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Teaching mathematics for spatial justice: an investigation of the lottery.

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Summary: This article explores integrating place-based education with critical mathematics toward teaching mathematics for spatial justice. *Local Lotto*, a curricular module with associated digital tools, was designed to investigate the lottery as a critical spatial phenomenon and piloted in urban high schools. This article describes findings from the second iteration in a remedial class in a low-income neighborhood. The research questions consider how the spatial focus supported the learning of mathematics and provided opportunities for students to think critically about the lottery using that mathematics. Findings include student interest in and engagement with the theme of the lottery familiar from outside of school with associated social justice implications. Students used mathematics and spatial evidence, at various levels of spatial scale, to support arguments about the lottery with greater success at narrower levels of scale. Suggestions about further innovations to scaffold place in a “critical pedagogy of place” in mathematics are provided.

Classification: D30 K50 K20 C60

Keywords: critical mathematics education; lottery; spatial justice; combinatorics; probability
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