962-S1-1337 **Linda Braddy*** (`lbraddy@mailclerk.ecok.edu`), East Central University, Mathematics Department, 1100 East 14th Street, Ada, Oklahoma 74820. *Constructing Graphs to Meet Specified Conditions: A Generalizability Study.*

The use of multiple representations of functions has been a major theme in recent calculus reform. The assumption is that students benefit from exposure to different representations of the same function. The validity of this notion is rarely questioned or tested. In order to test its validity, we need to know what types of questions are appropriate to assess understanding of functions and their representations. In particular, do assessment items that require students to interpret a given graph and items that require students to construct a graph meeting specified conditions draw on different student abilities? Research revealed a clear distinction between these two problem types. This suggests that the appropriateness of assessment methods involving graphical representations of functions is more complex than assumed, and that empirical studies incorporating the use of graphical representations might have more ambiguous results than suggested at first glance. Subjects for this study were students enrolled in a first-semester calculus course. Generalizability theory was used to study the differences between the two types of problems. Information from personal interviews revealed differing opinions regarding difficulty level of the problems, which supported the numerical findings. (Received October 03, 2000)