

An Roinn Oideachais agus Scileanna

Department of Education and Skills

**Subject Inspection of Mathematics
REPORT**

**Hartstown Community School
Clonsilla, Dublin 15
Roll number: 91339F**

Date of inspection: 23 September 2015



**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

Dates of inspection	23 and 24 September 2015
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 ten class periods• Discussion with the learning-support co-ordinator• Examination of students' work• Feedback to principal and teachers

MAIN FINDINGS

- The quality of teaching was very good or excellent in the majority of the lessons visited however, there were two lessons where the quality of teaching was fair.
- Assessment for learning (AfL) was employed to very good effect in the very best lessons particularly where it prompted student reflection and self-evaluation.
- Classroom management and rapport with students was excellent.
- The time allocated to teaching Mathematics on the school timetable is very good and the mathematics department is very well resourced.
- The arrangements for identifying and supporting students with special education needs or in need of learning support in Mathematics are very good
- Subject department planning in Mathematics, supported by robust whole-school planning structures, is very good.

MAIN RECOMMENDATIONS

- Teaching for understanding informed by a careful determination of the students' prior learning and featuring full exploration of learning intention and active teaching and learning should be standard practice across the department.
 - The timetabling of mathematics lessons should ensure that all class groups will have at least one mathematics lessons on each day of the week.
 - The schemes of work contained in the subject department plan should be extended to include the best approaches to teaching the different curricular areas, common approaches to the key mathematical operations and effective problem solving strategies.
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INTRODUCTION

Hartstown Community School is a co-educational, multi-denominational post-primary school serving students in the Hartstown and Huntstown areas of Dublin 15. It offers a range of programmes appropriate to the needs of its students including the Junior Certificate, an optional Transition Year (TY), the established Leaving Certificate and the Leaving Certificate Applied (LCA) programme. At the time of the evaluation there were 1127 students enrolled in the school.

TEACHING AND LEARNING

- The quality of teaching was very good or excellent in the majority of the lessons visited. There were, however, two lessons where the quality of teaching was fair.
- The best lessons were well planned and featured the exploitation of cross-strand and cross topic links. This ensured that the students engaged in deep learning and saw Mathematics as a web of interconnected ideas rather than a set of discrete topics to be studied in isolation. The teachers' enthusiasm for the subject was also evident in these lessons.
- Where there was scope for improvement, the lesson planning did not focus on developing the students' understanding and the lessons would have benefited greatly from a more careful determination of the students' prior learning and if the learning intention was designed to provide all of the students with an appropriate level of challenge.
- AfL, prompting student reflection, was a feature of the very best lessons and practices in relation to ongoing assessment, and monitoring of student progress was very good in the vast majority of cases. Information and communication technology (ICT) was incorporated effectively into many of the lessons and helped to enhance, reinforce and consolidate student learning.
- Classroom management and rapport with students were excellent and the learning environment was greatly enhanced where student work and relevant posters were on display.
- Formal assessment practices in Mathematics are very good. The department's shared folder is used to very good effect in enabling teachers to prepare and share common end-of-topic tests and differentiated common papers, within levels, for the Christmas and summer examinations.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- The time allocated to teaching Mathematics on the school's timetable is very good. The concurrent scheduling of classes within bands in all years, apart from first year, means that students can follow the highest level possible for as long as possible and change level if necessary without affecting the remainder of their timetable.
- The scheduling of mathematics lessons should be kept under review and the occurrence of class groups having two of their five scheduled lessons on the same day should be avoided if possible in future timetables. In situations where this type of scheduling is unavoidable every effort should be made to create double periods rather than two singles.
- The mathematics department is very well resourced and all of the mathematics teachers have access to the school's extensive ICT infrastructure and to a host of materials designed to facilitate active teaching and learning. The members of the department also collaborate

very effectively in creating their own resources and sharing them on the department's shared drive on the school's intranet.

- The qualification profile of the department is very good and all of its members have fully engaged with the in-service events provided as part of the national roll-out of Project Maths. In addition, two of the mathematics teachers have availed of the post-graduate course provided for out-of-field teachers of Mathematics by the Department of Education and Skills through the University of Limerick.
- Arrangements for identifying and supporting students with special education needs or requiring learning support in Mathematics are very good. Communication with the primary schools from which their students come is well managed and feedback to the schools following the assessment tests prior to entry to the school ensures that students' needs and abilities are accurately established and the supports put in place are appropriate. Discussions are now underway on how the existing relationships can be further developed

PLANNING AND PREPARATION

- Subject department planning is supported by very good whole-school planning structures and a very good subject department plan is in place. The department's activities are jointly co-ordinated. This arrangement is working very well and is particularly appropriate given the size of the department.
- The department approaches its work with enthusiasm and the level of collaboration in developing and sharing resources and planning for improvement is most impressive. Currently, action planning relating to the stubbornly high numbers of students taking foundation level in the certificate examinations is in train. Very good progress is already evident in the Junior Certificate and ongoing planning for improvement should focus on promoting the universal adoption of teaching for understanding and active teaching methods already evident in the majority of classes.
- To further support the department's action plan for improvement, the schemes of work should be amended to make explicit the most effective means of teaching the various curricular areas, agreed approaches to the common mathematical operations and problem solving strategies to motivate and deepen students' understanding of the curricular content.
- Individual teacher lesson planning was very good in almost all cases and focussed on creating an environment leading to purposeful learning featuring context-rich problems and the innovative integration of resources. One area for improvement is the role of homework in developing student understanding and future practice in this area should feature students modelling their solutions, designing problems and critically analysing and explaining the errors that occur in their work.
- A comprehensive plan for Mathematics in TY is in place. The plan addresses very important areas of Mathematics and seeks to develop student understanding of curricular areas that are essential for progress through senior cycle. However it would be preferable if the content was rationalised somewhat. In particular, the section on algebra should be framed from the perspective of the relevant functions. Consideration should also be given to the inclusion of problem-solving projects in geometry mediated through the use of dynamic geometry software.

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 of the school 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

Part A Observations on the content of the inspection report

The board welcomes the very positive and encouraging report. The board acknowledges the work done by the Maths department over recent years to increase student confidence in and perception of Mathematics. The significant increase in the proportion of students in the school taking higher maths at Junior Certificate level will lead to improved outcomes at Leaving Certificate level.

Part B Follow-up actions planned or undertaken since the completion of the inspection activity to implement the findings and recommendations of the inspection

The inspector's recommendations are noted and will be considered at subject department and at whole school level.

The inspector's observation on the role of homework in developing student understanding is applicable to all subjects and will be considered at whole-school level as part of SDP.