

**An Roinn Oideachais agus Scileanna**

**Department of Education and Skills**

**Subject Inspection of Mathematics  
REPORT**

**St.MacDara's Community College,  
Templeogue, Dublin 6W**

**Roll number: 70260V**

**Date of inspection: 27 November 2013**



**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**

<b>Dates of inspection</b>	26 and 27 November 2013
<b>Inspection activities undertaken</b> <ul style="list-style-type: none"><li>• Review of relevant documents</li><li>• Discussion with principal and teachers</li><li>• Interaction with students</li></ul>	<ul style="list-style-type: none"><li>• Observation of teaching and learning during nine class periods</li><li>• Examination of students' work</li><li>• Feedback to principal and teachers</li></ul>

**MAIN FINDINGS**

- The quality of teaching and learning was good in the majority of lessons, with some examples of very good practice and scope for development in others particularly in relation to the methodologies used.
- Management has invested in information and communication technology (ICT) and teachers used it effectively in all lessons.
- Classroom management was uniformly very good.
- Students have ample opportunities to participate in extracurricular mathematics activities enabling them to experience the subject outside the classroom context.
- Subject department planning is well advanced with many aspects of very good practice established with some further development required particularly in the area of analysis of student attainment.

**MAIN RECOMMENDATIONS**

- Management should review the timetabling of Mathematics particularly in relation to time allocated to first-year students and daily contact with the subject.
- To ensure that students have access to Mathematics appropriate to their level of ability at all times, consideration should be given to the more consistent use of concurrent timetabling for mathematics classes.
- The use of approaches as recommended by Project Maths should be included in all lessons to ensure that students have more opportunities to be active in their learning.
- The mathematics department should agree common procedures in relation to providing written formative feedback to students.

## **INTRODUCTION**

St.MacDara's Community College, is a co-educational school with a student population of 858. The school offers the Junior Certificate, the established Leaving Certificate and Leaving Certificate Vocational Programme (LCVP). The school has an optional Transition Year (TY) and generally one class group is formed each year.

## **TEACHING AND LEARNING**

- The quality of teaching and learning in the majority of lessons was good, with some examples of very good practice observed. There was some scope for development in the methodologies used. Classroom management was uniformly very good. Key mathematical words, mathematical posters and whole-school numeracy initiative posters are displayed in all classrooms. In some lessons, teachers used posters to support the teaching of a topic or concept.
- In almost all cases teachers stated the lesson content at the outset with the learning outcomes communicated in a few instances. In a few lessons, teachers summarised the lesson either through questioning of the students or through student reflections. It is recommended that all teachers explicitly state the learning outcomes in terms of what the students should know and be able to do by the end of the lesson and revisit them at the end to ascertain what learning has taken place.
- Methodologies used in lesson varied and included teacher directed learning, paired or group work and discovery learning. The effectiveness of the methods generally depended on the sequencing of the lesson by the teacher. Group work or paired work was most effective when there were clear expectation about what was to be achieved within a specific timeframe. For example, during a probability lesson, students worked well collaboratively and discussed possible solutions to the assigned work. It was clear that students enjoyed the challenge of the activity.
- There was evidence of some very good use of higher-order questioning strategies that encouraged students to deepen their understating of the topic while promoting critical thinking. For example, in a geometry lesson geostrips were effectively used to support the revision of various properties of triangles. Students worked together to discuss a range of tasks and when questioned by their teacher provided justification for their answers. However, in a few lessons, there was an overdependence on teacher-led instruction. In such lessons teachers told students what approach to use rather than eliciting the information from the students through questions. Such practices reduce students' independent learning and can impact on how students develop their confidence and abilities in Mathematics. All teachers are encouraged to ensure that there is a balance between teacher input and student.
- A range of resources including ICT were effectively integrated into all lessons. In addition, concrete materials such as unifix cubes, die and geostrips were used to support students' learning. A PowerPoint presentation with animation was successfully used to support and explain a concept during a probability lesson.
- Homework was assigned in all lessons and in line with the mathematics' department policy self-correction was used in some lessons. Many teachers provided students with oral feedback during lessons however, a review of students' copybooks indicated little evidence of formative comment. A common approach to the correction of students' work by the mathematics department should be developed.

