

Harrogate Grammar School

Situated in North Yorkshire, Harrogate Grammar School is a large state mixed comprehensive school, with sixth form provision, run by the Red Kite Learning Trust. The school has over 1,800 pupils, with around 550 of these studying in sixth form. As well as being one of the first designated teaching schools in the country, Harrogate Grammar is the lead school for the Yorkshire Ridings Maths Hub.

The school began teaching Core Maths in September 2014. This report is largely based on an interview conducted by Bob Sawyer (a Core Maths Lead) with the Maths Hub Lead at Harrogate.

Recruitment and retention

Thanks to a proactive recruitment campaign, the demand for Core Maths has risen, so that just over 25% (49 students in total) of the eligible cohort is now taking the course in Year 12. As a result the school has had to put on an additional Core Maths class, taking the number of classes for Year 12 students from two to three. Early indications for next year show a substantial increase in uptake.

The school supports early promotion of the course at both Year 10 and Year 11 parents' evenings, in addition to sixth form evenings and even Year 7 mathematics-specific events. The focus at these events is on the benefit of taking Core Maths for other subjects students are studying at A level and for their future careers. Additionally, the emphasis on problem solving is used to sell Core Maths to students as a new subject that is very different from GCSE mathematics. As a result of this strategy the school is finding that students are making a positive choice to take Core Maths rather than having to be actively encouraged into studying it.

Although this year the numbers in Year 13 have fallen from 20 to 10, this has largely been due to students either leaving the school or needing to

focus on their other A level subjects. In order to support retention of students, Core Maths is now offered as both a one year and a two year course, with the latter proving to be very popular.

Staff at Harrogate are delighted with the response to Core Maths. In particular the Maths Hub Lead (MHL) is passionate about the place of mathematics in the curriculum and the opportunities that are open to students studying mathematics post 16. With regard to Core Maths, he noted that the skills developed from following the course are of significant longitudinal benefit to the student. Many of the key benefits are linked to the development of problem solving skills, the manipulation and analysis of data and the development of a higher order fluency in relation to financial procedures.

Timetabling

From September 2016, all new sixth form students follow a programme of three levels (with an additional A level for suitable candidates e.g. Further Maths) and one optional module. The optional modules are Core Maths, AS mathematics or the Extended Project Qualification (EPQ). Core Maths is open to all eligible students and is timetabled in two option blocks. Students receive three hours of lessons per week.

Staffing

Two new teachers have joined the Core Maths team. Over the next three years the aim is for the entire mathematics department to be trained to teach Core Maths. The training will run in parallel with the curriculum developments at key stages 3 and 4 (including the development of the mastery curriculum).

Many sixth form schools are reviewing their curriculum as a result of a reduction in funding and changes to how guided learning hours are funded. Such changes may result in over-staffing in other areas and the requirement to lose staff completely. There is a range of actions that schools can take to mitigate these effects.

Harrogate Grammar School has found that with appropriate planning and training, it is possible to redeploy staff within school to teach Core Maths thus avoiding redundancy whilst simultaneously creating the extra capacity required. Established staff appear to be re-energised and often provide a fresh approach to the subject. Emerging signs indicate that they are champions of Core Maths.

Supporting other subjects

The Core Maths team at Harrogate is convinced of the benefits of Core Maths as a support for other subjects. The Maths Hub Lead has developed an interesting way of establishing connectivity between Core Maths and other subjects. When a particular topic is being studied in Core Maths, for example correlation, students are asked to talk to their teachers in other subjects with a view to returning with examples where the methods and approach of that topic would be required. In this way the Core Maths teacher has engaged with other subject teachers without having to hold cross-curricular meetings. Meetings have been held with teachers in other subject areas to encourage them to consider carefully their specifications so as to maximise the support on offer from/for Core Maths.

For certain subjects (accounting, business, computer science, economics and physics), students not taking mathematics at A Level will be encouraged to study Core Maths.

If a student fails to gain the required mathematics GCSE requirement for a particular A level course then the fact that they have opted to study Core Maths will be taken into account.

Conclusions

The Core Maths team at Harrogate recommend taking a very proactive approach to embedding Core Maths within the curriculum and psyche of both staff and students. The school has invested a significant amount of time in the vision of what Core Maths can do for the school and the community of students. They have spent little time defending the

challenges presented by delivering a new course, as their positive approach automatically deals with many of these.

The Maths Hub Lead notes the importance of getting support from the Senior Leadership Team. The Head of Sixth Form (a sociology teacher) is on the teacher subject specialism training programme. As well as training him to teach Core Maths, being on the programme has enabled him to fully appreciate the subject. Consequently he is able to recommend it with greater conviction to sixth form students. He is also aware of the benefits Core Maths can offer when taken in conjunction with other subjects.