

# Math Journaling as a Self-Regulated Learning Technique in the Fifth-Grade Classroom

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## Introduction

Self-regulated learners are students who take an active role in their education and have the desire to become more competent and more capable as learners (Zimmerman, 1990).

Teaching student skills to be more self-regulated has been shown to help students improve their thinking and organizational skills (Pape, Bell, & Yetkin, 2003).

The present research looks at a way that educators can attempt to guide their students towards becoming more self-regulated in their learning.

Provoking thought with a specific activity like journaling gives students opportunities for self-evaluation and independent problem solving; important skills for self-regulated learners (Paris & Paris, 2001).

The journaling treatment presented to these students was designed as a metacognitive activity intended to help them discover how they learn math best.

## Methods

•Participants: Twenty seven fifth-grade public school students.

•Treatment: Participants were asked to write in a nightly journal for one week about their math learning for the day.

•Questionnaire: Students completed a Likert-type scale questionnaire pre- and post-treatment (see Table).

•Responses: Responses were coded by measuring, in centimeters, the distance from the left edge of the scale to the area indicated by the student.

•Analysis: Data was analyzed using two-tailed, paired t-tests (see Table).

## Questionnaire Response Values at Pre- and Post-Treatment

| Statement   | M    |      | t     |
|---|------|------|-------|
|   | Pre  | Post |       |
| a. I learn math by listening to the teacher talk. | 3.77 | 4.48 | 1.39* |
| b. I learn math by working with friends.          | 6.00 | 5.76 | 0.63* |
| c. I learn math by correcting my answers.         | 5.4  | 4.78 | 0.49* |
| d. I learn math by completing my homework.        | 4.19 | 3.88 | 0.24* |
| e. I'm not sure how I learn math.                 | 5.28 | 4.42 | 1.07* |

Note.  $df(23)$ . Responses of "Agree" to "Kind of Agree": 0-8.25, responses of "Kind of Disagree" to "Disagree": 8.25-16.5.

\* $p > .1$

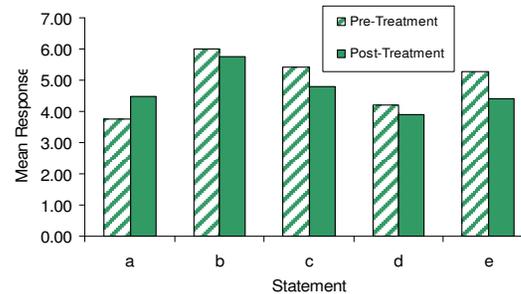


Figure 1. Mean of coded responses to Likert-style questionnaire, pre- and post-journaling treatment.

## Conclusion

Data analysis did not produce statistically significant results. This could be due to a number of factors:

- Teacher directed, scaffolding, techniques are particularly beneficial for students in activities like journaling (Massey & Heafner, 2004). Future research on student self-directed learning should include a more guided approach to journaling where teachers comment on journal entries and encourage metacognitive topics for writing.

- Research on self-regulated learning in the classroom has focused on older students (Pape, Bell, & Yetkin, 2003). The age and developmental level of the students in this study may have had an effect on their metacognitive abilities.

- Research involving self-regulated learning techniques may need to have a duration of greater than one week to show significant effect (Pape et al., 2003). Extending the length of treatment would allow for students to become familiar and comfortable with the journaling task and for refining of journal topics by researchers.

## References

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