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GRAPE – GIS REPETITION USING AUDIO-VISUAL REPETITION UNITS AND ITS LEARNING EFFECTIVENESS

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Abstract. A new audio-visual learning medium has been developed at the Department of Environmental Sciences at ETH Zurich (Switzerland), for use in geographical information sciences (GIS) courses. This new medium, presented in the form of Repetition Units, allows students to review and consolidate the most important learning concepts on an individual basis. The new material consists of: a) a short enhanced podcast (recorded and spoken slide show) with a maximum duration of 5 minutes, which focuses on only one important aspect of a lecture's theme; b) one or two relevant exercises, covering different cognitive levels of learning, with a maximum duration of 10 minutes; and c), solutions for the exercises. During a pilot phase in 2010, six Repetition Units were produced by the lecturers. Twenty more Repetition Units will be produced by our students during the fall semester of 2011 and 2012.

The project is accompanied by a 5-year study (2009 – 2013) that investigates learning success using the new material, focussing on the question, whether or not the new material help to consolidate and refresh basic GIS knowledge. It will be analysed based on longitudinal studies. Initial results indicate that the new medium helps to refresh knowledge as the test groups scored higher than the control group. These results are encouraging and suggest that the new material with its combination of short audio-visual podcasts and relevant exercises help to consolidate students' knowledge.

[Conference Paper](#) (PDF, 367 KB)

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