

Learning analytics workshop: Building bridges between the Education and the Computing communities

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The Learning Analytics (LA) and Educational Data Mining (EDM) fields have generated a wealth of research over the last decade, including two yearly conferences and two scientific journals. However, these topics are relatively new in the field of educational science. This workshop brings together researchers and practitioners to share their perspective on how this research has impacted the education field.

Labarthe, Luengo, and Bouchet reports on the very topics that Educational Data Mining and Learning Analytics have addressed in the last decade. Through the analysis of papers from tens of conferences and journals, they reveal the main research trends of each field and show their similarities and differences.

Two other workshop papers describe practical applications of LA techniques over typical problems faced by educational practitioners. Xu, Chen, and Wu describe the results of a Neural Network approach to predict honor student grades from a wide diversity of factors, ranging from Internet usage to past grades. They show that the Neural network technique can achieve substantially better accuracy than more traditional linear regression methods, giving weight to the advantages of machine learning techniques over standard statistical techniques. Desmarais addresses the problem of selecting candidates for limited admission programs, when candidate sources have no common grading schemes. He shows that, using statistical distribution assumptions combined with an optimization technique and historical scores from the host institution, the proposed approach can improve the expected score of accepted students by about one third standard deviation.

The workshop also hosted demos of innovative Learning Analytics tools to help college administrators in their tasks of reporting performance indicators and provide insights to guide the creation, refinement and evolution of study programs, and presentations of educational games analytics.