

An Roinn Oideachais agus Scileanna

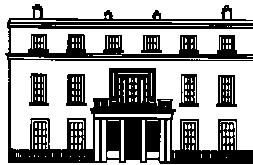
Department of Education and Skills

**Subject Inspection of Mathematics
REPORT**

**St. Patrick's Cathedral Grammar School
St.Patrick's Close, Dublin 8.**

Roll number: 60660I

Date of inspection: 27 February 2014



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

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

INFORMATION ON THE INSPECTION

Date of inspection	27 February 2014
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 five class periods• Examination of students' work• Feedback to principal and teachers

MAIN FINDINGS

- The quality of teaching was good or very good in the majority of lessons with excellent practice observed in one lesson.
- The mathematics department is committed to encouraging students to participate in Mathematics to the highest level possible, and has successfully implemented practices and procedures to support its work in this area.
- Mathematics is very well supported by management as is evident in the timetabling arrangements for the subject.
- Methodologies used in most lessons were effective with some areas for development identified.
- The appropriate use of subject terminology and symbols were regularly checked by teachers in lessons.
- A wide range of co-curricular and extra-curricular opportunities are available to students to support their mathematics education and learning.

MAIN RECOMMENDATIONS

- Methodologies that have proved successful should be discussed and ideas shared at mathematics department meetings.
- Questioning strategies that promote higher-order thinking and greater discussion in mathematics classes should be used more often in lessons where appropriate.
- Subject department schemes of work should be reviewed to link topics with the various syllabus strands.

INTRODUCTION

St.Patrick's Cathedral Grammar College, is a voluntary co-educational school in Dublin city. The school has a current enrolment of 122 students and offers, the Junior Certificate, the established Leaving Certificate and a compulsory Transition Year (TY) programme.

TEACHING AND LEARNING

- The quality of teaching was good or very good in the majority of lessons with excellent practice observed in one lesson. Lessons were characterised by very good teacher preparation with necessary resources and supplementary materials prepared in advance for lessons.
- Teachers had suitably high expectations for students' engagement and participation and they in turn were mostly positive about their learning. Classroom atmosphere was very positive and this allowed for good progress to be achieved in most lessons.
- In all lessons learning objectives were established with links made between current and prior learning. This is very good practice and ensured that the context for learning was clear for all students. In line with best practice, most lessons were concluded with a review of the learning objectives. In some cases, where this was not achieved, teachers are reminded of the benefits of such an approach as it will support the planning for the next lesson.
- Methodologies observed were mostly effective and included very good teacher-led instruction, group activities and a discovery learning approach. Excellent group work was observed during a TY lesson. In this lesson, the overall structure, pacing and purpose of the group work was very clear and this ensured that students were appropriately challenged. This approach required students to draw on prior learning and from many different areas of the syllabus to support their justification for their work. Such excellent practice should be shared at mathematics department meetings and used in other lessons where appropriate.
- Global questions were used to recall prior learning or to initiate discussion and were most effective when followed by directed questions. To further support students' participation in their learning more frequent use of directed questioning is recommended.
- Statements such as "what do you think" or "why" were frequently used by teachers in lessons. The use of such higher-order questioning strategies enabled students to be challenged about the topic while deepening their subject knowledge and supporting learning for understanding of Mathematics. All teachers should ensure that greater use of higher-order questioning strategies occur more frequently in all lessons. This should also promote greater discussion among students about Mathematics.
- Information and communication technology (ICT) and additional supplementary materials were effectively integrated into lessons. The use of teacher developed and online resources were successfully used to reinforce key learning concepts. For example, there was excellent use of an animated resource during the teaching of transformations.
- In almost all lessons very good practice was noted where teachers emphasised the importance of using appropriate subject terminology. Teachers frequently identified keywords for the topic and checked understanding prior to students recording these words within dedicated notes or a keyword copybook.

- Teachers provided oral feedback to students on their work during lessons with some providing detailed written formative feedback to students. This practice should be extended where appropriate.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Time allocated to the subject is in line with syllabus requirements. This year an anomaly has arisen and as a result Mathematics is not timetabled on a daily basis for sixth-year students. Management should endeavour to timetable Mathematics on a daily basis to support the recommendations of the national numeracy strategy.
- Management deploys additional teachers to teach Mathematics in third, fifth and sixth year which facilitates concurrent timetabling of the subject and enables students to access a level commensurate with their ability. This practice also supports the mathematics departments' objective to encourage all students to remain with the highest level possible.
- The mathematics department comprises three teachers, one of whom is a graduate in the subject. Teachers are planning to attend upskilling courses provided by the Department of Education and Skills to further develop their skills in Mathematics. This is to be welcomed as it will develop capacity within the department.
- Resources to support the teaching and learning of the subject are generally sourced and retained. Teachers are generally not classroom based but one classroom is designated as a mathematics room within which resources can be retained. A listing of available resources should be included within the subject department plan.
- Supports for students who find mathematics challenging are offered through in-class support or on a withdrawal basis.
- A wide range of co-curricular and extra-curricular activities are arranged to support the development of students' mathematical abilities. Students are encouraged to participate in national and international events and in a weekly Maths Clinic which operates within the school.

PLANNING AND PREPARATION

- The coordination of the mathematics department is ably undertaken by the teacher who teaches the majority of Mathematics in the school.
- Minutes of formal meetings indicate that in addition to discussion about organisational details the department also discuss and document their analysis of students' performance in certificate examinations. These results were used by the mathematics department to focus on strategies to improve participation particularly in higher-level Mathematics. Consequently, the department has noted an increase in participation and the overall performance of students in state examinations is good.
- The subject plan identifies the operational details of the department and schemes of work for each year group and level. Schemes of work are presented in a variety of ways depending on the individual teacher teaching the year group or level, with some schemes of work listing chapters of a textbook rather than being based on the various strands of the syllabuses. It is recommended that all members of the mathematics department collaborate to review schemes of work for all year groups.
- The TY plan provides a good balanced range of opportunities for students to consolidate prior learning in addition to learning mathematical concepts in context.

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.