

# Can computers mark long test answers?

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Computerised marking of multiple-choice 'closed' test responses is nothing new, but can computers accurately mark children's 'open' written responses? It seems they can, up to a point.

Intelligent Assessment Technologies is a company that has pioneered the computerised assessment of free-text question responses. Working with NFER, they used a range of children's responses to science questions to 'train' their computer marking system.

Unsurprisingly, the computer marked single-word responses well during trialling, and was often more accurate than human markers. Less predictably, a longer response, which had the complication of incorrect science negating an otherwise correct answer, had the same accuracy rate (98.8 per cent) with both computer and human marking. The accuracy of the computer marking started to fall behind human markers on more complex responses.

Armed with the results of this ex-

ploratory research, NFER developed two questions for the new upper key stage 2 science challenges in the i-nfer plan e-assessment package.



Figure 1 Science question on i-nfer plan

One question asks what a hairdryer does to make water evaporate quickly (figure 1). The ideal answer should refer to a hairdryer producing both warmth and wind to speed up evaporation, but trialling showed many children referred to just one of these factors. Researchers had to make careful deci-

sions as to where to draw the line between correct and incorrect responses; with 49 per cent of year 5/6 children getting the question right, it is now performing as a level 5 question should. The next decision was how much space to allow for children to type their responses and NFER's researchers settled for two lines (180 characters). Analysis showed the average time taken to answer the question was 75 seconds, which demonstrates that children ably respond to this format.

The use of this computer marking system increases the already wide range of response formats in NFER's e-assessments, allowing for further skills and understanding to be tested.

## Further information

The key stage 2 science e-assessments can be seen at [www.i-nfer.co.uk](http://www.i-nfer.co.uk).

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