

# Equal Opportunity or Unfair Advantage: The Impact of Test Accommodations on Performance in High Stakes Assessments

## Introduction and background

To compensate for the difficulties that some individuals may experience when completing an assessment, special measures have been introduced in many countries to accommodate students' needs, enabling them to access the test by removing unnecessary barriers. There has, however, been controversy around this practice of providing accommodations, with some suggesting that they may give an unfair advantage rather than level the playing field. This research from colleagues at the University of Cambridge investigated this claim by comparing the performance of students who completed high-stakes examinations with and without test accommodations. To account for group differences which could affect students' performance, both groups of students were matched on several background characteristics, including school attainment. The focus was on the most common test accommodations in the United Kingdom (Ofqual, 2020): extra time, word processor, writing assistance, reading assistance, and supervised rest breaks.

## Key points and findings

### Previous research

- Effective test accommodations are those which fulfil their role – i.e., they allow students to bypass the difficulties resulting from their disability, without inadvertently inflating their performance.
- Extra time is often allocated to students who would otherwise not be able to articulate their knowledge within the stipulated time, for example, because they have slower processing speeds. In the UK, 25 per cent of extra time is considered sufficient to meet the needs of most students whereas the extra time allowance in the United States is more generous, with 50 or 100 per cent being the standard.
- Studies conducted to date suggest that extra time does help students to increase their scores. However, results of a meta-analysis in the US showed that extra time did not fully compensate for the effect of disability on exam performance. A study by Holmes and Silvestri (2019) revealed that students with learning difficulties awarded 50 per cent extra time rarely used more than 25 per cent, which supports the use of 25 per cent of extra time as the default amount.
- Word processors can be used by students with below-average handwriting speed but who can produce work at a speed equivalent to average handwriting when typing, or by students with illegible handwriting. A substantial body of research indicates that the use of word processors tends to be associated with positive outcomes for all students on both writing quantity and quality when compared to handwriting. A meta-analysis of 27 studies conducted by Morphy and Graham showed that the average effect of using a word processor on writing quality was positive, with the effects being larger for students described as weaker writers.
- Writing assistance is often provided in the form of speech to writing software. It is typically used if a student is unable or not sufficiently competent to use a word processor (for example, students with motor impairments or students who are blind or with low vision). Some studies conducted into writing assistance have been inconclusive, but a study by Gillespie and Graham (2014) revealed that dictation resulted in statistically significant improvements in the writing quality of students with learning difficulties.
- Reading assistance is provided by a human reader, by text to speech software, or with reading pens. This removes the need for students to decode text and therefore has the potential to help students with reading disabilities. A meta-analysis of 23 studies by Li (2014) found that students with and without disabilities benefited from reading assistance accommodations; the effect was significantly stronger for disabled students. It also found that students' performance was better when the accommodation was provided by human readers.
- The research described above does not provide a full picture. It comes mainly from experimental designs and was predominantly conducted in the United States. Furthermore, if an accommodation improves performance of students with disabilities, it is unclear from current research whether this improvement: (1) compensates for the barriers that these students face; (2) is insufficient in supporting the students; or (3) moves the scale too much in the opposite direction, conferring an unfair advantage. The research described below aimed to address these questions.

### Methodology

- Findings were based on a large sample comprising the test accommodations granted by one international awarding body in the United Kingdom to 16 year olds taking high stakes assessments in 2016-17. The research sample comprised students at the end of lower secondary education who took First Language English in June 2016 and requested accommodations.
- The focus of the research was on some of the most frequently used test accommodations in the UK: 25%



- extra time, word processor, supervised rest breaks, reading assistance, and writing assistance.
- Background characteristics data held internally by the awarding body were linked to the data on test accommodations requests. The characteristics were gender, school year, internal school assessment results, type of school, average school performance, and socio-economic background.
- A statistical method called Propensity Score Matching (PSM) was carried out to examine the impact of the accommodations on performance, taking students' background into account. PSM can identify causal effects rather than simple measures of association. It constructs a 'control' group by matching each student with test accommodations to a student similar in many characteristics but without the accommodations.
- A closer look at the average grades of the groups (with and without accommodations) reveals differences of a third of a grade. Although this can be considered a small effect, English Language is a high-stakes qualification for students aged 16 in England and a third of a grade might have a real impact on students' futures (e.g., hinder progression to further study). In such cases, it might be argued that, although the test accommodations helped levelling the playing field, they did not go far enough.
- Contrary to the notion that test accommodations confer an advantage or inflate the grades of accommodated students, there was no evidence of the superior performance of students with disabilities and learning difficulties for any of the accommodations investigated.

## Key findings

- The concurrent attainment of students with test accommodations, as measured by grade in the internally assessed component, was lower than the attainment of students without the accommodations. This pattern of results was the same for each type of test accommodation explored, although the differences were bigger for students with reading or writing assistance, followed by students with extra time. Students with accommodations typically attended schools with lower average scores, however, this was not the case for students with extra time and supervised rest breaks.
- The average deprivation, as measured by the IDACI score, was higher for students without test accommodations. However, this difference between groups of students was very small.
- Male students were more likely to have test accommodations in place (with the exception of supervised rest breaks).
- A larger proportion of students who had in place accommodations such as word processor, extra time and supervised rest breaks were in selective/independent schools. At the same time, a larger proportion of students with reading and writing assistance were in comprehensive schools.
- When only 'comparable' students were considered in the analyses, the differences in English Language performance between students with and without each access arrangement were much smaller. However, there is still a statistically significant effect of having extra time or reading assistance on performance in English Language, even after matching on background characteristics. The effect was not significant for writing assistance accommodations or word processors.
- Overall, the results of this research revealed that the test accommodations considered were fulfilling their role and, mostly in line with previous research, they were generally effective, and their use helped students to show their knowledge and skills without inadvertently inflating their performance. In particular, students accommodated with supervised rest breaks, word processors or writing assistance demonstrated comparable performance to matched students who took the test under standard conditions.
- However, the grades of students with extra time and reading assistance were significantly worse than the grades of those without the accommodations, suggesting that extra time did not fully compensate for the effect of the disability in performance.

The full document can be downloaded from:

<https://www.tandfonline.com/doi/full/10.1080/0969594X.2022.2121680>