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Teachers' approaches to proportional relationship problems in multiple measure spaces.

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Summary: Ratio and proportion have many daily life applications and hence form an important part of the Mathematical Literacy (ML) curriculum in South African schools. The purpose of this study was to explore ML teachers' application of ratio in an assessment task with multiple measure spaces set within the real-life context of the need to establish the ingredients to produce 84 biscuits based on a recipe for 24 biscuits. The participants were 101 ML teachers who were enrolled in an in-service teacher upgrading programme for practising ML teachers. Data for the study were generated from the written responses to the task. The study found that approximately 60% of the teachers were able to complete the task correctly. Many teachers applied the cross-multiplication strategy as a character distribution matrix where the procedures are dictated by the spatial arrangement of symbols instead of being underpinned by an understanding of proportional reasoning. It is recommended that ML teacher education programmes should provide opportunities for teachers to engage with applications of ratio across multiple measure spaces.

Classification: F80 D60 M10
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