

University Students' Understanding of Function is Still a Problem!

Zahra Gooya & Mehdi Javadi

Shahid Beheshti University

Iran

gooya@sbu.ac.ir, Zahra_gooya@yahoo.com

Abstract

A research study was designed using the conceptual model consisting two cells of concept images and concept definition developed by Vinner (1983) and has been used by many researchers since then, to investigate students' understanding of different concepts of calculus. A related literature review made us believe that students' understanding of function as one of the pillar of calculus is still problematic. 53 first year university students participated in this study that its purpose was to shed more light into the students' understanding of function in terms of their concept images and concept definitions. The study showed that the most common concept images of function among the students were having a rule, and using a machine as a metaphor for a function. The study also indicated that a concept image of having a rule for each function acted as an obstacle for students to understand the concept definition of function.

Key words: Conceptual Model, Concept Image, Concept Definition, Function, Calculus.