Subject Inspection of Mathematics
REPORT

Our Lady’s College
Greenhills, Drogheda, County Louth
Roll number: 63850F

Date of inspection: 4 May 2011
REPORT
ON
THE QUALITY OF LEARNING AND TEACHING IN MATHEMATICS

INFORMATION ON THE INSPECTION

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<th>Dates of inspection</th>
<th>3rd and 4th May 2011</th>
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<td>Inspection activities undertaken</td>
<td>3rd and 4th May 2011</td>
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<td>• Review of planning documents</td>
<td>• Observation of teaching and learning during eight class periods</td>
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<td>• Discussion with principal and teachers</td>
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MAIN FINDINGS

• The quality of teaching and learning observed throughout the evaluation was very good; there was much evidence of a Project Maths approach in lessons and of students learning to think for themselves and take responsibility for their own learning.

• The high quality of the worksheets, handouts and PowerPoint presentations prepared contributed significantly to learning and was central to the success of lessons.

• There is good practice in relation to assessment; observation and questioning were used very well to monitor progress and reinforce learning.

• There is very good whole-school support for Mathematics.

• There is excellent practice in relation to planning for Mathematics; the teaching team has invested considerable effort in interpreting the new syllabuses, developing teaching and learning plans and contributing to the development of Project Maths.

• The well-designed transition year (TY) programme for Mathematics encourages students to enjoy and to appreciate the subject.

MAIN RECOMMENDATIONS

• In order to support the mathematics department’s planning process it is recommended that a section for action planning be added to the subject plan.

• The learning objectives should be shared with students at the start of each lesson and their achievement checked at the end.
INTRODUCTION

Our Lady’s College, Greenhills, Drogheda is a voluntary Catholic secondary school for girls with 930 students. The school is participating in the development of Project Maths as it is one of the initial twenty-four Project schools. Transition year (TY) is provided as an optional programme.

TEACHING AND LEARNING

- Very good teaching and learning were observed throughout the evaluation; teacher explanations and instructions were clear and conceptual. Links were made across topics, where appropriate, and material was contextualised. A wide variety of methodologies was observed that included project work, research, brainstorming, and playing mathematical games. Teachers were very creative in devising lesson plans to capture student interest. There was much evidence of a Project Maths approach in lessons and of students learning to think for themselves.

- Most teachers shared the learning objectives with the students at the start of lessons which is valuable in ensuring that the focus of the planned activities remains on achieving the learning outcomes. It is recommended that this good practice be extended to all lessons. The achievement of the learning outcomes should also be checked at the end of lessons.

- Very good use of questioning was a feature of all lessons. Teachers used open questions to encourage students to tease out ideas and to uncover concepts. Students were frequently asked to explain their reasoning, to justify answers, and to give their opinion.

- The high quality of the worksheets, handouts and PowerPoint presentations prepared was central to the success of lessons. These were very well designed to support learning, to expose the underlying concepts and to lead students through the development of ideas. In one case the students themselves had designed the worksheets to be used in the lesson which is very good practice.

-Student behaviour was of a very high standard. The relationship between students and their teachers was characterised by warmth and care. Teachers were affirming, encouraging and supportive of students’ efforts.

- Students demonstrated a fluent use of mathematical language in the quality of their engagement in discussions. The quality of questions asked by students and the quality of their answers showed that very good learning had been achieved in the lessons observed.

- There is good practice in relation to assessment; observation and questioning were used very well to monitor progress and reinforce learning. An analysis of student achievement in the certificate examinations is completed each year and in keeping with good practice this is used to inform planning for Mathematics. This analysis indicates that the uptake for higher level mathematics is good and that the students are performing well in the subject.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Timetable provision for Mathematics and arrangements for level choice are good. There is very good whole-school support for the subject in terms of provision of information and communications technology (ICT) and other resources for teaching and learning. Very good use of ICT was observed in the evaluation. The mathematics teachers have
been creative in developing their own resources, using everyday objects and facilitating students in creating resources to enhance learning in Mathematics.

- Students are assigned to mixed-ability class groups for the duration of first year for Mathematics and are assigned to ability levels from second year onwards which is good practice.

- Junior cycle higher level Mathematics is rotated amongst the entire teaching team which is a worthwhile arrangement. Three teachers are currently teaching higher level Leaving Certificate Mathematics and the need for increased rotation at this level has been identified by the subject department. Measures to address this, including accessing further training, are being implemented.

- There has been extensive involvement in continuing professional development (CPD) courses amongst members of the mathematics department and this is strongly supported by school management. Members of the teaching team have been actively involved in the development of *Project Maths*.

- Support for students with special educational needs and for students for whom English is an additional language is good.

- A wide variety of valuable opportunities is provided for students to participate in extra-curricular activities in Mathematics. In particular the school has achieved considerable success in the BT Young Scientist and Technology competition for their Mathematics entries each year.

### Planning and Preparation

- There is excellent practice in relation to planning for Mathematics. The teaching team has worked very hard in planning for the implementation of *Project Maths* and in contributing to its development. This work is ongoing through the interpretation of the new syllabuses, the creation of teaching and learning plans and the development of resources for lessons. There was evidence in the lessons observed that this valuable work has significantly benefited students’ learning experiences in the classroom.

- A co-ordinator for the subject department has been appointed and it is good that this position rotates annually. Formal meetings of the department are organised once per term and informal meetings take place on an ongoing basis throughout the year. There is a very high level of co-operation and collaboration amongst mathematics teachers.

- The mathematics department engages in a process of self-evaluation; time is allocated as part of the whole-school planning process for them to review and evaluate their work. In order to support the mathematics department’s significant engagement with the planning process it is recommended that a section for action planning be added to the subject plan.

- The mathematics plan contains all the relevant policy documents and programmes of work for each year group and level. The focus of the programmes of work is on student learning outcomes and a wide variety of methodologies. This approach to delivering the programme is in keeping with the spirit of *Project Maths*.

- The content and methodologies used to deliver TY mathematics lessons contribute to TY as a year for students to enjoy and to appreciate the subject.
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.

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