

The effect of 1:1 mentoring on underachieving Year 12 Biology students with high grade predictions (A*-B)

PPT team, Tanja Hofmann

Abstract

There is a strong link between improvements in the attainment gap, pastoral support and parental engagement. It has also been extensively shown that student outcomes can be positively impacted by development of metacognitive skills alongside academic support. A baseline questionnaire was designed with two categories of questions, a) focusing on students' self-regulatory skills linked to academic attainment and b) pastoral barriers to learning. The questionnaire was used during 1:1 mentoring sessions for all Biology Year 12 students and answers were scored by the Personal Progress Tutor team. Results showed that a significantly greater percentage of underachieving students scored below average in both question categories. Further work will be conducted to investigate if these scores change next academic year following bespoke mentoring interventions based on identified issues from the survey.

Aims

- To identify reasons for underachievement of students with high predicted grades in Biology A-level, a) linked to self-regulatory/metacognitive skills and b) linked to pastoral barriers to learning
- To design and carry out follow-up interventions in 1:1 mentoring sessions based on the above and monitor improvements

Introduction

Student outcomes in A-level sciences compared to national averages show generally lower attainment in higher grade categories for all students in Suffolk (including the Ipswich Opportunity Area) (Ofqual, 2018). A number of general recommendations to address the attainment gap have been published:

- Prioritising well-being alongside academic attainment, e.g. via 1:1 mentoring sessions, has been linked to an 11% boost in standardised test results (EPI, 2018).
- Ensuring early and sustained additional support for those who are behind with attainment, including subject-specific support alongside metacognitive development has been demonstrated to positively effect on outcomes (EEF, 2018).
- Encouraging parental engagement has been also been shown to have a high impact on student attainment (Capita SIMs, 2018; Department for Education, 2013; EEF, 2018; Harris et al, 2009).

Methodology

All Year 12 Biology students took part in 1:1 meetings with their Personal Progress Tutors (PPTs) (n=57) who utilised a standardised questionnaire consisting of questions linked to a) students' metacognitive skills/ability to self-regulate and b) pastoral barriers to learning.

Answers given by students were ranked by PPTs on a scale of 1 to 4, with lower scores representing greater development of metacognitive skills and fewer barriers to learning respectively.

Analysis was conducted comparing the percentage of students with below and above average self regulation and pastoral scores, with predicted grades of A*-B (ALPS, n=36), who were either on target or below target based on progress review grades. Results were analysed using Chi-square test.

Results

Results show that a significantly larger percentage of students who are currently below their target grade also had below average self-regulation scores ($\chi^2 = 6.585$, $p < 0.05$; Fig. 1) and below average pastoral scores ($\chi^2 = 4.885$, $p < 0.05$, Fig. 2).

Discussion

For those students with high predicted grades based on previous attainment (ALPS), the results suggest that there may be a link between underachievement at Biology A-level and less developed self-regulatory/metacognitive skills, as well as, to a lesser extent, a greater number of pastoral barriers to learning. However, with so many variables included in this initial baseline survey, more detailed analysis of individual students' answers is needed to rank these in order of importance and, more importantly, we await analysis of the impact of the follow-up mentoring sessions on both students' questionnaire scores and exam results next academic year.

References

Capita SIMS (2018). Parental engagement white paper. Harnessing parent power; Department for Education (2013). Review of best practice in parental engagement; Education Endowment Foundation (2018). Metacognition and self-regulated learning. Guidance report; Education Policy Institute (EPI) (2018). Education in England: Annual Report 2018; Ofqual (2018). Map of GCSE grade outcomes by county; Harris A., Andrew-Power K. & Goodall J. (2009). Do parents know they matter? Raising achievement through parental engagement. Bloomsbury Publishing.



