An Roinn Oideachais agus Scileanna

Department of Education and Skills

Subject Inspection of Mathematics
REPORT

Salesian College
Celbridge, County Kildare
Roll number: 61661P

Date of inspection: 8 December 2011
REPORT
ON
THE QUALITY OF LEARNING AND TEACHING IN MATHEMATICS

INFORMATION ON THE INSPECTION

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<th>7th and 8th December 2011</th>
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<td><strong>Observation of teaching and learning during nine class periods</strong></td>
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<td>• Discussion with principal and teachers</td>
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MAIN FINDINGS

- Overall, the quality of teaching and learning was very good.
- Lessons were well planned; a wide variety of methodologies was used; and learning was assessed well.
- Some good strategies to differentiate learning were observed and there is scope for an extension of their use.
- Whole-school support for Mathematics is very good.
- Very good supports are provided for students with special educational needs.
- A good subject plan has been developed.

MAIN RECOMMENDATIONS

- Learning should be differentiated in all lessons to ensure that all students are sufficiently challenged during each phase of the lesson.
- Comments acknowledging good effort and advising students on how they can improve the quality of their work should be included in the correction of students’ written work.
- Ways to encourage more students to study higher-level Junior Certificate Mathematics should be explored.
- Planning for Mathematics should now focus on matching the learning outcomes outlined in the syllabuses to the teaching and learning plans and resources provided by the Project Maths development team and also to the teaching plans that have been created by the mathematics teachers themselves.
INTRODUCTION
Salesian College is a voluntary Catholic secondary school for boys with a current enrolment of 692 students. The school provides the Junior Certificate, the established Leaving Certificate and Leaving Certificate Applied (LCA) programmes. Transition year (TY) is optional.

TEACHING AND LEARNING

- Overall, the quality of teaching and learning was very good. Students engaged and participated very well and demonstrated good understanding of the concepts taught. A Project Maths approach was taken in almost all lessons with teachers facilitating very good student activities, ensuring that the focus was on students developing independent learning skills and encouraging students to think for themselves. There was scope for more extensive use of this approach in one lesson.

- The expected student learning outcomes were written on the board at the start of all lessons. Prior learning was revised and linked to new material which is good. Learning was very well consolidated at the end of most lessons. These very good practices contributed to the strong lesson structure that was evident in almost all cases and should be extended to all lessons.

- In all lessons, explanations and instructions were very clear and focused on understanding rather than the mastery of methods or routines. Some teachers pointed out common mistakes or pitfalls to alert students to the need for care in reading and answering questions. This is all very good practice.

- A wide variety of methodologies was observed in the evaluation. These included active learning, teacher demonstration, pair work, high quality teacher instruction and very effective use of ICT. The teachers were creative in the design of their lessons and in their choice of resources.

- There was very good use of questioning particularly in the lessons that covered Project Maths material. Students were encouraged to interpret questions without direct teacher assistance, explain their reasoning and explore the concepts being taught. In addition, students engaged very well in class discussions.

- All teachers provided assistance to any student experiencing difficulty as a way of differentiating learning. In one lesson, the students’ level of attention varied and some students were restless during the correction of homework. Learning should be differentiated to ensure that all students are sufficiently challenged during each phase of the lesson. Furthermore, other differentiation strategies such as providing additional or more difficult work for the more able students should be included in lesson planning.

- Learning was assessed well throughout lessons through questioning and observation. All lessons included the correction of homework. Students’ work was well presented in the copybooks reviewed. There was evidence of regular monitoring of the students’ work. However, comments acknowledging good effort and advising students on how they can improve should be included in the correction of students’ written work.

- All teachers have created stimulating mathematical environments in their classrooms. Some teachers displayed the key words covered in lessons on the classroom walls, while others wrote key words on the board as the lesson progressed. These are examples of the mathematics teachers’ good work in supporting literacy.
• The relationship between students and their teachers was observed to be very good.

**SUBJECT Provision AND Whole SCHOOL Support**

• Whole-school support for Mathematics in terms of time allocation and timetable arrangements for level choice is very good. There is also good access to resources and to information and communications technology (ICT) to support learning.

• Students are assigned to mixed-ability class groups for Mathematics in first year and are divided into higher and ordinary level groupings from second year onwards. Mathematics lessons are concurrently timetabled where necessary. This is all good practice.

• There are currently three mathematics teachers providing higher-level Leaving Certificate Mathematics. The number of teachers teaching higher-level Leaving Certificate Mathematics should be increased in order to ensure sufficient expertise to teach this level is retained within the school.

• An analysis of the school’s performance in the certificate examinations against national norms is completed annually. This indicates very good uptake of higher-level Mathematics in the Leaving Certificate examination and scope to increase uptake of higher-level Mathematics in the Junior Certificate examination. Ways to encourage more students to study higher-level Junior Certificate Mathematics should be explored. In addition, performance in Mathematics in the certificate examinations should be compared to student intake data to provide an alternative perspective and to assist the subject department in planning for the subject.

• Very good supports are provided for students with special educational needs.

• Attendance at continuing professional development (CPD) courses is good and is strongly supported by school management.

**Planning And Preparation**

• Planning time for Mathematics is provided once per term as part of the school planning process and informal meetings take place throughout the year. The minutes of the meetings indicate that members of the subject team collaborate very well on methodologies and classroom practice.

• The subject plan is good and includes relevant policies and programmes of work for each year group and level. The latter comprise lists of content outlining the order in which topics are covered and specifying timeframes for the work. It is evident that considerable effort has been invested in incorporating the new syllabus material into the existing programmes of work. Planning for Mathematics should now focus on matching the learning outcomes outlined in the syllabuses to the teaching and learning plans and resources provided by the *Project Maths* development team and also to the teaching plans that have been created by the mathematics teachers themselves.

• The mathematics department engages in a valuable process of action planning. This involves the articulation of overall objectives and the establishment of achievable short term goals to ensure that the objectives in relation to the development of the subject in the school are achieved.
• There is a strong emphasis on syllabus material in the TY mathematics programme. While it is good that some non-syllabus content is covered it is recommended that a module of Applied Mathematics be included to bring the TY programme more in line with the aims of TY.

The draft findings and recommendations arising from 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, and the response of the board will be found in the appendix of this report.

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Appendix

School response to the report

Submitted by the Board of Management

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 Maths Department will work to differentiate learning in all lessons to ensure that students are adequately challenged throughout the lesson.

- Where practical students’ good efforts in their work will be acknowledged and they will be advised to how they can improve.

- The Maths department will work to encourage students to do higher level Junior Certificate (3 out of 5 classes). The final decision as to level is not made until after theMocks and students are and will be encouraged to attempt the higher level if at all possible.

- In future planning for Mathematics will include learning outcomes.

- An Applied Maths module will be introduced in Transition Year in collaboration with the Physics department.

We would like to say that we greatly appreciate the inspector’s high level of professionalism, her approachability and the support and affirmation given to the Maths teachers during the inspection.