An Roinn Oideachais agus Scileanna

Department of Education and Skills

Subject Inspection of Mathematics

REPORT

St Joseph of Cluny,
Killiney, County Dublin
Roll number: 60260P

Date of inspection: 16 September 2011
REPORT
ON
THE QUALITY OF LEARNING AND TEACHING IN MATHEMATICS

INFORMATION ON THE INSPECTION

<table>
<thead>
<tr>
<th>Dates of inspection</th>
<th>15 and 16 September 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspection activities undertaken</td>
<td>Observation of teaching and learning during nine class periods</td>
</tr>
<tr>
<td>Review of relevant documents</td>
<td>Examination of students’ work</td>
</tr>
<tr>
<td>Discussion with principal and teachers</td>
<td>Feedback to principal and teachers</td>
</tr>
<tr>
<td>Interaction with students</td>
<td></td>
</tr>
</tbody>
</table>

MAIN FINDINGS

• The quality of the teaching and learning observed was generally of a very high standard.
• Interaction between teachers and students were very positive and most lessons provided opportunities for students to be active participants in their learning.
• The quality of teachers’ questioning strategies was of a very high standard.
• There is very good whole school support by management for Mathematics in terms of timetabling provision and teacher deployment.
• Individual planning was of a high standard.

MAIN RECOMMENDATIONS

• Schemes of work should be reviewed to include the associated learning objectives and the synchronisation of topics across levels.
INTRODUCTION

St Joseph of Cluny is an all-girls secondary school with a population of 438 students. It is a fee-paying school serving an urban catchment in south county Dublin. The school offers the Junior Certificate, the established Leaving Certificate and the Leaving Certificate Vocational Programme. In addition, the Transition Year programme is compulsory in senior cycle. The board of management was given an opportunity to comment in writing on the findings and recommendations of the inspection; a response was not received from the board.

TEACHING AND LEARNING

- In almost all instances, teaching was of a very high standard. Such lessons were characterised by the use of clear and focused learning objectives, the establishment of good lesson pace, the integration of appropriately chosen support materials and very good student engagement. These lesson attributes contributed to appropriate student progress being made. In most lessons, sufficient time was taken by teachers at the end of the lesson to recall new concepts studied during the lesson.

- In almost all lessons, the teaching methods chosen were very effective. Methods observed included high quality teacher-directed learning, group activities and discovery learning. In all lessons, the use of subject-specific terminology and symbols was evident by both teacher and students.

- Questioning strategies were of a very high standard. Most notable was the frequent use of higher-order questions that challenged students reasoning and understanding. Of particular note was the rephrasing of questions which allowed students to develop their own opinions about the answer.

- Excellent use was made by many teachers of linkages between students’ prior and current learning and the setting of Mathematics in real-life context. Furthermore, the use of memory aids such as a word ladders in preparation for the teaching of trigonometric identities was equally effective.

- For example, effective use was made of a word ladder in preparation for the teaching of trigonometric identities.

- In most instances, a wide range of appropriately chosen resources were effectively used. These included the whiteboard, textbooks, handouts from the Project Maths resources and key-word flash cards. In addition, information communication and technology (ICT) was very effectively integrated into many lessons including short excerpts from mathematics websites and mathematical software. All resources added to the content of the lesson and enhanced the learning experience of the students.

- Students were very co-operative, eager to participate in their learning, attentive and well-behaved during all lessons observed. There was very good classroom atmosphere which was conducive to good learning.

- Assessment of student work is appropriate and takes many forms. This includes oral feedback during classroom activities, questioning of students and the application of annotated feedback in students’ copies or assessment papers.

- Interactions between the inspector and students were very positive and indicated that students have very good subject knowledge.
SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- The organisation of Mathematics within the school is very good. This includes appropriate time allocated to the subject, the deployment of addition teachers to reduce class size and concurrent timetabling from second year onwards. In addition, an annual budget is made available to the mathematics department.

- Nine teachers provide Mathematics education within the school. Teachers rotate the teaching of levels and programmes, which is good practice. Management is keenly aware of the ongoing need to maintain sufficient capacity within the department to teach Mathematics at all levels and encourages teachers to access in-service that will offer opportunities for skill development.

- Arrangements for placing students in class groups and accessing levels are very good. First-year students are assigned to mixed-ability classes for Mathematics. Banding of students for Mathematics takes place from second year onwards.

- Appropriate practices and procedures are in place to identify students who find Mathematics challenging. The learning support team effectively collaborates with the mathematics department and through consultation identifies the most appropriate intervention that best support the individual needs of students. Interventions include team teaching or the provision of additional support lessons on a one-to-one basis.

- The school offers higher and ordinary levels, and foundation level when necessary. A review of past state examination outcomes indicates that the uptake of higher level is very good and that students are achieving very well at this level.

- Opportunities for students to experience Mathematics in situations other than in the classroom are good. Students participate in events such as the Problem Solving for Irish Second Level Mathematicians, Maths Olympiads and Maths Week. To further enhance co-curricular and extracurricular activities, it is suggested that competitions arranged by the Irish Mathematics Teachers Association should be considered.

PLANNING AND PREPARATION

- Mathematics department planning has progressed very well and is of a high standard. Planning documents provide an overview of the organisational details for the subject while also containing records of meetings, sample common assessments and schemes of work for each year grouping and level. To develop planning further, it is recommended that learning outcomes be integrated into schemes of work with the synchronisation of topics across levels reviewed and amended where necessary.

- The subject department is ably co-ordinated and this role is clearly defined with other responsibilities delineated among other members of the department.

- Subject planning is facilitated by management during the year. This time is used to discuss pertinent issues that arise including deliberations about relevant resources. In addition, opportunities for sharing teaching practices or for a member of the department to provide specific subject training, for example on relevant ICT applications, are also availed of during planning time. This is very good practice.
• Individual planning was of a very high standard. In almost all lessons, relevant supplementary materials were well prepared and used at key intervals to support concepts being taught.

• Teacher records are comprehensive and details include students’ attainment in common and class-based assessment in addition to attendance. Students’ attendance is very good, allowing for continuity in the learning experience.

• A review of state examination results is undertaken by the department. There is evidence to suggest that this has informed planning and decisions taken by the mathematics department.

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

Published February 2012