

Abstract/Proposal Title:

Opportunities for intelligent feedback

Abstract/Proposal description:

Accurate, immediate and appropriately structured formative feedback is essential in supporting student learning. It is vital that such feedback can still be provided where increasing use is made of e-assessment in formative testing during online learning. However, the automated generation of feedback which is largely limited to right or wrong, is rarely constructive nor pin-points the mistake. Given the amount of data available, it is possible to identify more accurately the mistakes and thereby construct feedback. Advances in technological innovation are making it possible to provide intelligent feedback in subject domains with rich knowledge structures.

Feedback can be thought of as a spectrum ranging from a simple yes-or-no to establishing causal reasoning behind the cognitive errors. This in turn facilitates schemes for partial marking of the scripts and richer profiling of performance. Incorrect responses to a question item tend to form clusters and these results can be analysed further to identify the root causes of the error. This paper examines opportunities for generating intelligent feedback in two domains, namely mathematics and Arabic language learning. The benefits of applying these techniques for curriculum development, particularly in the defence context, are discussed and recommendations made for further research.

Implications for Practice:

Aligning appropriately designed assessment items with curriculum during course development, design and delivery can have a significant impact on learning. The requirements for additional resources, e.g., staff time and training to design items, need to be taken into consideration from the earliest planning stages for a course.

Significant Outcomes/Insights:

The paper identifies the role of free input question items, and the rich variety of opportunities for generating timely feedback. In turn, the impact on question item design is highlighted. Finally, opportunities for developing strategically placed formative assessment are identified.

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