectiveness of WAC-inspired techniques for student learning, retention, and writing, strengthen the argument that WAC program funding is money wisely spent.

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Notes

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