



Background

The National Assessment Program – Literacy and Numeracy (NAPLAN) is moving online.

As a part of the move to NAPLAN online, ACARA has been researching the use of automated essay scoring (AES) for NAPLAN Online writing.

Automated marking enables faster turnaround of results and allows teachers and schools to respond to identified student learning needs more quickly.

[ACARA's research](#) demonstrates comparable scores between AES and human markers on actual NAPLAN writing tests.

General FAQs

What is automated essay scoring?

Automated essay scoring (AES) uses computer algorithms that are designed to mirror human scoring. The computer program is trained to score characteristics of writing – such as fluency, grammar, construction – in the NAPLAN marking guide. These characteristics are taken from essays and linked with essay scores based on a sample of essays previously marked by human markers. In effect, the computer models the decisions of expert human markers.

Why is it used?

Automated scoring is as reliable as human markers. It enables faster turnaround of results, allowing the results to get back to students, parents and teachers within weeks instead of months. This will help teachers and schools to respond more quickly to identified student learning needs.

How does automated essay scoring work?

The AES system marks writing tests using the same NAPLAN marking criteria used by human markers. The AES system is trained using more than 1,000 NAPLAN writing tests scored by human markers. It is trained to apply the marking criteria to a broad range of narrative and persuasive writing tasks. AES systems can mark thousands of essays consistently, reliably and quickly. If the AES system cannot score a piece of writing, it will 'red flag' it and a human marker will score the essay.

How do we know that a computer can mark as reliably as a human marker?

ACARA has undertaken [research reviews and studies](#) that prove: for NAPLAN writing tests, automated essay scoring achieves scores comparable to human markers scoring. These findings mirror numerous studies on automated essays scoring in Australia and internationally.





How can a computer interpret the characteristics of language?

The AES system is trained using samples of students' writing. The system is trained to score students' responses to multiple tasks within a particular genre (persuasive or narrative). Any writing the AES system cannot score is flagged for checking by an experienced human marker.

Will the use of AES affect features of student writing and writing instruction?

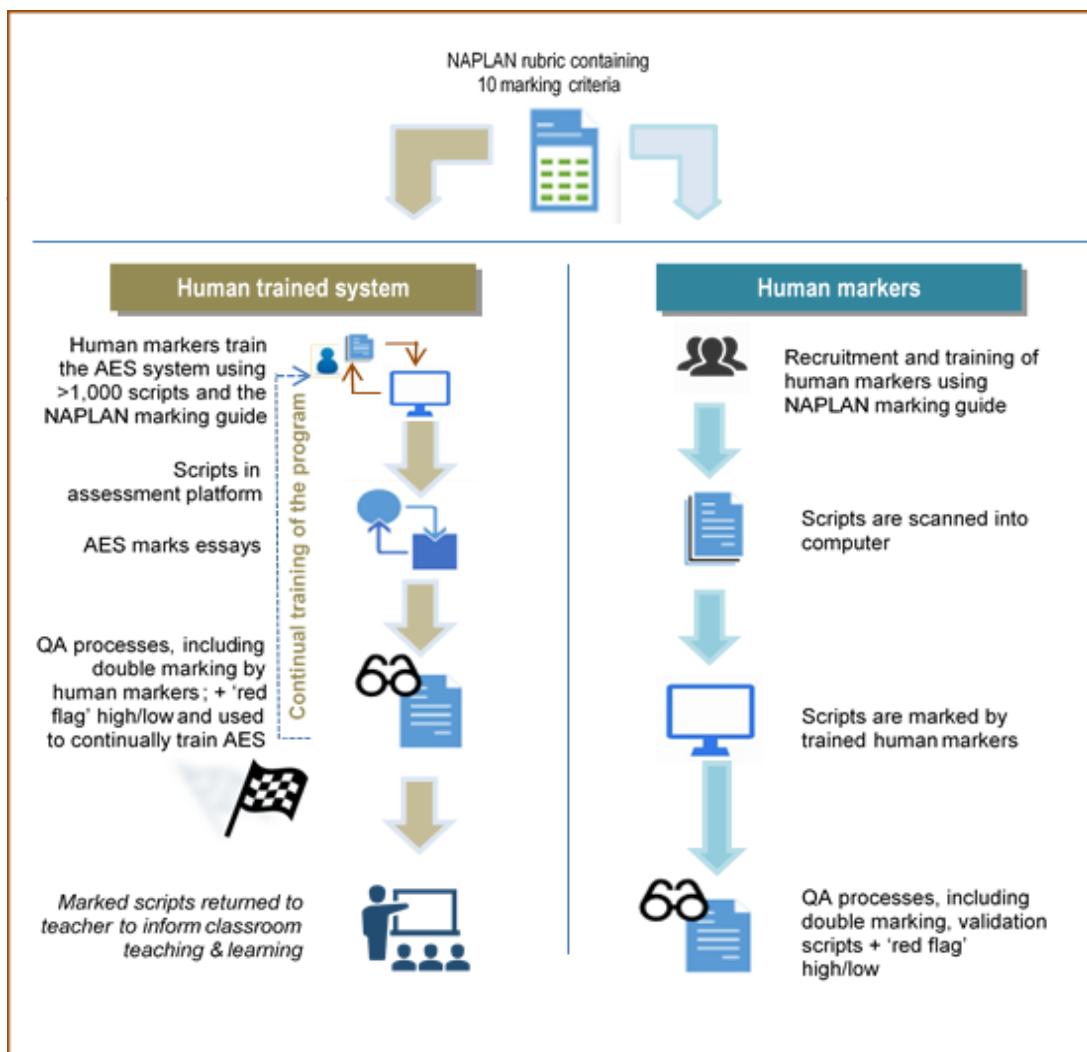
No. NAPLAN assessments are aligned to the Australian Curriculum. The marking criteria for NAPLAN reflect the expectations of the curriculum.

Part of the training of the system also includes its ability to recognise a sample of essays specifically designed to 'fool' the system.

How will ACARA ensure that marking is fair for all students?

The AES is being trained using more than 1,000 scripts that have already been marked by expert human markers. In 2018, NAPLAN Online writing tests will be double-marked by both the AES system and human markers, with any differences resolved by a human marker.

Comparing human-trained automated systems with human markers



For more information, email: naplanonline@acara.edu.au

