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Abstract

This article considers what might be taught to meet a widely held curriculum aim of students being able to understand research in a discipline. Expertise, which may appear as a 'chain of practice', is widely held to be underpinned by networks of understanding. Scientific research expertise is considered from this perspective. Within scientific disciplines, how research is conducted to solve different problems varies with concomitant effects on the validity of the data and the strengths of the claims made. Despite this variation, the overarching concepts of validity and reliability and the underpinning and interrelated network of more specific 'concepts of evidence' are applicable to understanding a wide range of research designs and the uncertainties in the resultant data and claims. These constituent ideas, which inter alia have been validated as relevant to professional and academic expertise, form an integrated knowledge base about evidence which can be visualised on a concept map. The network of ideas underpinning research expertise across scientific disciplines is outlined.

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Research from explicitly teaching the concepts of evidence is reported, and the implications for teaching and learning in science-based disciplines in HE are considered. (HRK / Abstract übernommen) Roberts, Ros, E-Mail: rosalyn.roberts@dur.ac.uk