

An Roinn Oideachais agus Scileanna
Department of Education and Skills

Subject Inspection of Mathematics
REPORT

St Mel's College
Longford, County Longford
Roll number: 63750B

Date of inspection: 5 October 2011



AN ROINN | DEPARTMENT OF
OIDEACHAIS | EDUCATION
AGUS SCILEANNA | AND SKILLS

**REPORT
ON
THE QUALITY OF LEARNING AND TEACHING IN MATHEMATICS**

INFORMATION ON THE INSPECTION

Dates of inspection	4th and 5th October 2011
Inspection activities undertaken <ul style="list-style-type: none">• Review of relevant documents• Discussion with principal, deputy principal and teachers• Interaction with students	<ul style="list-style-type: none">• Observation of teaching and learning during seven class periods• Examination of students' work• Feedback to principal and teachers

MAIN FINDINGS

- Very good teaching and learning were observed in the evaluation along with some areas for improvement in a minority of lessons.
- Most teachers took a conceptual approach.
- While students worked on previously unseen problems with general advice and encouragement rather than direct teacher assistance in some lessons, there was scope for an extension of this good practice.
- There is good practice in relation to assessment.
- The quality of individual lesson planning is very good.
- Whole-school support for Mathematics is good.

MAIN RECOMMENDATIONS

- All students should be provided with frequent opportunities to engage in activities that allow them to practise problem solving and interpreting mathematics questions.
 - The number of teachers involved in teaching higher-level Mathematics in the senior cycle should be increased.
 - A co-ordinator for the mathematics department should be appointed and the teachers should formally collaborate through the planning process.
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INTRODUCTION

St Mel's College is a voluntary Catholic secondary school for boys with a current enrolment of 507 students. Transition year (TY) is optional.

TEACHING AND LEARNING

- Very good teaching and learning were observed during the evaluation. However, in some lessons there were areas for improvement. Lessons opened with a clear outline of the expected learning outcomes and concluded with a recap of the learning achieved. Teacher explanations and instructions were very clear. Current learning was linked to prior learning, real life and to other areas of the syllabus. This is all good practice.
- Questioning was used very well to involve students. Teachers were encouraging and affirming and students engaged and participated well.
- The main methodology used was very good teacher exposition with good student involvement. A discovery methodology was used in one lesson and another lesson involved active learning. There was scope in the lessons observed for greater variety of methodologies and this should be addressed.
- While ICT was used in a number of classrooms visited there was scope for greater diversity in its use. Teachers should collaborate on the regular inclusion of a variety of ICT resources in their lessons.
- It is good that most teachers took a conceptual approach through engaging students in discussions designed to expose the underlying meaning of the Mathematics taught. However, this was not the case in all lessons. Therefore, activities that facilitate the robust treatment of lesson material should be included in lessons to encourage a deeper understanding for students.
- In some lessons students worked on previously unseen problems with general advice and encouragement rather than direct teacher assistance. This is an important strategy in enabling students to develop essential independent thinking skills. It was an area for development, however, in some of the lessons observed. Therefore, all students should be provided with frequent opportunities to engage in activities that allow them to practise problem solving, and interpreting mathematics questions. This will not only prepare them for *Project Maths* examination papers but will contribute to the personal satisfaction that they receive from independently solving mathematics problems.
- Progress is assessed through oral questioning and observation in class. Homework is corrected regularly. There was evidence of Assessment for Learning (AfL) principles in student copybooks with the inclusion of advisory and encouraging comments. There is scope for the extension of the use of AfL as a way of motivating students and providing them with information on how they can improve the quality of their work.
- The key words used were highlighted and discussed in most lessons. This is a valuable strategy in supporting literacy.
- The relationship between students and their teachers was observed to be very good.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Whole-school support for Mathematics in terms of time allocation and timetable arrangements for level choice is good. There is also good access to resources and to information and communications technology (ICT) to support learning.
- The majority of students are assigned to mixed-ability class groups in first year. A small number of students, who have been identified as having difficulty with Mathematics, are assigned to a smaller class. They do, however, follow the same material as the other classes. Higher and ordinary level mathematics classes are formed from second year onwards. The abilities are mixed within the level bands; this is good practice and is working well. However, the method of placing students in class groups in first year should be reviewed on an ongoing basis. The recent syllabus changes which will be implemented fully next September will make it possible to have all first year students in mixed-ability classes and this should be considered.
- Although there is good rotation of higher-level Mathematics in the junior cycle just two teachers are involved in teaching higher-level senior cycle mathematics. In order to retain the capacity to teach this level within the school and to provide more teachers with the opportunity for professional development the number of teachers involved in teaching higher-level Mathematics in the senior cycle should be increased.
- Good provision is made for students with learning support needs in Mathematics. It is good that the mathematics teachers are considering the introduction of team-teaching as an additional mode of delivery of learning support.
- There are good whole-school procedures in place for monitoring students' effort and progress.
- Attendance at continuing professional development (CPD) courses is good and is strongly supported by school management.

PLANNING AND PREPARATION

- Meeting time for Mathematics is provided once per term. There is currently no co-ordinator for the subject department. It is recommended that a co-ordinator be appointed and that the position be rotated periodically. This measure will assist the mathematics teachers in planning for the subject.
- The mathematics plan contains common programmes of work for each year group and level. These comprise an outline of the topics to be covered within set timeframes. The teaching and learning plans and the learning resources provided by the *Project Maths* development team should be incorporated into the subject plan.
- In order to ensure that the planning process has a real impact on teaching and learning it is recommended that the members of the mathematics department engage in a process of action planning. This process should be used to identify areas for development in teaching and learning, to devise and implement strategies for improvements and to evaluate the effects of any changes made in due course. These should be carried out within reasonable timeframes.

- The TY programme comprises a good mix of syllabus and non-syllabus material. In keeping with the aims of TY a range of alternative methodologies is used to deliver the programme. A module of Applied Mathematics is suggested for inclusion.
- A comprehensive analysis of the school's performance against national norms is carried out each year. This indicates that the school is performing well. To gain an alternative perspective it is recommended that student achievement also be compared to student intake data.
- Each lesson observed was well planned. The teachers should include their individual lesson plans in the overall mathematics plan. This will provide a forum for the sharing of expertise and will be very beneficial.

The draft findings and recommendations arising out of this evaluation were discussed with the principal and subject teachers at the conclusion of the evaluation. The board of management was given an opportunity to comment in writing on the findings and recommendations of the report; a response was not received from the board.