

1023-I1-1114

Ward E. Canfield* (wcanfield@nl.edu), 1827 E. Bittersweet Ln, Mount Prospect, IL 60056-1905. *Writing, Learning, and Mathematics.*

Writing about mathematics is a very powerful way to help thinking about mathematics. Interestingly, not only can increased awareness of the mathematics result, but also of one's own relationship to it; mathematical awareness and self-awareness both increase. This double-edged awareness is critical in learning mathematics. For example, self-checking for correctness and mistakes while problem solving involves not only being aware of specific mathematical ideas, but also being generally aware of what was done, is currently being done, and what might have to be done. A student who writes about mathematics during the problem solving process can help bring about this critical double-edged awareness of mathematical ideas and personal behavior in relation to them. I will show three student examples of writing and discussion about mathematics where this happened, and discuss the frameworks in which these occurred. One student was learning self-checking in a remedial mathematics course, another was learning how to reason in solving story problems with equations in a problem solving course for education majors, and another was learning the concept of conjecture-making in an investigative geometry course for education majors. (Received September 25, 2006)