Raising attainment in Key Stage 4 through intervention strategies in English and mathematics

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What were your reasons for doing this type of development work?

KS4 results have increased over the last three years and projections for 2009 showed that the 5A*-C attainment would be approximately 90%. It was important to focus on the benchmark of 5A*-C with English and maths to ensure this was in-line with overall attainment and to close the existing gap between these figures. In 2007 the results were: 5A*-C 61% and with En/Ma 46%. In 2008 the results were 5A*-C 70% and 47% with En/Ma. The aim of the intervention was to achieve at least 60% 5A*-C with English and maths. After the intervention, the results in 2009 were 5A*-C 91% and 63% with English and maths.

Who might find this case study useful?

- LA adviser
- Senior leadership team (SLT)
- SIP (School Improvement Partner)

School or setting

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School:
Tanfield School,
Specialist College of Science and Engineering

Type of school:
Secondary

Type of setting (if Early Years):
LA maintained school

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Key points

Point 1

Add 15% in 1 year to the 5A*-C with English and Maths target measure by using intervention strategies

Point 2

A collaborative approach to improvement with flexible working in English and maths

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What

Intentions

What specific curriculum area, subject or aspect did you intend to have impact on?

- Assessment and target setting
- Leadership
- English - reading
- English - speaking and listening
- English - writing
- Mathematics

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How did you intend to impact on pupil learning?

We wanted students to feel more supported in their preparation for exam entries and coursework completion. It was important that students could use assessment for learning (AfL) strategies to determine their strengths and weaknesses based on prior attainment. We wanted students to have access to online resources and revision sessions to develop independent learning and revision strategies.

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MATHS_DEPARTMENT_ACTION_PLAN.doc (DOC-36 KB)  Attachments
Example of RAG tracking tool.xls

What were your success criteria?

Closing the gap between students achieving both English and maths with a final target of 5A*-C with En/Ma of 60%. This would ensure the school's target of 48% (FFTD*) was exceeded and that there was significant improvement since 2008 (47%).

*Fischer Family Trust D estimates are based upon the progress made by schools in the top 25% percentile of value-added scores nationally.

What information or data did you use to measure progress towards your success criteria?

- Data comparison of cohorts
- Observation outcomes
- Periodic teacher assessment
- Pupils' work
- Test results

Teaching approaches

What did you do? What teaching approaches (pedagogy) did you use to achieve the intended impact?

- Assessment for Learning (AfL)
- Independent learning
Interventions
Self assessment and peer assessment

Describe the teaching approaches you used

In English and mathematics lessons subject leaders introduced more flexible approaches to teaching and learning using a wider range of resources and strategies. For example:

- in mathematics the department focused on using on-line resources such as 'MathsWatch' to promote structured revision in lessons and through independent self-study. The mathematics action plan is attached below to show how this fitted into other planning strategies.
- Both departments used the National Strategies' Study Plus resources for intervention for specific small group teaching to target C/D borderline students.
- Members of the Senior Leadership Team (SLT) supported teachers with Year 11 teaching classes.

There was a more focused use of AfL which included self and peer assessment strategies identifying strengths and weaknesses within subject areas. For example:

- Teachers used the exam board analysis tools to enhance students' understanding of their strengths and weaknesses on previous exam performance. AQA and Edexcel provide an assessment breakdown service to analyse results in depth e.g. http://www.edexcel.com/resultsplus/Pages/ResultsAnalysis.aspx
- Detailed use of mark schemes and assessment criteria to focus students' learning against expected outcomes.

English and maths departments worked closely as a team and shared individual student information which created a flexible approach to setting and teaching arrangements. For example:

- An additional 1 hour period was placed on the timetable to allow flexibility between mathematics and English. The Subject Leaders rearranged the students according to specific teaching and learning foci needed at a particular time and two members of each department were available to support small group intervention strategies. This was completely flexible and also linked to ICT provision and work towards the OCR Nationals qualification.
- The Subject leaders met weekly with members of the SLT and KS4 Co-ordinator to review progress towards targets.
- Specific targets for attendance and behaviour were put in place relating to achievement and rewards such as 'Passport to the Prom'.
CPD approaches

What did you do? What approaches to CPD and learning for adults were used?

- Leadership enquiry
- Learning conversation
- Lesson observation
- Work scrutiny

Describe the CPD approaches you used

The Subject leaders for English and mathematics worked closely with the SLT to establish targets and identify specific groups of students and individuals who were in danger of underachieving. A 'RAG tracking tool' (example attached) was used to support this process. The 'RAG' is a progress check which records teacher's assessment information on each student at a specific time in the academic year. This occurs at regular intervals of every 6 weeks. All teachers have targets for individual students according to FFT(D), as a minimum, and departments use their own detailed tracking systems to record class work, coursework and assessment information. The 'RAG' initiative is led by Senior and Middle Leaders who meet weekly to discuss specific intervention strategies and learners’ needs.

