Pre-service Teachers enhance their Mathematical Understanding Through Journal writing. Preliminary report.

Theoretical basis for students to develop schemata knowledge and ability to think is found in research of cognitive psychology. Bruner (1996) espoused, "We teach a subject not to teach little living libraries on the subject, but rather to get a student to think mathematically for himself, to take part in the process of knowledge-getting. Knowledge is a process not a product" (72). Numerous studies such as Graves (2004), Hurst, B., Fisk, C., & Wilson, C. (2006), Bell & Bell (1985), Connolly & Vilardi (1989) Dominowski (1998) and others have documented writing helps students internalize and conceptualize math topics. Communication in doing, teaching and learning mathematics has become increasingly more important to the mathematical community. Writing is a manner in which a person can verbalize with one's own self. Self directed speech becomes inner speech and helps to build understanding (Vygosky, 1962). Little is learned about product. If students are asked to write about how they thought about the problem or solved it, then there is insight into the depth of knowledge. Pre-service teachers were presented with eight questions during an 8-weeks period. Writings were analyzed to understand the schemata knowledge. (Received September 26, 2006)