Mapping the Ecosystem of Out-of-Field Teaching in Mathematics

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Teacher shortages in Australia and internationally have prompted systems and schools to rely increasingly on teachers working outside their area of qualification or teaching out-of-field (OOF) (Hobbs, 2013). This practice has significant implications for workforce planning (AITSL, 2021), with estimates that up to 40% of mathematics teachers may be teaching OOF. Research links OOF teaching to reduced student achievement (Van Overschelde, 2022), higher teacher attrition (Sharplin, 2014), and diminished teacher confidence (Du Plessis et al., 2015). The aim of our ARC-funded project, *Shifting the Culture of Out-of-field Professional Education for Teachers (SCOPE-T)*, is to investigate the broader interplay among policy settings, school priorities, stakeholder expectations, and systemic incentives that shape teachers' engagement with professional education (PE). Drawing on Bronfenbrenner's (1994) ecological systems theory, these influences can be understood as interacting across multiple layers of the education system, from macro-level policy discourses to school-level practices. In mapping the current ecosystem, our research team has identified three domains that operate across all levels of the ecosystem and provide pathways for OOF teachers to become more in-field: the *workplace*, *initial teacher education*, and *professional education*. We propose that such pathways can elevate the cultural and policy recognition of teacher re-specialisation, but may need flexibility to represent the needs of the heterogeneous group. This roundtable begins with a presentation of our draft mapping of the current mathematics OOF ecosystem (10 min.). Participants will then break into three groups, one for each potential pathway to becoming in-field, with each group led by a roundtable presenter. Each group will be provided with a poster-sized map of the relevant section of the ecosystem (workplace, initial teacher education, professional education) and invited to annotate the map to create a record of their discussion. The purpose of the group discussions is to interrogate the related domain-specific mapping, identify local drivers and responses, and consider what motivates or constrains teachers' engagement with PE (20 min.). The roundtable will conclude with a plenary discussion and participants will share insights from each domain of the current ecosystem and suggest features of an ideal ecosystem that values diverse pathways towards teachers becoming more in-field (10 min.).

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