

CETL-MSOR Conference 2015

Chris Roast and Roxanne Leitão: Visualising and Evaluating Spreadsheets.

There is an on-going demand to encourage teenage learners to develop skills relevant to the subjects of science, technology, engineering and maths. We describe work aimed at addressing this demand for mid-teenage learners based on the proposal that spreadsheets offer an existing and valuable gateway tool for supporting learner experimentation and confidence within these subject areas. Despite the apparent appropriateness of the spreadsheet as a general purpose and powerful numeracy tool, learner engagement can be poor and end-user errors are extremely common. While there are various enhancements to support users none appear to have addressed the fact that textual formulas are normally contracted onto a single line, and thus complicate their interpretation. Our work describes the design, assessment and evaluation of an spreadsheet software add-on (called EQUUS) designed to provide a visual language that graphically represents spreadsheet formulae. The objective of the work is to reduce the complexity of understanding formulae and in the long term enable greater independent learning employing the powerful potential of spreadsheets. The rationale for, and the design, of our visualisation are described, and findings regarding the acceptance and educational impact are described.

The work is supported by the HEA and BIS.