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## Choice of representations in the crafting of university physics teaching practice

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This case study looks at reflective dialogue about the choice of disciplinary representations\* in relation to the crafting of teaching practice that is skilful, knowledgeable, and conceptually based. The data (n=15) comes from a purposeful sample of teachers drawn from Sweden, South Africa, Germany, Canada and the United States who are responsible for introductory level classes in physics at their respective universities. The analysis involves the construction of qualitatively different categories that characterise how physics teachers are guided in their choice of disciplinary representations for the crafting of their teaching practices. These categories are epistemically anchored in teaching and learning pragmatism, personal experience of learning, disciplinary teaching style, and learning benefits of using multiple semiotic systems (multimodality). Discussion is centred on thinking about how semiotic systems may be used to optimize the possibility of learning.

\*For the purposes of this study disciplinary representations are taken to be the collection of semiotic systems (modalities) that constitute the physics classroom communication that is used for sharing physics knowledge and practices. Examples of these semiotic systems for physics education are written language, spoken language, three-dimensional models, pictures, graphs, diagrams, mathematical formulae, and gestures.

**Apply to be considered for a student award (Yes / No)?**

No

**Level for award (Hons, MSc, PhD, N/A)?**

N/A

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