CHAPTER 7

Application of Fuzzy Delphi Method in Educational Research

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Introduction

Fuzzy Delphi Method (FDM) is a technique introduced by Murray, Pipino and Gigch (1985) and reviewed by Kaufman and Gupta in 1988. FDM is a combination of fuzzy set numbering, or fuzzy set theory, and traditional Delphi method. This means that FDM is not a new method, but it is an instrument that has made enhancements to the Delphi method. These improvements could indirectly make use of FDM as a more effective measurement tool because it is seen as being able to solve problems with the particular study's imprecision and uncertainties.

The fuzzy set numbering or fuzzy set theory was introduced by Lotfi Zadeh, a great researcher (an expert mathematician), in 1965 and it serves as an extension of the classical set theory, where each element in a set is evaluated on the basis of a set of binary ("yes" or "no") responses. Fuzzy set theory also permits the gradual assessment of each element in a set, and the value contained in this fuzzy set is from 0 to 1 or in the unit interval (0, 1). According to Chang, Huang and Lin (2000), FDM is able to provide items such as the following:

a. it processes the ambiguity in relation to the forecasting item and the information content of the respondents

b. individual characteristics of the participants can be explained

In short, FDM is used to obtain the consensus of experts acting as respondents on the use of quantitative methods.