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Investigating product-oriented versus process-oriented worked examples to support understanding of quality teaching principles

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Abstract

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Investigating Product-Oriented versus Process-Oriented Worked Examples to Support Understanding of Quality Teaching Principles

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Research has shown that process-oriented worked examples, which present a step-by-step solution with accompanying rationale, lead to improved performance in well-structured domains, such as mathematics and economics (Brooks, 2009). What is not well researched is whether similar patterns of results can be demonstrated in ill-structured domains, such as understanding quality teaching principles to improve teaching practice. This paper presents a work-in-progress investigating the use of process-oriented and product-oriented worked examples (Van Gog, Paas, & Van Merrienboer, 2008) to support pre-service teachers’ understanding of the quality teaching principles referred to as the New South Wales Quality Teaching Model (QTM). The QTM is a research-based model that describes the elements of quality classroom pedagogy (Gore, Griffiths, & Ladwig, 2004). Gore and colleagues have devised a scoring mechanism that serves as a reflective tool to assist teachers in critiquing the elements of quality teaching. This research will investigate how process- and product-oriented worked examples could be applied to this domain as an introduction for pre-service teachers to understand this tool and how it can be applied. The research will focus on three core and interacting elements of the QTM: Deep knowledge, higher order thinking and substantive communication. The research is expected to contribute to our understanding of the application of worked examples within ill-structured content domains and in particular how worked examples may support pre-service teachers’ preparation for the teaching profession. The research design and instrumentation will be presented at the conference as data collection is scheduled in the second half of 2015.

References

