

MATH PROBLEM POSING: STUDENTS' LEARNING, TEACHERS' PROFESSIONAL GROWTH AND PARENTAL INVOLVEMENT

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Mathematical problem posing (MPP) refers to many different activities and its multi-facet nature draws attention to researchers and practitioners internationally (Silver, 2013). However, what is still in need are specific steps in implementation, strategies on challenges and documentation of designated outcomes for involving participants. To begin, MPP means the formation of a mathematics problem which invites a solution from an intended problem solver. In addition, as literature review has indicated, MPP itself is important, related to yet different from problem solving. In this lecture, I will present results on data analyses on mathematical problem posing (MPP). This research agenda grew over time, with participants that were initially children/students, adding in teachers and finally parents/adults. First, after research on learners' MPP and reporting that children/students did not perform well, the next step was to have teachers actively introducing MPP (Leung, 2009). Second, when teachers worked on implementing MPP they needed guidance on tasks, enactments and tips on dealing with upcoming challenges (Leung, 2013). Introducing MPP constituted professional growth and they gradually became independent leaders and resulting in classes that performed well in MPP (Leung, 2016). Third, parental involvement assisted young children to perform MPP that extended the activity from school to home, using strategies like reading picture books or diary writing (Leung, 2019). With this research agenda, I walked through this journey hands-in-hands with co-learners. Findings from combined efforts yielded specific steps on making MPP happened and resulted in intended outcomes given in curricular standards (Ministry of Education, 2018). In working towards a provisional framework on MPP working mechanism, the contents of this lecture will add to existing literature.