SYMPOSIUM 2: ENGAGING STUDENTS IN THEIR LEARNING:

PERSONALISED LEARNING

WATERHOUSE ROOM

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Developing problem(case)-based chemistry curriculum through postgraduate and undergraduate partnership (Full Paper)

Enquiry-based learning, i.e. problem or case-based learning, is an attractive form of active learning that places students in the front of teaching processes being aligned with a lead hallmark of Curriculum 2021. In Chemistry, application of enquiry-based learning remains extremely rare, and majority of both undergraduate and postgraduate curriculum modules continue to rely on a classical approach, led by the teacher introducing and discussing their subject discipline knowledge. It is, however, clear that introduction of problem(case)-based learning helps to facilitate students' integration into further studies or employment creating a bridge between traditional academic knowledge and realities of industrial/postgraduate practices. Major problems precluding the introduction of enquiry-based learning, in Chemistry, include additional resources and lack of methods for trialing of these elements in routine practice. In our studies, we developed a new approach for the trialing of problem(case)-based learning using a partnership between postgraduate and undergraduate research students, who sit the modules together as equals. Our approach contributes to the development of thinking and problem-solving skills and the outcome of this strategy allows for the direct translation of techniques evaluated to both undergraduate and postgraduate curriculum as currently underway in our department. This inclusive approach enables participation of students with different backgrounds, irrespective of initial knowledge thus helping to preclude isolation and underperformance. In this talk, we would like to share our ideas about the trialing and the integration of problem(case)-based strategies in teaching of Chemistry focused on the benefits that our approach brings into everyday practices.

Keywords: Problem(case)-based learning, active learning, technology-enhanced teaching and learning, inclusive teaching, developing student curriculum