

# Categorisation and Educational Benefits of Open Learner Models

Susan BULL<sup>1</sup> and Judy KAY<sup>2</sup>

<sup>1</sup> *Electronic, Electrical and Computer Engineering, University of Birmingham, UK*

<sup>2</sup> *School of Information Technologies, University of Sydney, Australia*

Open learner models are learner models that are directly accessible to the learner they represent, and sometimes to other interested parties. There are a variety of reasons that a learner model might be open to the user, for example: to prompt learner reflection on their knowledge and on their learning processes; to facilitate planning and self-monitoring of learning; to promote learner independence; to increase the accuracy of the learner model (by allowing the learner to contribute to, or negotiate the model data); to afford the learner greater control over the choices in their learning; for assessment (formative and/or summative); to facilitate navigation through learning content, tasks, activities, exercises, etc.; to increase learner trust in an adaptive learning environment (by allowing the user to see the system's inferences about their knowledge); to prompt collaboration and/or competition amongst learners (e.g. when students choose to release their learner models to peers); accommodating the learner's right to view data held about them. Open learner models may be of interest to various stakeholders in the educational process in addition to learners, for example: their mentors, peers, parents, teachers, and other online educational systems.

The tutorial will examine some of the key educational issues in open learner modelling, such as the support or development of metacognitive skills (see [1]). We will consider open learner models that are part of a full artificial intelligence in education system, and independent open learner models (where the interaction is focussed around the open learner model). The categorisation of planned and existing open learner models will be discussed based on the SMILI Open Learner Modelling Framework [2], with reference to the following: what is modelled; how the model is presented to the learner; and who controls the model data (system or user). The tutorial will review the purposes of open learner modelling, the evidence for the value of open learner models in achieving these purposes, as well as the approaches that have been used. Participants will actively explore such issues by analysing and categorising open learner models and by identifying areas that have not yet been explored.

## References

- [1] Bull, S. & Kay, J. (2008). Metacognition and Open Learner Models, in I. Roll & V. Aleven (Eds), Proceedings of Workshop on Metacognition and Self-Regulated Learning in Educational Technologies, International Conference on Intelligent Tutoring Systems, 7-20.
- [2] Bull, S. & Kay, J. (2007). Student Models that Invite the Learner In: The SMILI Open Learner Modelling Framework. International Journal of Artificial Intelligence in Education 17(1), 89-120.