

# Revisiting Pedagogical Design Capacity: Mathematics Teachers' Agency in Designing Instructional Materials

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Knowing how to appropriate curricular resources (e.g., textbooks, workbooks) for teaching is an important skill for teachers to develop. To describe teachers' ability to do so, Brown (2009) introduced the notion of teachers' *pedagogical design* capacity (PDC), their capacity to "perceive and mobilise existing resources in order to craft instructional contexts" (p. 24). While PDC has been predominantly used to explore teachers' decision-making during instruction, emergent research on teachers' PDC during lesson planning suggests *teacher agency* (Cong-Lem, 2021) is an important factor of if, when, and to what extent teachers choose to appropriate curricular resources (Amador, 2016; Chin et al., 2023). This is demonstrated by secondary mathematics teachers in Singapore, where beyond adapting from curricular resources these teachers commonly design their own instructional materials (IMs) (Leong et al., 2022).

In this context, these teachers explicitly demonstrate a high level of teacher agency. Instead of adopting or starting with the agenda of the curricular resources, these teachers often bring with them their own agendas and actively draw on their PDC across lesson planning and instruction, and across different grain sizes (Chin et al., 2023). In this short communication, we revisit the notion of PDC in the context of lesson planning through the design of IMs and discuss preliminary findings on the different ways teacher agency is demonstrated through non-trivial design decisions. We invite feedback from participants on how teacher agency and PDC are developed through teacher education and professional development programs in their respective institutions.

## Acknowledgements

The data reported is part of a larger study funded by the Singapore Ministry of Education under the research project OER/31/19BK which is managed by the National Institute of Education, Singapore.

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