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Emre Tokgoz* (Emre.Tokgoz-1@ou.edu), 601 Elm Ave., Room 423, Norman, OK 73071.

Numerical Method/Analysis Students Function Concept Knowledge.

Engineering and mathematics undergraduate students conceptual function knowledge can have important impacts on their success in conceptually more developed courses such as Numerical Methods-Analysis courses. In this building blocks of concepts, function concept requires knowledge of sub-concepts such as limit, first derivative, second derivative, and continuity. In this paper, undergraduate and graduate engineering and mathematics Numerical Methods-Analysis course students conceptual function knowledge with a calculus graphing question is observed similar to Baker, Cooley, and Trigueros (2000). The participants are asked to define what it means to have a function and explain the function definition on a given function where the responses are evaluated by using Vinner's (1992) function concept image and concept definition knowledge idea. In addition, the participants are asked to draw the graph of a function by observing limiting values, first derivative, second derivative and asymptotes of a given function. Four questions related to the function concept were asked to the participants during the interviews to observe their function knowledge in detail. (Received September 03, 2011)