Maths Programme

GCSE English and Maths KS4 Project Phase III 2013 – 2014

Building on our successful delivery of Phases I and II for the Welsh Government last year we will be assisting the Welsh Government to deliver its strategic priorities i.e. improving educational outcomes for learners in Wales through:

i. Improving numeracy
ii. Improving literacy
iii. Reducing the impact of deprivation on educational outcomes

We aim to effect improvements in \textbf{school standards and attainment}, specifically:

- Programme for International Student Assessment (PiSA) ranking
- KS4 results

This will be achieved through our contribution to the Improving Schools plan (October 2012) targeted at leaders throughout the education system in Wales. Specifically, through delivery of this project, we will:

- Improve the quality of teaching in literacy and numeracy
- Support teacher professional development
- Strengthen approaches to inclusion

The Project will support the Welsh Government’s National Literacy and Numeracy Framework (LNF). This will be in collaboration with CfBT, the Welsh Government’s National Support Programme (NSP) provider for the LNF.

Maths (10 Day programme)

Prior to Maths Adviser’s visit:

- SPM/School to identify (or validate if already done) a Target Intervention Group of approximately 40 students. This TIG should comprise ‘D/E into C’ students.
- Two of the groups should comprise the TIG students set by current attainment; a third group should comprise an additional 10 vulnerable students (50 pupils to be worked with in total), identified as just above the C/D borderline. Experience has shown that the latter students are not always secure and sometimes slip under the net. Subsequently the maths adviser will be able to offer advice about some or all these students being included in the final TIG.
- SPM ensures that the school sends Y11 tracking data to the assigned maths adviser. This should include KS2 results, KS3 results, maths set, target grades, most recent attainment grade and results of any GCSE units or early linear entry taken. The students in each of the 3 identified groups should also be clearly identified.

Each visit usually to include:

- Time with HOD and/or other relevant staff to focus on key areas such as tracking progress, assessment, intervention, teaching of specific content and schemes of work (both KS3 and KS4). adviser will also provide in class support and will be available to team teach and model good practice.
- Intervention sessions with the TIG.

Day 1: Shared HOD/adviser departmental review (September on a day when Year 11 are having a Maths lesson)

- \textbf{Ask HoD for a critical overview of the department.}
  - Review latest GCSE outcomes and discuss with HOD their analysis. Find out if question level detail has been used.
  - Discuss any actions taken or to be put in place based upon the results such as whether teaching plans been adapted in light of the exam analysis.
✓ Which pupils under-performed? Discuss reasons.
✓ Find out when school mock exams take place. Schedule a second mock exam in February/March.
✓ Explain the full programme of support.

• **Raise any Issues with Tracking data**
  ✓ Are targets challenging enough?
  ✓ Is setting in line with targets?
  ✓ Any more able students in lower sets due to behaviour problems?
  ✓ Are there teaching group issues?
  ✓ Are staff well matched to teaching groups?
  ✓ Are there students who need to switch to Linear?
  ✓ Does the data include social groups e.g. FSM, ethnicity? Any issues?
  ✓ Any cross referencing with English/Welsh?

• **Validate TIG with HoD** (needs to be after the 3x 1 hour sessions)
  ✓ Aim to identify 40 to 50 students for regular small group sessions in the following 9 school visits.

• **Learning walk of dept. with HOD when Year 11 or 10 are having lessons to assess accuracy of HOD’s overview.**
  ✓ Compare observations from learning walk
  ✓ Identify staff to work with.

• **Discuss internal intervention strategies**

  **Agenda:** (please add your own suggestions).
  ✓ Early morning classes (for more able students A/B to A*?)
  ✓ Tutor time support.
  ✓ 1 - 1 tuition (for disengaged students particularly?).
  ✓ Lunchtime/ After School revision.
  ✓ Saturday classes.
  ✓ Residential.
  ✓ Large group motivational sessions
  ✓ Second mock exam in Spring term with accompanying question level analysis (QLA).

• **Agree model for next visits**

  **Every visit:**
  ✓ Deliver 3 to 4 ‘one hour’* small group sessions to TIG, **
    o During first revision session, to meet pupils and explain they will be working with them.
    o Assess pupil confidence and attitude towards maths, in particular subject “likes and dislikes”.
  ✓ Meet with HoD/other related staff (e.g. line manager, numeracy co-ordinator) to discuss future input.

