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What kind of mathematics do cabinetmakers need and use in their everyday work?

In this study, we ask what kind of mathematics cabinetmakers need and use in their everyday work. Theoretically, vernacular (or folk) mathematics frames our study. Vernacular mathematics focuses on the mathematics used by groups outside mathematical professionalism. First, we explore the use of mathematics that the cabinetmakers identify and label as mathematics in their everyday work. Second, we explore the problem-solving situations they face. Mathematical knowledge as part of numeracy is a central concept in our study. Problem-solving situations can be either well-structured, requiring exact and unambiguous solutions, or ill-structured, enabling various solutions. Our informants are seven Finnish cabinetmakers. We use ethnographic (observations, interviews, photos, videos, etc.) and pure interview data to answer the research questions. Our findings suggest that in everyday work, the cabinetmakers manage with contextual and elementary mathematical knowledge, part of which is embodied. The problem-solving situations stimulate more conceptual and general mathematical knowledge.

Keywords: vocational mathematics, embodied mathematics, numeracy, problem solving, cabinetmaker