Dedication

This dissertation is dedicated to my parents. I would not have been able to seek my doctorate without your constant support and encouragement. Thank you for showing me to appreciate the gifts God has given to me and for helping me see how He has paved a way for me to use them. This thesis is also dedicated to my husband and beautiful son who have given me time patiently to do my research work. I really thank both of you.
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I truly believe that people come into your life for a reason. There are no words to express the “thanks” that I owe to each of you or to describe the impact that you have had on my life.

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Abstract

The purpose of this study was to compare two meta-analysis approaches, namely, Hunter – Schmidt meta-analytical approach and Glass meta-analytical approach with respect to their efficiency in yielding better estimates of effect size. This was achieved through the calculation and analysis of effect sizes yielded by the two approaches when applied on same set of data. Effect size standardizes the findings across the studies and is the unique quantification of research findings in meta-analysis that make it a powerful synthesis technique. Data set were derived from the studies on effectiveness of instructional programs on creativity in general as well as on its subcomponents, namely, originality, fluency, flexibility, and elaboration. Moreover, estimation of effect size of effectiveness of instructional programs on creativity in general using Comprehensive Meta-analysis Software was secondary objective proposed for the present research.

This study investigated whether or not effect sizes yielded by the approaches are significantly different in size. If significant difference is there, is that because of using different denominator in the formulas which the approaches proposed for accumulating effect size or correction for measurement error which has to be calculated in Hunter-Schmidt approach. Studies included were 42 experimental studies wherein two- group experimental design was used to study the effectiveness of instructional program on creativity and its specific components were chosen.

Most (69%) of the individual effect sizes of studies before correction for measurement error and after correction for measurement error were classified as ‘large’
using Cohen’s power table. 19% of the effect sizes yielded for the studies were fallen under ‘medium’ and 12% of the effect sizes yielded for the studies were ‘small’ in size. Hunter-Schmidt meta-analysis approach yielded larger effect sizes than those calculated using Glass meta-analysis approach, although both the overall mean effect sizes were big enough. Results of the study suggested the existence of statistically significant difference between overall mean effect sizes yielded by the approaches. Paired sample t-test revealed significant difference between the approaches before and after making correction for measurement error. Therefore, significant differences were found between the approaches in terms of effect sizes yielded for 42 studies on effectiveness of instructional programs on creativity in general and its specific components, namely, originality, flexibility, and elaboration before correction for measurement error. No significant difference was revealed in subcomponent of creativity, namely, fluency. Likewise, significant differences were found between the approaches in terms of overall mean effect sizes yielded for the 42 studies on effectiveness of instructional programs on creativity in general and its specific components after correction for measurement error. It was concluded that Hunter-Schmidt meta-analysis approach can be yielded better estimates of effect size. The observed difference between the approaches has been discussed in Chapter (IV).

An analysis regarding the effect of instructional programs on creativity (in general) through Comprehensive Meta-analysis Software determined that programs designed to enhance creativity actually work. The evidence presented in this study suggested that, in general, creativity can be enhanced to a high degree through instructional programs,
although the researcher did not investigate different degree of types of programs. Thus, the hypothesized link between instructional programs and creativity in previous meta-
analysis studies supported the results of this study. Evidence from both meta-analysis models –Fixed effect model and Random effect model- provided sufficient and interpretable effect sizes.
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