Fig. 1. Comparison of self-regulation score of Year 12 Biology students (A*-B) who are on target to meet ALPS grade and students who are below target

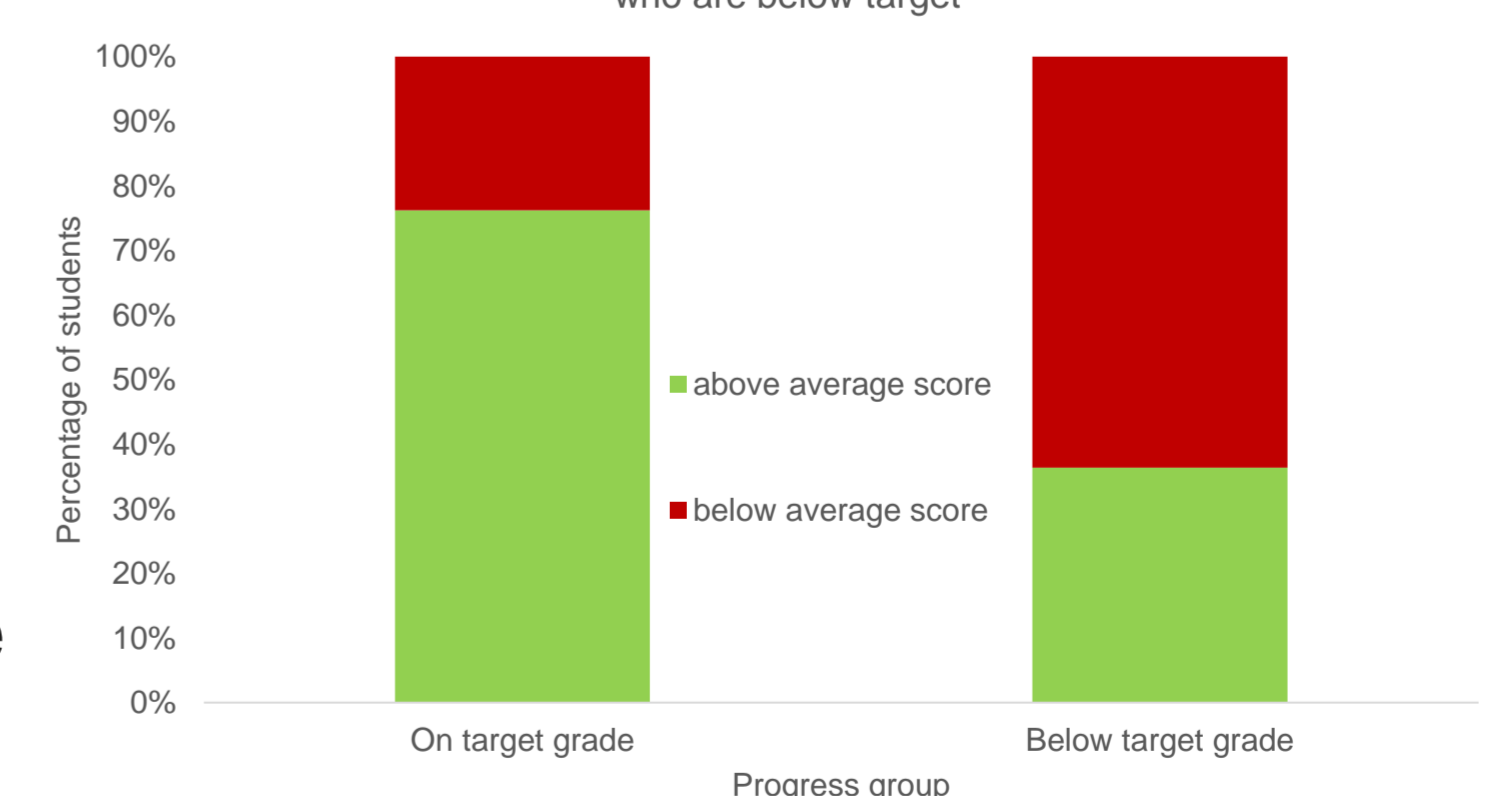


Fig. 2. Comparison of pastoral score of Year 12 Biology students (A*-B) who are on target to meet ALPS grade and students who are below target