The spreadsheet 'RAG' targets all students within the cohort for Year 11. This document builds on previous 'RAG' tracking to highlight needs at all stages of development (Years 7 to 11). The 'RAG' identifies students by their defined groups such as gender, FSM, SEN and prior attainment at KS2 and 3.

- The 'RAG' allows for student groups to be identified and intervention put in place. For example:
  - Achievement in Maths and English
  - Preparation for coursework and examinations
  - Target groups for C/D borderline students across the curriculum

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Achievement of Foundation Learning students.

All students’ progress towards targets

Discussions regarding support strategies, flexible timetabling and specific teaching and learning strategies identified which students were not making progress towards targets. As part of the review processes within school, lesson observations and work scrutiny were carried out on a regular basis with a focus on Year 11 progress.

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What CPD materials, research or expertise have you drawn on?

- Subject leaders used specific subject literature and resources.
- SLT conversations with the SIP highlighted and reviewed progress towards targets.
- Regular internal reviews for all subject areas highlighted specific strategies which were then shared.
- Assessment for Learning
  - http://nationalstrategies.standards.dcsf.gov.uk/
  - secondary/assessment/assessmentforlearningafl
  - http://nationalstrategies.standards.dcsf.gov.uk/node/97905

Who provided you with support?

- Senior management
- Subject leader

How were you supported?

SLT and middle leaders closely monitored the progress of students throughout ‘RAG’ assessment cycle periods and developed relationships with students and parents/carers to ensure all students succeeded. English and maths were given a higher profile within the curriculum and the Pastoral Leader for KS4 was involved in monitoring and intervention. Curriculum Leaders worked together to support maths and English during critical periods and a greater understanding of the need for flexibility of curriculum time developed.

It has been crucial that the two core subject leaders have been able to work together on a regular basis.

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The Timetable for next year will reflect common time for Subject Leaders in English and maths to meet, plan and review impact of strategies. Further time on the curriculum has been given to focus students who are E grade for FFT(D) to develop maths and English skills.

Impact

On pupil learning

What has been the overall impact on pupil learning?

Students thoroughly understand the importance of English and maths within their curriculum and have a flexible approach to how this is timetabled and the need for regular reviews. Students now have a positive response to change and flexibility with regard to their curriculum time and give an increasing amount of time to revision and independent learning opportunities.

Students can use ICT to effectively review their progress and identify strengths and weaknesses within subject areas. They can use specific resources to then target these areas to improve their learning.

Thoughts you think are relevant to overall impact on learning

Students feel more supported in preparation for exam entries and coursework completion. Assessment for Learning strategies are more effective because students know their specific strengths and weaknesses based on prior attainment. Subject Leaders and teachers plan focused
learning opportunities with students to impact on progress. Students have access to revision sessions either face to face or through online resources to develop independent learning and revision strategies.

Quantitative evidence of impact on pupil learning

- CVA data
- Data comparison of cohorts
- Periodic teacher assessment
- Test results

Qualitative evidence of impact on pupil learning

- Observation outcomes
- Pupils' work

Describe the evidence of impact on pupil learning

91% achieved 5A*-C
62% achieved 5A*-C with English and Mathematics
KS2-KS4 CVA measure including English and Mathematics: 1042.0
APS (uncapped) 590.0

49% Achieved English by end of Year 10
75% Achieved English A*-C by end of Year 11
74% made expected progress in English KS2>4

51.8% Achieved Mathematics by November of Year 11
67% Achieved Mathematics A*-C by end of Year 11
71% made expected progress in Mathematics KS2>4
(2009 results)

On teaching

What has been the impact on teaching?

In English and mathematics lessons subject leaders have more flexible approaches to teaching and learning and use a wider range of resources and strategies. There is a more focused use of AfL which includes self and peer assessment strategies identifying strengths and weaknesses within subject
areas. English and maths departments work closely as a team and share individual student information which has created a flexible approach to setting and teaching arrangements. Classroom teachers feel more secure in challenging underachievement with the support of SLT and Middle Leaders. All students who were estimated Grade E and above for FFT(D) received additional support to achieve Grade C and above in English and Maths; meeting or outperforming the FFT(D) estimate. Strategies included:

