An Roinn Oideachais agus Scileanna  
Department of Education and Skills  

Subject Inspection of Mathematics  
REPORT  

St Mary’s College  
Naas, County Kildare  
Roll number: 61730I  

Date of inspection: 23 November 2011
REPORT
ON
THE QUALITY OF LEARNING AND TEACHING IN MATHEMATICS

INFORMATION ON THE INSPECTION

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MAIN FINDINGS

• The quality of teaching and learning was very good in four of the lessons observed and good to fair in the other lessons.
• Good assessment practices were noted.
• Teachers were affirming, supportive and encouraging.
• Whole-school support for Mathematics is very good.
• The mathematics department has engaged well with planning for the subject.

MAIN RECOMMENDATIONS

• Greater use should be made of the teaching and learning plans provided by the Project Maths development team.
• Greater use should be made of strategies to differentiate learning.
• School management should review the ways in which learning support in Mathematics is provided for students.
• Measures to encourage more students to take higher-level Mathematics in the certificate examinations should be explored.
INTRODUCTION
St Mary’s College, Naas is a voluntary Catholic secondary school for girls with 918 students. The Junior Certificate, the established Leaving Certificate and the Leaving Certificate Vocational Programme (LCVP) are offered in the school. Transition Year (TY) is also provided and is optional for students.

TEACHING AND LEARNING
- The quality of teaching and learning was very good in four of the lessons observed and good to fair in the other lessons. All lessons were well prepared. The teachers’ explanations and instructions were clear. Lessons were purposeful and most progressed at an appropriate pace. Effective use of information and communications technology (ICT) and Project Maths resources was observed.
- The main methodology was teacher example followed by the students completing similar exercises. This worked best when the students were given opportunities to engage in higher-order activities such as thinking, discussing and doing. In two lessons an investigative approach was used which very effectively facilitated high levels of student learning. One lesson comprised mainly teacher input with the students passively listening for almost the entire period and lower levels of student attention and participation were noted than in the other lessons evaluated. It is, therefore, recommended that the good balance between teacher and student input as outlined above be extended to all lessons.
- Levels of students’ enthusiasm for Mathematics were highest where the methodology encouraged their full engagement and where there was a strong sense of teamwork. In order to further the use of teaching strategies that optimise learning it is recommended that greater use be made of the teaching and learning plans provided by the Project Maths development team.
- There was a strong focus on students achieving a solid understanding of the concepts taught in most teacher explanations. This was particularly evident in a lesson on correlation. Best practice was also noted where the tasks chosen enabled the students themselves to discover the main concepts of the lesson. In some lessons there was scope to explore the meanings of the key words or to use a numberline to assist students in developing their understanding and this should be considered in lesson planning.
- Learning was well differentiated in some lessons observed. For example, activities that naturally differentiated learning were used; teachers provided additional work for better able students and individual attention was provided for students experiencing difficulty. In some lessons there was a need for learning to be differentiated as students, who had finished their work, were for some time without work to do. It is recommended that the good differentiation practices observed be used where appropriate in all lessons.
- Good assessment practices were noted. Teachers made good use of questioning and observation to assess learning and monitor progress. The standard of presentation of work in the students’ copies reviewed was good and there was evidence that their work is regularly monitored. In some cases advice on how to improve and encouraging comments were provided. As part of an Assessment for Learning (AfL) strategy it is recommended that teachers share the learning objectives with the students at the outset of lessons and check their achievement at the end.
- Teachers were affirming, supportive and encouraging. The standard of student behaviour was very good.
SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Whole-school support for Mathematics is very good and the school encourages the teachers’ participation in continuing professional development.

- Students are assigned to mixed-ability mathematics classes for first year and levels are set in every other year. Concurrent timetabling of mathematics lessons, for year groups where students are separated into higher and ordinary levels, is used to allow every student the flexibility to study the subject at a level appropriate to her ability. This is all good practice.

- Students who require support with Mathematics receive additional mathematics lessons, which is good. In some year groups very small classes are created for students experiencing difficulty with Mathematics. A small ordinary-level class group was visited as part of the evaluation and, while the quality of learning was high, the students present could possibly benefit from inclusion in a larger group. Therefore, it is recommended that the school management reviews the ways in which learning support in Mathematics is provided for students. Consideration should be given to team teaching as an additional mode of delivery.

- There is good rotation in the deployment of teachers for higher-level Mathematics in the junior cycle. However, there are just four teachers at present teaching higher-level Mathematics to fifth and sixth years. 2012 saw a significant increase in the uptake of higher-level Leaving Certificate Mathematics in the school. Therefore, the number of teachers teaching the subject at this level should be increased.

- The analysis of the students’ performance in Mathematics in the certificate examinations shows a significantly higher rate of very high grades at ordinary level in both the Leaving and Junior Certificate examinations in comparison with the national averages. This indicates that more students could be encouraged to take the subject at higher level. It is recommended that measures to achieve this be explored in the school. Consideration should be given to keeping all students in mixed-ability class groups until the end of second year.

PLANNING AND PREPARATION

- The mathematics department has engaged well with subject planning. There are two co-ordinators for the subject department and it is good that these positions are rotated. The minutes of the planning meetings indicate that some sharing of resources and reviewing of practice takes place which is good. It is also valuable that teachers of particular year groups meet to discuss classroom practices and methodologies. It is recommended that this good work be extended to creating a systematic process for sharing resources and lesson ideas.

- A good subject plan has been developed. It includes common programmes of work for each year group and level that set out the sequence in which topics will be taught. It is recommended that the plan be reviewed in favour of expressing the programmes of work in terms of the strands outlined in the syllabuses. In addition, learning outcomes should be linked to the corresponding teaching and learning plans that were provided by the Project Maths development team.
• The TY plan comprises mainly leaving certificate topics and is not in keeping with the spirit of a good TY programme. It is recommended that topics not on the syllabuses be included with preference given to those that will facilitate TY students in developing problem solving and strategic thinking skills. A module of Applied Mathematics is suggested.

The draft findings and recommendations arising out of this evaluation were discussed with the principal, deputy 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.

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