Artificial Intelligence Supporting Collaborative Constructionist Activities in Environmental Education

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Artificial Intelligence, Constructionist Activity, Environmental Education

Description

This study addresses the potential of using Artificial Intelligence technology to support educational processes of classroom-based constructionist collaborative activities. Within the context of the Metafora Project a half-baked microworld called Sus-City which was constructed to assist teaching and learning processes within the field of Environmental Education was redesigned to provide real time recorded data on user interaction. The recorded actions are analysed with the aim to provide meaningful information about the progress of the activity as well as to indicate points in which tools could assist the students' learning. In order to form a concrete idea of how students work and provide a visualization of all recorded actions (loggings) of the users, a special VBA program in MS Excel was implemented and all the data are represented under the same time scale.

Figure 1 The Microworld and the bar-graphs that represent the user interaction

This preliminary analysis of the collected data seems to confirm the assumption that Artificial Intelligence Technology can provide useful information in a collaborative constructionist activity. We have nevertheless to carefully examine all aspects of the educational process to distinguish where AI assistance is fruitful and more affective for the students and what type of help can provide.

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