

Learning Analytics Data Visualization in a Virtual Reality Teacher Training Simulation

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ABSTRACT: This Demo presents a Learning Analytics integration in Teach-R, a virtual reality teacher training application, which offers teacher training students the possibility to train skills in a simulated classroom with the help of a coach who controls the students' behavior. A central part of the training sessions is feedback and discussions with the coach and peers, which could be enriched with learning analytics. To make the feedback particularly illustrative, we experimented with visualizations directly in VR that use different data. Firstly, gaze data can show how the teachers' visual attention was distributed among the virtual students. For this, the students are displayed in different transparency levels; individuals who have never been looked at remain invisible in the feedback visualization, while those who have been looked at a lot are solidly colored. Secondly, position data is used to generate different visualizations, e.g. in group work situations, it is interesting to see whether you have only ever been in one area of the room. For this purpose, we use a heatmap on the classroom floor (see Figure 1) and various 3D visualizations to give teachers a feeling for their movements in the classroom.

Keywords: Learning Analytics, Virtual Reality, Classroom Management, Feedback, Teacher Training, Spatial Pedagogy

LINK

<https://youtu.be/sJgrlpg2oXs>



Figure 1: Teaser showing an exemplary visualization for position data. A heatmap shows how the teacher has moved in the classroom. Left: VR View. Right: Concept Draft.