Building a Knowledge Base and Intellectual Capacity in Mathematics Education: Promises and Challenges

In this presentation, I will start with a discussion of the conceptualization of the New NCTM Handbook of Research on the Teaching and Learning of Mathematics. The discussion will be situated in the context of building a knowledge base and capacity in mathematics education. Then, I will use the curriculum chapter in the handbook and our own LieCal Project as examples to discuss the promises and challenges for building a knowledge base and intellectual capacity. Through an examination of historical methodological/theoretical milestones in research on curriculum, I will particularly discuss the methodological challenges in this line of research. Finally, the presentation will conclude with a discussion of a mathematical model of marriage and the lessons it holds for mathematics education research with respect to build a knowledge base and intellectual capacity.

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