

An Roinn Oideachais agus Scileanna

Department of Education and Skills

**Subject Inspection of Mathematics
REPORT**

**Stratford College
Rathgar, Dublin 6
Roll number: 61020A**

Date of inspection: 13 September 2012



**A N R O I N N | D E P A R T M E N T O F
O I D E A C H A I S | E D U C A T I O N
A G U S S C I L E A N N A | A N D S K I L L S**

**REPORT
ON
THE QUALITY OF LEARNING AND TEACHING IN MATHEMATICS**

INFORMATION ON THE INSPECTION

Date of inspection	13 September 2012
Inspection activities undertaken <ul style="list-style-type: none">• Review of relevant documents• Discussion with principal and teachers• Interaction with students	<ul style="list-style-type: none">• Observation of teaching and learning during five class periods• Examination of students' work• Feedback to principal and teachers

MAIN FINDINGS

- The quality of teaching and learning observed was good or very good, with some scope to further develop effective practices.
- Management is very supportive of Mathematics within the school.
- The school has developed very good systems and procedures to profile and monitor students' progress.
- Subject department planning systems are very well established and very good progress in the long-term action planning for Mathematics has been made to date.
- Students have opportunities to engage with Mathematics through a range of co-curricular and extracurricular activities.

MAIN RECOMMENDATIONS

- The use of Assessment for Learning (AfL) strategies in all lessons should be increased to allow students to engage more in their learning.
 - Greater use of more challenging types of questions that promote student higher-order thinking should be integrated into all lessons.
 - The Transition Year plan should be updated to reflect current areas of study.
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INTRODUCTION

Stratford College is a co-educational, fee-charging secondary school with an enrolment of 96 students. The school offers the Junior Certificate (JC), Leaving Certificate (LC), Leaving Certificate Vocational Programme and a compulsory Transition Year (TY).

TEACHING AND LEARNING

- During the one-day evaluation, lessons covering a range of levels and programmes were observed. The overall quality of teaching and learning was good or very good.
- All lessons were conducted in an atmosphere of mutual respect. Students were very positive about their learning and made good progress with assigned tasks. Teachers and students made very good use of subject-specific terminology and mathematical symbols.
- All lessons began with the stating of clear learning intentions. Clear links were established between prior and current learning and, in some instances, with other areas of the syllabus. In a few instances, lessons were concluded with a recap of the learning; this practice should be extended to all lessons where appropriate.
- A range of methodologies was observed in lessons. Effective use of Project Maths approaches included discovery learning and paired discussion. For example, during a junior cycle algebra lesson, unifix cubes were used allowing students to visualise an algebraic expression and arrive at the solution. Equally, in a senior cycle algebra lesson, the paired activity afforded students opportunities to share their ideas and provoked dialogue among students. In such instances it was evident that students enjoyed the freedom to explore problems and provide justification for their answers. The use of active methodologies is commended and should be used by all to support and promote independent learning.
- Questioning of students by their teachers was mostly good with some very good examples of challenging questions. All teachers should ensure that there is a greater balance between procedural and higher-order questions in all lessons.
- Students' inputs were affirmed and in some instances effective use was made of such responses to progress the topic or address misconceptions that arose during the lesson. In some lessons however, insufficient time was given to students to think about a question prior to the teacher proceeding with the solution. Greater use of AfL techniques is encouraged in this regard.
- Two classrooms have been dedicated as mathematics rooms and the learning space has been arranged to maximise the learning opportunity for students. A range of visual displays and materials were evident in the classrooms and offer a support to the teaching and learning of Mathematics, numeracy and literacy. In all lessons, ICT was used and in most instances was effectively integrated at key points into the lesson. In some instances the inclusion of too many resources inhibited the smooth flow of the lesson. A clear rationale for the use of all resources should be established at the planning stage of a lesson.
- Assessment of students takes place on a regular basis through in-class questioning, assignment of homework and regular formal assessments. There was evidence that teachers annotate students' written work. In addition, the school's profiling system is a very effective document that provides clear evidence of a student's progress in the subject and indicates areas for further development.

- Students are encouraged to choose the most appropriate level commensurate with their ability; performance in the state examinations is very good. Further analysis of the performance of students at ordinary-level junior cycle should be undertaken with a view to encouraging students to take higher level. This should further support the mathematics department's aim to encourage uptake of higher level in senior cycle.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Timetabling arrangements for Mathematics are mostly very good. However, increasing provision by one period a week in second year should be considered. This would support a whole school approach to numeracy in line with Circular 0058/2011.
- Arrangements for students to access levels are very good. To support the creation of independent level classes, an additional teacher is deployed for each year group from third year onwards. Management's commitment to the subject is commended in this regard.
- The mathematics department comprises four teachers, three of whom provide mainstream mathematics classes and one who provides support in Mathematics. In line with best practice, procedures are in place to support and maintain capacity within the department.
- School management supports teachers to access and engage with continuing professional development and pays the annual subscription for membership of the Irish Mathematics Teachers Association.
- Students in need of numeracy support are identified on entry and during ongoing teacher observations. The support department and mathematics department collaborate to identify the most appropriate model of provision that will best support the learning needs of the individual. This may include in-class support or individual support.
- Teachers are commended for providing students with opportunities to access Mathematics through co-curricular and extracurricular activities. The introduction of the Maths club should also provide students with ongoing support in Mathematics. Ongoing promotion of the subject outside the classroom context is encouraged.

PLANNING AND PREPARATION

- Structures and procedures for the effective organisation of a subject department are in place. The department is effectively coordinated by a member of the mathematics department whose duties have been identified and are documented.
- Regular meetings take place and agreed minutes are retained. The department has identified and devised action plans for two key areas. A clear structure has been established with success criteria identified to support each action plan. Work in this area is highly commendable and should in time see the successful realisation of the action plans.
- Schemes of work for all year groups and levels have been devised using the various strands of each syllabus. The consolidation of all schemes into one document should be undertaken to provide an overview of the skills and competencies that will be achieved by students during their mathematics education. In addition, the synchronisation of schemes for all year groups should be undertaken to ensure that gaps in learning do not occur should a student change level.

- The TY programme for Mathematics does not fully reflect the current topics being studied. The plan should be updated accordingly.
- Individual planning for lessons was very good. In addition to textbooks, supplementary materials were prepared in advance and available for use at key stages during the lesson.

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, and the response of the board will be found in the appendix of this report.

Published January 2013.

Appendix

School response to the report

Submitted by the Board of Management

Area 1: Observations on the content of the inspection report

The Board of Management of Stratford College commends the Mathematics teachers on such a positive report from the DES Inspectorate and accepts its recommendations.