

**An Roinn Oideachais agus Scileanna**  
**Department of Education and Skills**

**Subject Inspection of Mathematics**  
**REPORT**

**Pobalscoil Iosolde**  
**Palmerstown, Dublin 20**  
**Roll number: 91302F**

**Date of inspection: January 26 2016**



**AN ROINN | DEPARTMENT OF**  
**OIDEACHAIS | EDUCATION**  
**AGUS SCILEANNA | AND SKILLS**

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

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**INFORMATION ON THE INSPECTION**

<b>Date of inspection</b>	25 and 26 January 2016
<b>Inspection activities undertaken</b> <ul style="list-style-type: none"><li>• Review of relevant documents</li><li>• Discussion with principal and teachers</li><li>• Interaction with students</li></ul>	<ul style="list-style-type: none"><li>• Observation of teaching and learning during ten class periods</li><li>• Examination of students' work</li><li>• Feedback to principal and teachers</li></ul>

**MAIN FINDINGS**

- The quality of teaching was of a very high standard and featured many innovative approaches to lesson delivery.
- Very good use of the learning intention at the lessons' outset and plenaries prior to their conclusion was evident in some lessons.
- The vast majority of lessons had a very welcome focus on developing the students' algebraic skills.
- The quality of student learning was very good.
- Mathematics is strongly supported by management and the mathematics department is very well resourced.
- Subject department planning in Mathematics is very good.

**MAIN RECOMMENDATIONS**

- The content of the mathematics plan for Transition Year (TY) should be reviewed to ensure that it meets the needs of students as determined by outcomes of a mathematics competency test administered at the beginning of the year.
  - The TY mathematics programme should provide students with opportunities to engage in problem-solving project work.
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## **INTRODUCTION**

Pobalscoil Iosolde is a co-educational community school situated in west Dublin and was founded in 1982. The school participates in the Delivering Equality of Opportunity in Schools (DEIS) action plan. It provides a broad curricular programme which includes the Junior Certificate School Programme, Transition Year the Leaving Certificate Applied and the Leaving Certificate Vocational Programme

## **TEACHING AND LEARNING**

- The quality of teaching was very good and featured a variety of teaching approaches all of which sought to enhance the quality of student learning and involved student-centred approaches to lesson delivery.
- Excellent practice was particularly evident in lessons featuring team teaching. In these lessons the quality of differentiation was very good and difficulties encountered by students were dealt with in an effective and timely fashion. Team teaching also served to enhance the quality of verbal and written feedback provide to students on the quality of their homework.
- Innovative approaches to teaching elements of the curriculum were evident in a number of lessons. In one case, solving quadratic equations through the use of factors was reviewed using spreadsheet software. The use of the software meant that the number and variety of problems explored was greater than would otherwise have been the case and that student misconceptions were quickly identified and addressed. The lesson also provided evidence of the student-centred approach common across the department, as the need to review quadratics came to light when student performance in a recent test was analysed.
- In two lessons, dealing with the properties of number, a customised version of Dominoes was used to great effect. The students, working in groups, had to combine their knowledge of number with elaborate strategies to ensure that their selection of dominoes followed a particular pattern. The quality of the task ensured that all of the students, irrespective of their mathematical ability, could productively engage with it. In addition, as the task demanded that the students develop conjectures and communicate their ideas the lesson served to develop the students' mathematical literacy.
- All of the lessons featured very good use of the learning intention that went well beyond describing the proposed lesson content to exploring what mastery of the content would entail and the key skills the students would acquire. In some instances, the lessons concluded with a plenary to establish the degree to which the learning intention had been achieved. This should be adopted as common practice across the department.
- Engaging students in designing problems themselves was an excellent feature of a lesson dealing with linear equations. This innovative approach served to alter the students' interaction with the subject matter and enhance their understanding of the structure of the equations. Tweaking the design process by asking the students to ensure that the equations had integer, natural number or prime number solutions, for example, would have greatly enhanced an already very good lesson.
- The vast majority of lessons featured a very welcome focus on developing the students' algebraic skills set and problem solving mediated through the use of context-rich, multi-layered problems.

- The quality of student learning was very good. They successfully completed the various tasks assigned to them, while their contributions during discussions and in response to teacher questions indicated their understanding of the material being covered.
- Student behaviour and engagement were universally very good. All of the lessons were characterised by respectful interactions and an obvious enthusiasm for Mathematics.

#### **SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT**

- Timetabling provision for Mathematics is very good. The time allocated is generous and the scheduling of mathematics lessons is designed to allow students to follow higher level for as long as possible and to change levels, if necessary, without affecting the remainder of their timetable.
- The mathematics department is very well resourced. All mathematics lessons have access to the school's extensive information and communications technology infrastructure and to a range of resources designed to facilitate active teaching and learning. These resources were used to good effect in the lessons visited during the evaluation.
- The qualifications profile of the mathematics department is very good and it operates in progressive and collaborative fashion. All of the mathematics teachers have attended the workshops provided as part of the rollout of Project Maths and a number have attained additional qualifications relevant to their work in their own time.
- A very good assessment policy is in place and practices pertaining to assessing student progress in Mathematics are excellent. Common, differentiated papers are provided within levels for all house examinations. A number of initiatives have been put in place to enhance students' compliance with homework assignments. These have proved very effective and should continue to be developed and refined.
- The learning support department works very effectively in identifying and providing support for students with special education needs or requiring learning support in Mathematics. It is particularly commendable that the model of support being implemented features team teaching of a very high quality.

#### **PLANNING AND PREPARATION**

- Subject department planning in Mathematics is very well advanced and is characterised by innovation and collaboration. A very good subject department plan is in place. The schemes of work contained in the plan are written in terms of learning outcomes and pay very welcome attention to effective teaching methods and the role of assessment for learning in enhancing students' experience of Mathematics.
- Commendably, the mathematics plan also refers to the recommendations of previous subject inspections, the school's DEIS targets and literacy and numeracy strategies.
- Individual planning for lessons both in terms of content delivery, facilitating enhanced outcomes for students and resource integration is very good.
- A separate plan for TY Mathematics is in place and is in need of review. In informing the review it is recommended that the mathematical needs of students entering TY are established through the use of a mathematics competency test and that the content of the programme be adapted to reflect the outcomes of the test. Furthermore, the section on

algebra should be framed from the perspective of the relevant functions. Problem-solving projects in algebra, geometry and trigonometry mediated through the use of dynamic geometry software should also be included.

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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 accepts the report as the final inspection report available for publication and does not wish to respond formally to the report.