

1014-97-6

Juli D'Ann Ratheal* (jratheal@mail.wtamu.edu), WTAMU Box 60787, West Texas A & M University, Canyon, TX 79016. *Mathematical Connections: For Example, "How To Teach Radicals In Less Than 5 Minutes"* (Grades 6-16). Preliminary report.

Many students approach math courses with anxieties approaching phobic levels. Teachers continue to search for innovative teaching methods which make math concepts easier to understand, and at the same time, lessen student fears. Various techniques, such as mnemonics, acronyms and other minds/hands-on techniques, have been used in attempts to increase student understanding, encoding, retrieval and usage of information. In psychology, one technique used to address fears is approximation, in which a person is confronted with a stimulus which invokes a small but similar anxiety to the anxiety being addressed. The level of dreaded stimuli is increased, until the anxiety-of-focus can be confronted by the person with a lowered or eliminated degree of fear. In an inverted fashion, the teaching technique presented here involves focusing on positive, previously learned concepts paired with concrete behaviors, and then transferring that knowledge to abstract themes and problem solving. Using the rules associated with childhood games such as Go Fish or Old Maid, teaching radicals regardless of the root, with or without variables, is a simple process that students as young as 6th grade can grasp in minutes. This technique has been field tested for over 10 years and has been successful. (Received March 09, 2005)