Subject Inspection of Mathematics
REPORT

Coláiste Eoin,
Bóthar Stigh Lorgan,
Co. Átha Cliath

Roll number: 60041D

Date of inspection: 25 September 2013
REPORT
ON
THE QUALITY OF LEARNING AND TEACHING IN MATHEMATICS

INFORMATION ON THE INSPECTION

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<th>24 and 25 September 2013</th>
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MAIN FINDINGS

- The quality of teaching and learning ranged from good to exemplary, with very good practice observed in the majority of lessons.
- In some lessons, excellent use was made of problem-solving approaches and higher-order questions, which provided students with an opportunity to be active participants in their learning.
- In many lessons, students’ responses to teachers’ questions indicated that the quality of learning was very good.
- There is excellent support from management for the professional development of teachers and the provision of resources for Mathematics.
- Timetabling arrangements for Mathematics are very good.
- Students have opportunities to participate in cocurricular and extra-curricular activities in Mathematics.

MAIN RECOMMENDATIONS

- Teachers should integrate a range of teaching approaches that give students greater opportunities to be active in their learning.
- Subject department schemes of work should be rewritten with reference to the relevant strands of Project Maths syllabuses and should detail the skills and competencies to be achieved by students in each year in Mathematics.
- The mathematics department should collaborate and identify additional subject specific resources and displays that can be used to support the teaching and learning of Mathematics.
INTRODUCTION

Coláiste Eoin operates under the patronage of Edmund Rice Schools Trust. It is an all boys’ second level Irish-medium school in south county Dublin with an enrolment of 491 students. The school offers the Junior Certificate, a compulsory Transition Year (TY) programme, and the established Leaving Certificate.

TEACHING AND LEARNING

• Over a two-day period, eight mathematics lessons were observed allowing all year groups, levels and programmes to be evaluated. The quality of teaching and learning ranged from good to exemplary, with very good practice observed in the majority of lessons. During the evaluation, teachers demonstrated their commitment to embracing areas for further improvement.

• Classroom management and student attentiveness was very good. Teachers set appropriately high expectations for their students who, in turn, responded accordingly. All lessons were conducted in an atmosphere of mutual respect and allowed for very good progress to be made. Interactions between the students and teachers were very positive.

• In most instances, teachers explicitly stated the learning objectives for the lesson and in many instances revisited them at the end. It is recommended that all teachers take time at the end of each lesson, to review progress that has been achieved in the lesson.

• The predominant methodology used in lessons was traditional whole-class teaching with group or paired work observed in less than half of the lessons. Although the traditional approach was mostly effective there is scope for the further use of alternative approaches as observed in a few lessons.

• Effective use was made of a problem solving approach in two lessons. This allowed students to work together, use various mathematical topics to devise a strategy to complete an assigned problem. This group activity was then followed by students presenting their strategies to the class. In one of these lessons, the teacher concluded the exercise with a brainstorming activity to consolidate the learning and this was excellent practice. Teachers should review the approaches currently in use, in order to further integrate a variety of teaching methodologies in the teaching of Mathematics.

• Recall questions were initially used to ascertain students’ prior knowledge or to link with a previous lesson. Good use was made of directed questions in many lessons. In a senior cycle lesson, excellent use was made of teacher-led discussion with higher-order probing questions dominating student teacher exchanges. This practice allowed students to think for themselves and provide justification for their answers. As this type of questioning is beneficial to deepening students’ understanding and learning it is recommended that challenging questions be used more frequently in lessons.

• Information and communication technology (ICT) was successfully integrated at key intervals in lessons to support teaching and learning. To further enhance the teaching and learning of Mathematics the mathematics department should discuss and identify additional resources.

• Excellent use was made of the target language and mathematical terminology in all lessons. All interactions between teachers and their students were conducted through the medium of Irish. The practice of recording and displaying topic specific terminology is recommended as a means to support the learning of key terminology while promoting a whole school literacy strategy and will also add to the visual learning environment.
• Common assessment in school-based examinations is used and this is very good practice. Students’ copybooks and some student assessment papers were reviewed during the evaluation and indicated that teachers are monitoring student work with some very good examples of detailed written feedback providing suggestions for further development. This practice should be extended further where appropriate.

• Almost all students take higher level in junior cycle and a high proportion of students take higher level in senior cycle. Outcomes are generally very good.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

• Timetabling arrangements for Mathematics are excellent indicating a strong commitment by management for the subject. This includes very good time provision for all year groups, concurrent timetabling of mathematics and the deployment of an additional teacher to second and third year.

• Appropriate arrangements are in place for students to access the level most appropriate to their abilities.

• The mathematics department comprises seven teachers many of whom are graduates in the subject. Currently, some teachers are undertaking further studies to ensure that there is sufficient capacity to teach mathematics to the highest level possible.

• Management is very supportive of teachers to access and participate in continuing professional developing programmes. In addition, management has invested in ICT to support teaching and learning. The willingness on behalf of management to pay the annual membership for subject associations should be availed of by the mathematics department.

• Teachers are commended for promoting Mathematics outside the classroom context. Students are given opportunities to participate in competitions organised such as the Irish Mathematics Teachers Association (IMTA), activities arranged during Maths Week Ireland and in the Maths Olympiads.

PLANNING AND PREPARATION

• Formal planning meetings are facilitated by management with many informal meetings taking place throughout the year. The position of coordinator is voluntary and rotational. Such practices are very good.

• Minutes of meetings are retained. Time at future meetings should be given to the sharing of best practice in teaching approaches and agreeing and documenting common approaches to teaching common mathematical concepts. This work should support whole-school Numeracy.

• Schemes of work for all year groups and levels have been devised but are based on the chapters of the textbook. It is recommended that schemes of work be rewritten using the relevant syllabus as a reference point. These schemes should integrate the most appropriate methodologies, resources and assessment modes that will support students in the development of key skills and competencies as they study each area of the syllabus. The synchronisation of topics taught at higher and ordinary level should also be undertaken during this review.
The TY maths programme is offered in three modules allowing teachers to teach to their strengths and interests. Ongoing review and monitoring of each module should ensure that students have opportunities to experience Mathematics in various contexts during their studies in TY.

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 of the school was given an opportunity to comment on the findings and recommendations of the report; the board chose to accept the report without response.