Can we foster learning communities in large diverse 1\textsuperscript{st} year chemistry cohorts through authentic assessment?

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In many tertiary institutions, large (> 1000 students), 1\textsuperscript{st} year chemistry courses encompass students who represent a diverse range of cultural backgrounds, interests and academic abilities. In addition, the transition between the secondary to tertiary contexts adds the complexity of the adjustment to a new learning environment and the expectations of individual responsibility for learning. At The University of Queensland, we have introduced collaborative inquiry-based tasks to address the diversity and transitional issues while attempting to increase student engagement and enhance learning outcomes.

Our instructional design, based in grounded literature and current educational research practices, included the incorporation of collaborative and active learning strategies to foster communities of learners. Assessment was adjusted to promote both learning gains and development of professional skills. Evaluation of the effectiveness of the changes over two years has revealed substantial evidence of the existence of transitional issues based on the way students engaged in the course and interacted with their peers. The outcomes are presented in terms of learning communities, assessment, relevance and motivation.

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