Raising Year 10-11 students’ achievement in English and Mathematics

Project focus
Historically, the student population at Top Valley Academy contains half the national average of higher ability learners and twice the national average of low ability learners. We felt that we had neglected the low ability learners in the past because they were not part of the cohort we needed to focus on in our pursuit of government attainment threshold targets at level C. We wanted to understand their specific learning needs better and address them systematically in our core subjects. In particular, we wanted to identify how we could engage the students in ways that would encourage independent learning and aid their progress in these subjects at GCSE level.

Starting point
To begin with, we carried out a survey of the entire Year 10 cohort. We refined a questionnaire provided by the academics and added some of our own questions to it:
- in English, we wanted to explore the students’ views of group work because we had identified student engagement as a barrier to progress and hoped to address this through group work.
- for the mathematics questionnaire, we posed additional questions around language and communication because our analysis of examination papers in mathematics had identified comprehension as a barrier to progress.

The university team administered the survey to the students (to guarantee anonymity and impartiality), processed and analysed the data, and fed back the key findings and messages at a subsequent meeting.

The questionnaires revealed that the students were generally positive about the way that staff delivered lessons and the learning culture. In terms of the subject specific questions, the results were not that decisive or conclusive about the use of language in mathematics, so we decided to interview the students to find out more. In English, we were intrigued by the students’ strongly held belief that choosing who they worked with in groups would help them better, so we decided to investigate this further.

University partnership role
The university has enabled us to work as a cross curricular team. We’ve not had an opportunity to work together before. We enjoyed meeting up and discussing the results of the questionnaire. We also valued our visits from the university because the academics provided us with alternative, objective viewpoints which helped us to reflect on our roles and on our departmental practices. Another key way the academics helped us was through sharing their knowledge of research that has already been undertaken, such as ways of structuring group work effectively. They pointed us in the direction of published material and provided links to other institutions who have undertaken projects in similar areas.

What we did in English
After sharing the results of the survey with colleagues, all teachers in the English department planned a series of lessons which included two group work tasks: one for student chosen groups, the other for teacher chosen groups. In the teacher directed group work, the teacher allocated the students specific roles which reflected the tasks they needed to complete. The results were mixed.
- The students’ response to the teacher directed group work was that they would work better if they chose their own groups. The teachers found the students tended to copy each other’s work rather than talk, and there was no difference in the quality of their work.
- The students were more positive about working in groups they had chosen, but the view was not shared by the teachers who felt they went “off the boil” after 10 minutes.

We plan to continue to develop and improve group work in English lessons because we know from research it is a valuable approach. A way forwards may be to combine allowing the students to choose their own groups with teacher direction of roles etc to enable the tasks to be completed to an acceptable standard.

What we did in mathematics
We decided to interview of group of students who were level 3 on entry to the academy in order to delve more deeply into the attitudes of this group and therefore find ways to help them. The level 3 students spoke of a lack of confidence when using keywords and a reluctance to ask if they did not understand. Whilst some recognised the words, they got the meanings confused. Wordier questions made it difficult for some students to see what sort of calculations they needed to do.

As the level 3 students said they felt that writing definitions helped and that they wanted teachers to spend more time focusing on the language used in exams, we introduced three main strategies in classes containing level 3 learners:
- highlighting keywords in exam questions
- using the RUCSAC approach (Read it, Underline the keywords and numbers, Choose a calculation method, Solve it step-by-step, Answer, Check), and
- using keyword prompt sheets along with maths dictionaries.

When we interviewed the students again following an exam and looked at their exam answers, it was clear that they had found the RUCSAC and keyword prompt sheets with maths dictionaries the most useful approaches. We plan to implement both approaches more fully next academic year and are optimistic that consistent application over a longer time will have a positive impact on attainment in mathematics.

Evidence of impact?
We now have a much greater awareness of how research can inform our practice
Taking part in the project has also greatly increased our confidence in using research and data to inform our practice

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