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Exploiting unexpected situations in the mathematics classroom.

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Summary: The professional development of mathematics teachers needs to support teachers in orchestrating the mathematics classroom in ways that enable them to respond flexibly and productively to the unexpected. When a situation arises in the classroom which is not connected in an obvious way to the mathematical learning intentions of the lesson, it can be challenging for the teacher to improvise so as to craft this situation into an opportunity for doing and learning mathematics. In this study, as teacher-researcher I maintained a record of unexpected situations as they arose in my own secondary mathematics classroom. Details are given of four unexpected situations which I found ways to exploit mathematically, and these are analysed to highlight factors which may enhance a mathematics teacher's preparedness for dealing with the unexpected. The results of this study indicate that deviating from the intended lesson to exploit an unexpected situation in which students have shown some interest can lead them into enjoyable and worthwhile mathematical engagement.

Classification: C70 D40

Keywords: contingency; discipline of noticing; flow; mathematics teaching; orchestrating; researching own practice; unexpected situations

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