Preface

Technological advances in the use of artificial intelligence in education (AIED) over the past two decades have enabled the development of highly effective, deployable learning environments that support learners across a wide range of domains and age groups. Alongside, mass access to and adoption of modern communication technologies have made it possible to bridge learners and educators across spatiotemporal divides. Students can now collaborate using educational technology in ways that were not previously possible.

Intelligent tutoring systems seek to individualize each student's learning experience, but this need not imply a solitary experience. Research on computer-supported collaborative learning (CSCL) has revealed the pedagogical benefits of learning in groups, as well as how to structure the activity to lead to productive interactions. A variety of recent systems have demonstrated ways in which an adaptive learning environment can benefit from the presence of multiple learners. Similarly, students using CSCL systems have been shown to benefit from the introduction of adaptive support. It is of high relevance to the AIED community to explore how AI techniques can be used to support collaborative learning, and how theories of how students learn in groups can inform the design of adaptive educational technologies.

The goal of this series of workshops is to gather the sub-community of AIED researchers interested in intelligent support for learning in groups with learning scientists to share approaches and exchange information about adaptive intelligent collaborative learning support. We invite discussion on how the combination of collaborative and intelligent aspects of a system can benefit the learner by creating a more productive environment. Over the past few years, the AIED research community has started investigating extension of the fundamental techniques (student modeling, model-based tutors, integrated assessment, tutorial dialog, automated scaffolding, data mining, pedagogical agents, and so on) to support collaborative learning. We aim to explore ways that the current state of the art in intelligent support for learning in groups can be informed by learning sciences research on collaborative learning principles.

June, 2015
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