- Additional curriculum time for students to work in targeted groups for English and/or Maths
- Additional Deep Learning opportunities for preparation of coursework and specific revision towards modules
- Flexible setting arrangements in both subject areas which allows for targeted intervention
- Subject Leaders for Maths and English working closely with Senior Leaders and Coordinator of Learning for Year 11 and Learning Mentor to review progress weekly
- Multiple entries for examination from June of Year 10, November Year 11, January Year 11 and June Year 11
- Flexible curriculum time to prepare for examinations including non-specialist SLT supervising revision
- Individual Learning Plans using prior attainment to set curriculum targets
- Revision sessions after school and during holidays
- Revision packs sent to parents
- Use of school VLE and 'Moodle' to support online revision
- SLT support in classrooms for target groups
- SLT interviews with students and parents of targeted students for potential underachievement.
- SLT mentoring of targeted students at risk of underachievement
- Learning Mentor using specific attendance monitoring and mentoring face to face

Thoughts you think are relevant to impact on teaching

Subject leaders in English and maths must be confident in developing a flexible approach within their departments. All teachers were asked to try a range of strategies and teach new groups of students on a regular basis. There is no longer the expectation that the same teacher will be teaching the same group of students throughout the course. A strong sense of shared responsibility and accountability has been created within the two departments.

Evidence of impact on teaching

- Evidence from observation and monitoring
- Evidence from planning
Describe the evidence of impact on teaching

SLT and Subject leaders' observations have reflected a growing use of effective AfL strategies within Year 11 lessons. The use of prior learning and achievement has been focused into specific lesson planning and development of schemes of work.

The multi-layered approach to exam entries in both subjects, but particularly maths, has meant that curriculum planning has been reviewed and assessment points now play an important part in the long term plans of the departments. Standardisation of coursework at more regular intervals has also played an important part in the developmental planning in English.

On school organisation and leadership

What has been the impact on school organisation and leadership?

SLT and Middle Leaders have closely monitored the progress of students throughout 'RAG' assessment cycle periods and developed relationships with students and parents/carers to ensure all students succeeded. An example of a 'RAG' document is on the What page. English and mathematics have an increased profile within the structure of the school and curriculum. All members of the school recognise how vital the time given to the core subjects is and that at certain points on the school calendar they take priority. This has resulted in Curriculum Leaders working together to support maths and English during critical periods and a greater understanding of the need for flexibility of curriculum time.

Thoughts you think are relevant to overall impact on school organisation and leadership

It has been crucial that the two Subject leaders have been able to work together on a regular basis.

The timetable for next year will reflect common time for Subject leaders in English and maths to meet, plan and review impact of strategies. Further
time on the curriculum has been given to focus students who are E grade for FFT(D) to develop maths and English skills.

Evidence of impact on school organisation and leadership

There is now an ethos of 'teamwork' surrounding the roles of the Subject leaders for maths and English and the Co-ordinator of Learning for KS4. All members of this developing team can recognise their role within the structure of whole-school attainment targets and the strategies that are developed to achieve targets.

Summary

What is the crucial thing that made the difference?

An absolute focus on the progress of all students in the cohort towards their targets. An unwavering belief that strategies would impact on the progress towards targets. One of the most significant strategies was the flexibility in grouping for both maths and English. Student grouping could changed as frequently as every 4 weeks according to focus on coursework, exam preparation and revision, specific subject criteria and individual student need.

What key resources would people who want to learn from your experience need access to?

Subject leaders accessed exam texts and revision materials available from the exam boards' websites. AQA and Edexcel provide an assessment breakdown service to analyse results in depth e.g. EdExcel

In addition, 'Maths Watch' resources were extremely useful for revision, independent work and supporting non-specialist maths teachers when revising with small groups of students.
What CPD session and resources were particularly useful?

The SLT, Subject Leaders and Co-ordinators of Learning for KS4 held a weekly meeting to review progress and discuss specific intervention strategies for groups of students and individuals. This allowed for faster identification of issues and intervention. The Co-ordinator of learning met twice weekly for ‘breakfast briefings’ with the Year 11 tutor team to ensure these key members of staff were updated about any issues.

If another individual or school was attempting to replicate this work, where would they start and what would the essential elements be?

An identification and intervention tool is crucial to this work. We used a 'Red, Amber, Green' excel spreadsheet to support this work. The 'RAG' is a progress check which records teacher's assessment information on each student at a specific time in the academic year.

What further developments are you planning to do (or would you like to see others do)?

- Subject leaders continue to develop teaching and learning approaches, revision and exam preparation resources whilst reviewing the new specifications for 2010.
- Teachers in both departments are developing the use of Moodle software as an online tool for teaching and learning and revision to promote more independent learning strategies away from the classroom.
- The Co-ordinator of learning for KS4 is developing strategies for parental engagement and effective mentoring strategies.
- We have created additional time on the Year 10 curriculum to support E grade students in preparation for early entry and making progress towards C grade in both Maths and English.

Related Links

- EdExcel