

An Roinn Oideachais agus Scileanna
Department of Education and Skills

Subject Inspection of Mathematics
REPORT

Presentation College
Bray, County Wicklow
Roll number: 61800D

Date of inspection: 3 October 2012



A N R O I N N | D E P A R T M E N T O F
O I D E A C H A I S | E D U C A T I O N
A G U S S C I L E A N N A | A N D S K I L L S

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

INFORMATION ON THE INSPECTION

Dates of inspection	2 and 3 October 2012
Inspection activities undertaken <ul style="list-style-type: none">• Review of relevant documents• Discussion with principal and teachers• Interaction with students	<ul style="list-style-type: none">• Observation of teaching and learning during eight class periods• Examination of students' work• Feedback to principal and teachers

MAIN FINDINGS

- The quality of teaching and learning in all lessons was good, and was very good in the majority of lessons.
- School management is very supportive of Mathematics through timetabling arrangements for the subject and through the provision of subject-specific resources.
- The use of information and communication technology (ICT) in lessons was very good and enhanced student learning.
- Students have opportunities to participate in a range of co-curricular and extracurricular Mathematics activities.

MAIN RECOMMENDATIONS

- Active teaching methods and the use of higher-order questions to allow for the greater involvement of students in their learning should feature more in lessons.
 - Ongoing planning for capacity building within the department is recommended.
 - Action plans should be devised for the key areas for development identified by the Mathematics department.
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INTRODUCTION

Presentation College, Bray is an all boys secondary school with a current enrolment of 630. The school offers the Junior Certificate (JC), Leaving Certificate (LC) and an optional Transition Year (TY) programme.

TEACHING AND LEARNING

- During the two-day evaluation eight lessons were observed. This allowed for all year groups and levels to be evaluated. The quality of teaching and learning in all lessons was good and indeed was very good in the majority of lessons. During the evaluation, teachers demonstrated a strong commitment to the subject and an openness to the suggestions and recommendations made.
- Teachers have developed a good rapport with their students and all lessons were conducted in an atmosphere of mutual respect.
- In all lessons, clear links were made with current and prior learning and in some instances with different subjects. Teachers and students used appropriate subject terminology during the lessons.
- Most lessons began with the teachers explicitly stating the learning objectives for the lesson. There is scope in lessons for reviewing objectives at the end of lessons, to assess what learning has been achieved.
- The most common method observed was traditional whole-class teaching and was mostly of a very good standard. In one lesson, the use of discovery methods was excellent and enabled students to derive a rule for a mathematical concept. There is further scope for alternative approaches to be integrated into some lessons. The use of cooperative methods that would encourage greater student involvement in their learning is recommended.
- Effective team teaching was observed in one junior cycle lesson. In this instance, the roles of each teacher were clearly defined and facilitated the smooth progression of the lesson, enabling very good learning to take place.
- Questioning of students was most effective when a combination of global questions followed by individual questions was used. In a small number of instances whole-class questioning dominated interactions and resulted in some students not contributing to the lesson or not being fully engaged with their learning. This requires attention.
- In some lessons, teachers used probing questions that encouraged students to think about the topic and provide justification for their answers. It is important that all students are given opportunities to express and demonstrate their knowledge. This could be facilitated through greater use of higher-order questions.
- During interactions, students demonstrated very good subject knowledge. In some instances, teachers effectively used students' questions to develop the lesson or to address common areas of misconception.
- In almost all lessons, resources other than the textbook were effectively integrated at key points during the lesson. Effective use was made in some lessons of the available ICT equipment such as a visualiser and video clips. For example, in a TY lesson, a short video clip was used to set the topic, scatter plots, in a real life context. The appropriate use of such resources added to the learning experience for students.

- Many classrooms had mathematics displays and teachers used them during lessons to support learning. Displays included results from a CensusAtSchool project, key terms and wall clocks with the digits represented using mathematical symbols. In addition some commercially sourced displays and student-developed displays were also observed. Further development in this area is recommended.
- There is evidence that teachers provide feedback to students, orally during the lessons and in some instances via formative feedback in students' copies. In some instances, greater monitoring of students' presentation of written work should be undertaken.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Timetabling of Mathematics is very good. This includes an appropriate time allocation to all year groups, concurrent timetabling of Mathematics, and daily contact with the subject with an appropriate balance between morning and afternoon lessons.
- Students are supported in realising their full potential in Mathematics through mixed ability class groupings in first and second year. At the beginning of third year, students are placed in class groupings that reflect the examination level deemed most appropriate for them. Outcomes in examinations suggest that practices of class formation for Mathematics are effective. Equally, practices in class formation in senior cycle are very good.
- The mathematics department comprises seven teachers. Teachers rotate the teaching of levels at junior cycle but currently only two teachers share the teaching of higher level in senior cycle. This does not support capacity building within the department. It is therefore recommended that in line with best practice, strategic planning is undertaken within the mathematics department to address this matter.
- Management is very supportive of the mathematics department. This includes the provision of subject-specific resources requested; attendance at continuing professional development; and payment of the annual subscription to the Irish Mathematics Teachers Association (IMTA).
- Support in numeracy is offered using a variety of models. These include team teaching, withdrawal and one-to one support and the most appropriate model of provision is chosen to support the individual need of a student.
- Students engage with co-curricular and extracurricular activities through Maths Week and Mathematics Olympiads. TY students are involved in the John Hooper statistics competition. Further consideration should be given to encouraging students to participate in competitions organised by the IMTA.

PLANNING AND PREPARATION

- The position of co-ordinator of Mathematics is rotated among members of the department. Regular meetings of the department are held and minutes are retained. Some good progress has been made. To further support a collaborative approach, time at subject meetings should be used to share best practice with regard to active methodologies and the identification of agreed strategies for the teaching of common topics.
- The subject plan details schemes of work for each year and level. Further work on schemes is necessary to arrive at a succinct document to ensure that all schemes are

syllabus based. This will provide a clear overview of the incremental mathematical skills and competencies that a student should acquire during their maths education in the school.

- The department has collaborated in identifying key areas for development for this year. This shows the commitment of staff to ongoing improvement. Action plans to support this work should now be drawn up.
- The TY programme is designed using a modular structure and offers students the opportunity to reinforce key skills and teachers to teach a topic of particular interest.
- Individual planning and preparation for lessons by teachers was very good with all supplementary materials prepared in advanced and available for use in the lesson.

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, and the response of the board will be found in the appendix of this report.

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Appendix

School response to the report

Submitted by the Board of Management

Area 2: Follow-up actions planned or undertaken since the completion of the inspection activity to implement the findings and recommendations of the inspection

Recommendation 1 and 3 are being addressed at subject planning within the Mathematics Department.

Recommendation 2 will be addressed hopefully for 2013/14 and onwards.