

An Roinn Oideachais agus Scileanna

Department of Education and Skills

**Subject Inspection of Mathematics
REPORT**

**Ashton School,
Blackrock Road, Cork**

Roll number: 81008W

Date of inspection: 15 May 2014



**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	15 May 14
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 overall quality of teaching and learning was excellent.
- Teaching methodologies and questioning strategies that support and promote learning for understanding featured in all lessons.
- Lesson structure and teacher preparation for all lessons was of a very high standard enabling very good progress to be made in all lessons.
- The mathematics department presented as a cohesive team of teachers who demonstrated a very positive attitude to the subject and students responded accordingly.
- Students were very attentive and cooperative and were afforded ample opportunities to be actively involved and to take ownership of their learning.
- Management demonstrates a very high commitment to Mathematics and in general timetabling arrangements are very good, with some scope for improvement noted.

MAIN RECOMMENDATIONS

- Management should review the provision of daily contact for second-year mathematics students with reference to the guidelines for Project Maths given in Circular 0025/2012.
- Individual planning documentation should be incorporated into the overall plan for Mathematics in order to have one succinct document for the subject.

INTRODUCTION

Ashton School Cork is a co-educational school under the joint patronage of the Church of Ireland Bishop of Cork and the City of Cork Education Training Board. The school has a current enrolment of 511 students and offers the Junior Certificate, the established Leaving Certificate and an optional Transition Year (TY) programme.

TEACHING AND LEARNING

- The overall quality of teaching and learning was excellent.
- Lesson structure and teacher preparation for all lessons was of a very high standard. Commendably, such practices enabled very good progress to be made in all lessons.
- Teachers demonstrated a very positive attitude to Mathematics and students in turn exhibited a keen interest in the subject.
- In all lessons, the use of subject specific terminology and understanding of mathematical concepts was very good. Students made links between various topics between prior and current learning and within various strands. This is very good practice as it enables students to understand that Mathematics is a series of connections rather than discrete topics learnt in isolation.
- In all lessons, teachers explicitly stated or recorded on a white board the key learning objectives for the lesson. At the end of the lesson or during the lesson many teachers took time to review learning objectives by questioning their students. In one lesson, students were asked to complete a reflection sheet for the lesson. Such practices are very good.
- In all lessons an appropriate balance between teacher input and student activities was maintained. Short question and answer sessions were used in some lessons to set the topic in context and this was very effective.
- A range of effective methodologies including discovery learning, collaborative learning and some independent activities were observed in lessons. All methodologies were carefully chosen and maximised the learning opportunity for students. During one lesson, peer teaching was observed. This practice was very effective as it enabled students to take ownership and responsibility for their own learning.
- Group activities were characterised by high levels of preparation where students were fully aware of their individual and collective roles within each group. This practice allowed for excellent use of the available time and for meaningful engagement and collaboration to take place.
- Questioning strategies observed were of a very high standard in all lessons. Commendably, the use of higher-order questions was the dominant style of questioning used in all lessons and it challenged and probed student understanding. Very effective use was made in all lessons of directed questions. These practices ensured that all students were focused and allowed teachers to differentiate between questions where appropriate. In many exchanges teachers used students' answers and questions to develop a lesson or to address misconceptions.
- Resources used in lessons were very effective and successfully integrated at key points. For example, resources from Project Maths Teaching and Learning Plans were used as a game to support and reinforce the learning of inequalities in a junior class. Equally effective was the use of the school's ICT facilities and interactive software as tools

during a revision lesson on graphing functions. The visualiser was also used by a student in the presentation of a solution.

- Teachers are classroom based and there were many examples of visual aids and of students' project work displayed in the classrooms. In general students were seated in rows of twos or more, however an alternative configuration should be considered as a means to further support collaborative practices.
- Student participation and attainment in state examinations are very good. Many students choose higher level at junior cycle with an increase in the numbers taking this level at senior cycle.
- Appropriate assessment practices are in place and include monthly assessment for senior cycle students and individual feedback during lessons. A review of students' copybooks indicates that formative written feedback practices are very good.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- There is very good whole-school support for Mathematics. Continuing professional development (CPD) by teachers is facilitated and encouraged.
- Timetabling arrangements for Mathematics are generally very good. However, the allocation of four class periods per week for second-year mathematics is not ideal and should be reviewed. Management should endeavour to timetable Mathematics on a daily basis to support the national numeracy strategy as referenced in Circular Letter 25/2012.
- Teachers generally retain a class grouping within cycles and in some instances may retain a class group through to senior cycle. Students in first year are taught in mixed-ability groups and are then assigned to classes in second year based on their ability. This practice of creating streamed class groupings should be reviewed as it may inhibit some students' overall performance in Mathematics.
- Currently, the mathematics department comprises five teachers all of whom are graduates in Mathematics. This year the department is supported by two Post Graduate Diploma in Education students. Appropriate structures are in place to build and maintain capacity within the department.
- The school is fortunate that one of its members holds a qualification in resource teaching. Commendably, this expertise is shared among members of the mathematics department. In addition to the deployment of an additional teacher to the subject students in need of additional support in Mathematics can access such support on a withdrawal basis.
- Students participate in events organised by the Irish Mathematics Teachers Association and during Maths week. The opportunity to participate in such events is commended.

PLANNING AND PREPARATION

- The mathematics department presented as a cohesive team of teachers who discuss and share effective practices in teaching and learning. It was evident that the department work in a collaborative manner. Currently the position of coordinator remains with one member of the department. The rotation of the position of coordinator of Mathematics should be considered.

- The department meets regularly during formal and informal meetings. Minutes of meetings provide an outline of the various issues discussed and decisions taken. There is evidence of agreed common strategies for teaching different topics. The practice of recording such common approaches should be undertaken.
- The mathematics plan provides an overview of the structure and curriculum content for each year group. Individual planning documentation is very good and should be incorporated into the overall plan for Mathematics. It is recommended that a suggested planning format as discussed during the evaluation should be undertaken.
- The teachers undertake a review of students' participation and performance in state examinations. There is evidence that students are achieving very well at the level at which they are taking the examinations.

The draft findings and recommendations arising out of this evaluation were discussed with the principal and subject teachers the conclusion of the evaluation. The board of management of the school was given an opportunity to comment on the findings and recommendations of the report; the board chose to accept the report without response.