

Exploring the Effect of Using Lesh Model in Enhancing Prospective Mathematics Teachers' Number Sense

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Abstract : Developing students' number sense is an essential element in the learning of mathematics. Number sense is one of the foundational ideas in mathematics where students need to understand numbers, representing them in different ways, and realize the relationships among numbers. Number sense also reflects students' understanding of the meaning of operations, how they related to one another, how to compute fluently and make reasonable estimates. Developing students' number sense in the mathematics classroom requires good preparation for mathematics teachers, those who will direct their students towards the real understanding of numbers and its implementation in the learning of mathematics. This study describes the development of elementary prospective mathematics teachers' number sense through a mathematics teaching methods course at Qatar University. The study examined the effect of using the Lesh model in enhancing mathematics prospective teachers' number sense. Thirty-nine elementary prospective mathematics teachers involved in the current study. The study followed an experimental research approach, and quantitative research methods were used to answer the research questions. Pre-post number sense test was constructed and implemented before and after teaching by using the Lesh model. Data were analyzed using Statistical Packages for Social Sciences (SPSS). Descriptive data analysis and t-test were used to examine the impact of using the Lesh model in enhancing prospective teachers' number sense. Finding of the study indicated poor number sense and limited numeracy skills before implementing the use of the Lesh model, which highly demonstrate the importance of the study. The results of the study also revealed a positive impact on the use of the Lesh model in enhancing prospective teachers' number sense with statistically significant differences. The discussion of the study addresses different features and issues related to the participants' number sense. In light of the study, the research presents recommendations and suggestions for the future development of mathematics prospective teachers' number sense.

Keywords : number sense, Lesh model, prospective mathematics teachers, development of number sense

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