  **Plan activities to fit in around intervention sessions during visits**

  *Remember that a key element of the project is to build sufficient rigour in the school system so that a sustainable model is built school’s structure for when this support programme is completed.*

  **Activities will include the following, tailored to each school:**
  ✓ Visiting Year 11 lessons to advise/team-teach/model good practice
  ✓ Monitor the implementation of the LNF and advise as necessary
  ✓ Ensure good quality internal intervention is taking place
  ✓ Moderation of mock exam paper marking
Advise/support on question level analysis (QLA) particularly for TIG students. Advise staff how to use the analysis and give pupils effective feedback on their mock exams. QLA spreadsheets for past papers are available from EL.

Work with staff to produce resources based upon QLA to address pupils’ knowledge gaps.

Staff then produce their own independently; adviser to visit lesson to see resources being used/changes to teaching plans.

Assist with adapting teaching plans if necessary in light of QLA to improve planning prior to GCSE exams.

Look at how the department help pupils answer functional and QWC questions.

Work with key staff, visiting lessons in KS3 and KS4 to advise/team-teach/model good practice.

Look at practice in KS3 to see how well pupils are being tracked, challenged and prepared for KS4.

Monitor progress in KS3 and KS4.

Ensure that examples of good practice with regard to Year 11 exam preparation are embedded and will be continued by school in the immediate run up to the exams and in future years.

- **Agree provisional dates for all visits if possible. (Support to conclude in March 2014)**
  - Some of these should be in the immediate run up to the exams especially if internal intervention looks shaky for TIG students during the exam period.
  - Dates to be confirmed with school by SPM to avoid clashes with English etc. so include some alternatives to preferred dates.
  - Agree and diarise key dates.

Post first visit:

- **Write ROV including key issues, provisional programme and any further recommendations and send to SPM. Suggestions to be made about any desirable changes in both KS3 and KS4.**

Days 2-10

- **Deliver agreed programme**
  - Record attendance and student performance at sessions and feedback to HOD
- **Monitor in particular Year 11 progress**
- **Keep SPM informed via ROV for each visit**

Possible model for pattern of small group sessions but can be adapted to suit School:

<table>
<thead>
<tr>
<th>Autumn Term 1st half</th>
<th>Day 1 Initial visit &amp; Maths Review</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Day 2 Meet TIG and 1st intervention session</td>
</tr>
<tr>
<td>Autumn Term 2nd half</td>
<td>Day 3 Targeted intervention and mock exam preparation</td>
</tr>
<tr>
<td></td>
<td>Day 4 Targeted intervention and mock exam preparation</td>
</tr>
<tr>
<td></td>
<td><strong>1st Mock Exam</strong></td>
</tr>
<tr>
<td></td>
<td>Day 5 Moderation of mock exam marking and analysis of 1st mock with identified staff</td>
</tr>
<tr>
<td></td>
<td>Day 6 Feedback to pupils on mock exams and targeted intervention</td>
</tr>
<tr>
<td>Spring Term 1st half</td>
<td>Day 7 Targeted intervention</td>
</tr>
<tr>
<td></td>
<td>Day 8 Targeted intervention</td>
</tr>
<tr>
<td>Spring Term 2nd half</td>
<td><strong>2nd Mock Exam</strong></td>
</tr>
<tr>
<td></td>
<td>Day 9 Feedback on second mock exam and targeted intervention</td>
</tr>
<tr>
<td></td>
<td>Day 10 Targeted intervention and final top tips for exam success</td>
</tr>
</tbody>
</table>
* Or equivalent if school timetable makes 1 hour session difficult (longer rather than shorter if possible)

** These can be flexible to fit in with TIG numbers, school timetable, adviser’s preference (e.g. 2x1.5 hours for 15/20/25 students each, 3 x 1 hour for 10/15 students at a time, 4x50 mins for 10/12 students at a time, whole TIG for the morning with support from maths staff). The goal is to do whatever has the biggest impact on the students’ performance.

N.B
The model above relates to schools doing the Linear GCSE course. Only a small number of HODs attending the workshops across Wales indicated they were doing a unitised course. However, if a school is doing a unitised course, the adviser will need to adapt the programme within the spirit of the guidelines above, after discussion with AF and the SPM.