## **SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT**

- Timetabling arrangements for Mathematics require attention. Daily contact with the subject is only afforded to sixth-year students. Time allocated to Mathematics for all first-year classes is insufficient. A review of timetabling should be undertaken with reference to Circular letter M58/2011.
- First year and TY classes are taught in mixed-ability groups. In all other years banding and setting within the bands is used for class formation. Concurrent timetabling is not common practice. This year, this has resulted in some fifth-year students being taught in a mixed-level grouping (higher and ordinary levels) for two class periods per week and where the ordinary-level students are withdrawn for the remaining three class periods per week. Such timetabling practices are unsatisfactory. Notwithstanding the complexity of designing a school timetable, a review of practice and procedures around class formation should be undertaken. Consideration should be given to the more consistent use of concurrent timetabling for mathematics classes.
- Management deploys teachers to bands and normally the mathematics department discuss and agree the rotation of various levels. In this way, teachers have opportunities to develop and maintain capacity within the department. The qualification profile of the mathematics department is good; many teachers are graduates in Mathematics with some participating in upskilling courses in Mathematics.
- There is very good support from management to support teachers to access relevant continuing professional development (CPD). In addition, some of the mathematics teachers are involved in the delivery of the Project Maths national CPD. This experience is hugely beneficial to the department. All teachers are members of the Irish Mathematics Teachers Association and the annual membership is paid by management.
- Support for students who find Mathematics challenging is provided through team teaching and is supplemented by withdrawing students where appropriate. To maximise the success of team teaching training on a whole school basis is suggested.
- There are very good opportunities for students to access cocurricular and extra-curricular mathematics activities.

## **PLANNING AND PREPARATION**

- The mathematics department is effectively coordinated by a member of the department. Practices and procedures are in place to facilitate regular formal meetings and informative minutes of meetings are retained. This allows for decisions to be made and responsibility for actions to be determined.
- Overall subject department planning is well advanced. Teachers are commended for the establishment of common strategies for the teaching and learning of common topics. This work has enabled whole school numeracy strategies to be established.
- To further enhance the department plan specific learning outcomes for topics should be included with schemes of work. The mathematics department should record and analyse students' performance in state examinations to identify areas of concern and action plans to address such areas.
- The TY plan provides students with opportunities for consolidating concepts in addition to encountering new material.

---

The draft findings and recommendations arising out of this evaluation were discussed with the principal and subject teachers the conclusion of the evaluation. The board of management of the school 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.

*Published May 2014*

# **Appendix**

**SCHOOL RESPONSE TO THE REPORT**

**Submitted by the Board of Management**

### **Area 1 Observations on the content of the inspection report**

The Board of Management welcomes the main findings of the report and will use its recommendations to guide the future development of Mathematics in the school.

The Board of Management appreciates the hard work and enthusiasm of the members of the Mathematics department in their promotion of teaching and learning as a positive and rewarding experience.

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

The Board of Management welcomes the recommendations and notes the following which will be addressed:

The timetabling of Mathematics particularly in relation the time allocated to first-year students. It must be noted however that currently over the course of the Junior Certificate Programme the students receive more than the 240 hours recommended by the NCCA/DES of Mathematics instruction. In St. MacDara's the students receive 286 hours of Mathematics instruction over the three years.

At present all students have access to Mathematics opportunities for different levels but the Management of the school will consider the feasibility of concurrent timetabling for all Mathematics classes in each year group.

Project Maths approaches already in use by the Mathematics department and common written formative feedback will be placed on the agenda of the Mathematics department.