

In-Class Writing as a Teaching Tool: An Evaluation

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ABSTRACT

This pilot study investigates the effectiveness of in-class writing as a teaching tool. Two sections of a general psychology class engaged in responsive writing to instructor's prompts as an advance organizer before each lecture, and minute essays to help consolidate course concepts at the end of each lecture. Two other sections which did not engage in the writing exercises were used as a control group. All sections received identical lectures, demonstrations, and examinations from the same instructor. Results indicate that in-class writing did help the treatment groups achieve higher grades on examinations and assigned papers. Further research with larger groups is indicated.

INTRODUCTION

- Instructors in General Psychology may find it challenging to assist students in their attempts to assimilate large volumes of information in the limited time frame of a single semester.
- One promising strategy is the use of advance organizers to help students understand new knowledge meaningfully, connecting it to their existing knowledge bases (Ausubel, Novak, & Hanesian, 1978). Large meta-analyses of studies on the effectiveness of advance organizers have shown them to be effective learning tools (Luiten, Ames, & Ackerson, 1980; Mayer, 1979a). However, Barnes and Clawson (1975) have cast doubts on their effectiveness. On the whole, as Mayer (1979b, p. 381) notes, "advance organizers, when used in appropriate situations and when evaluated adequately, do appear to influence the outcome of learning."
- McKeachie and Svinicki (2006) posited that students would benefit greatly from low-stakes in-class writing, such as the "minute paper," to help them consolidate their learning at the end of each class. This also informs the instructor about how well the students are learning the material, and allows her to remediate misconceptions. This technique has been successfully used in more formal (Boyles, Killian, & Rileigh, 1994) and more informal (Hinkle & Hinkle, 1990; Butler, Phillmann, & Smart, 2001) end-of-class writing in psychology courses. Instructors in other disciplines have reported similarly encouraging outcomes from the use of minute papers, including courses in accounting (Almer, Jones, & Moeckel, 1998; Baird, Zelin, & Ruggie, 1998), algebra (Miller, 1992), economics (Chizmar and Ostrosky, 1998), food science (Schmidt, Parmer, & Javenkoski, 2002), pharmaceutical education (Hobson & Schafermeyer, 1994), and thermodynamics (Beall, 1994).
- The purpose of this study was to combine these strategies to see if their combination would result in better learning.

Research Question

- Will students who engage in an advance organizer-based writing exercise at the beginning of each class and a minute paper at the end of each class achieve higher examination grades than those who do not?

METHOD

Participants:

- 64 undergraduate students enrolled in four sections of General Psychology at Broome Community College
- 26 Male; 38 Female

Procedure:

- Two treatment sections and two control sections were selected
 - All sections were taught by the same instructor
 - All sections received identical lectures, laboratory exercises, demonstrations, homework assignments, and examinations
- Treatment sections engaged in daily in-class writing
 - Writing for approximately two minutes on advance organizer topics presented before lecture
 - Writing for approximately two minutes on topical questions presented at the close of lecture
 - Instructor collected all writing at the end of each class
- All student writing was evaluated for misconceptions about lecture topics
 - Misconceptions were corrected on each student's paper
- Papers were returned to students in the next class meeting
- Each completed writing assignment earned an automatic A for daily participation; missed assignments earned Fs
- Student comments on in-class writing were solicited from the treatment sections at the end of the semester

Sample Prompts

Unit	Advance Organizer	One Minute Paper
Sensation & Perception	"What you see is what you get, and what you don't is better yet!" (Flip Wilson)	Describe a real situation from your life that illustrates either top-down or bottom-up processing.
Learning	"Behavior is controlled by its consequences." (B.F. Skinner)	Tell me about a situation in which you used shaping to change the behavior of another person or an animal.
Intelligence & Cognition	"You see? This is an example of smartness!" (Franz Liebkind)	How would you measure creativity?
Development	"Children begin by loving their parents. After a time they judge them. Rarely, if ever, do they forgive them." (Oscar Wilde)	How might you find out if a child is securely attached to its caretaker?
Stress & Health	"I try to take one day at a time, but sometimes several days attack me at once." (Ashleigh Brilliant)	Describe some of the strategies that help you to alleviate stress in your life. How do they work?

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RESULTS

Grades:

- In general, the treatment group outperformed the control group on most examinations and all of the assigned papers.
- The major reason for the inconsistent performance of the treatment group on Exam 6 is that the highest scoring members of that group were exempted from taking that test. Thus, their group's scores were lower than might otherwise have been expected.

Assignment	Treatment Group	Control Group
Exam 1	81.27	77.67
Exam 2	81.26	81.55
Exam 3	74.97	74.35
Exam 4	78.02	75.27
Exam 5	79.42	75.73
Exam 6	70.32	70.38
Research Thesis Paper	66.17	56.88
Annotated Bibliography	77.81	71.18
Research Proposal	47.30	42.05
Midterm Average	79.16	76.35
Final Exam Average	80.37	76.52
Final Course Grade	72.10	66.25

Comments:

- Typical student comments:
 - "It got you thinking about the topic."
 - "The ICWE helped get my mind working."
 - "It forced you to think at the beginning of class."
 - [Not] "having enough time to get all my thoughts out on the subject before it was time to take notes."

DISCUSSION

- In general, in-class writing was extremely successful. Students in the treatment sections either outperformed or did equally as well as students in the control groups.
- Even though the in-class writing exercises were aimed at material to be covered on the exams, students in the treatment group also earned notably higher grades on their paper assignments. It is possible that because they engaged in considerably more writing than the control group, they gained more facility and confidence with the writing process in general.
- The small number of participants in this study makes it difficult to engage in meaningful statistical analysis, but this pilot study indicates that larger follow-up studies would be a productive next step to further investigate this approach.