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**Teachers' function schemas and their role in modelling.**

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An important element in teaching is the quality of content and pedagogical knowledge that teachers use in the design and delivery of their lessons. In this paper we present a framework for investigating how this knowledge is structured and how it relates to the mathematical modelling process. The framework is then used to compare an experienced teacher's knowledge and teaching of functions with that of four trainee teachers. The data show that the experienced teacher has built up knowledge that is dominated by conceptual rather than procedural aspects of functions, whereas the prospective teachers have structures often lacking a strong conceptual base.

*Classification:* C30

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