

**An Roinn Oideachais agus Scileanna**

**Department of Education and Skills**

**Subject Inspection of Mathematics  
REPORT**

**Royal and Prior Comprehensive School  
Raphoe, County Donegal  
Roll number: 81011L**

**Date of inspection: 31 March 2011**



**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**

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**INFORMATION ON THE INSPECTION**

<b>Date(s) of inspection</b>	30, 31 March 2011
<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 eight class periods</li><li>• Examination of students' work</li><li>• Feedback to principal and teachers</li></ul>

**MAIN FINDINGS**

- The mathematics team has adopted Project Maths approaches and methodologies, making good efforts to incorporate ICT and hands-on materials in lessons.
- There were examples of the very good use of questioning to check individual students' progress and this should be incorporated in all lessons.
- There is ongoing review of class formation strategies in order to maximise benefits for students. In addition, the school's capacity to offer Mathematics at higher level is assured, with four teachers currently involved at junior cycle and three at senior cycle.
- It is good practice that planning for the acquisition of resources began with an audit of existing resources.
- Teachers' individual planning and preparation materials were of a high quality and indicated thorough preparation and a high level of organisation for teaching and assessment.

**MAIN RECOMMENDATIONS**

- There should be an increased focus on developing students' mathematical communication skills, encouraging them to use full sentences and mathematical terminology in asking and answering questions.
- There were lessons in which the level of challenge for students should have been greater. It is important that students of all abilities are appropriately challenged and motivated to achieve to their potential.
- The structures in place for providing learning support should be reviewed. Currently numeracy support groupings are too large and have too wide a range of abilities to be fully effective.
- Team meetings should include time for the discussion of teaching methodologies. The trialling of Project Maths teaching and learning plans should inform this discussion.

## **INTRODUCTION**

The Royal and Prior Comprehensive School serves a wide catchment area in County Donegal and beyond. It is co-educational and has a current enrolment of 471 students. The school offers the Junior Certificate, the Junior Certificate School Programme (JCSP), an optional Transition Year (TY), the established Leaving Certificate and the Leaving Certificate Vocational Programme (LCVP).

## **TEACHING AND LEARNING**

- The quality of teaching and learning in the school was of an overall good standard.
- There was a notable embracing of Project Maths approaches and methodologies in lessons. Good efforts were made to incorporate ICT and hands-on materials to stimulate students' interest and increase their understanding.
- Learning outcomes were shared with students in fewer than half of lessons observed. It is recommended that the identification and explicit sharing of learning outcomes becomes the normal daily routine of all mathematics lessons. In addition, a review of their achievement should be carried out prior to the end of each lesson.
- There was natural and appropriate use of mathematics terminology by teachers and a small number of instances where this was also the case for students. Overall, however, the focus on developing students' mathematical communication skills should be increased, and students should be encouraged to use full sentences and correct terminology in asking and answering questions.
- In a significant minority of lessons the level of challenge for students should have been greater. It is important that students of all abilities are appropriately challenged and motivated to achieve to their potential.
- In almost half of lessons observed there was very good use of questioning to check individual students' understanding and progress. This strategy should be incorporated in all lessons.
- All students engaged with the work being done in lessons and there was evidence of learning taking place. The learning environment was at all times positive and supportive of students' learning. All teachers had a relaxed working relationship with students and mutual respect was in evidence. Many classrooms provided a mathematics-rich setting through the display of posters, photographs, projects and key words.

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

- Provision and support for Mathematics is good. There is a good allocation of time and lessons are well spread through the week. There is also good availability of material resources to support classroom activities.
- First-year classes are appropriately taught as mixed-ability groupings and concurrent timetabling from second to sixth years allows students access the subject at different levels. There is ongoing review of class formation strategies in order to maximise benefits for students. An additional teacher has been allocated to second year and fifth

year to support the formation of smaller class groupings and a greater level of attention for individual students.

- The school's capacity to offer higher level is assured, with four teachers currently rotating at junior cycle and three at senior cycle.
- Students who find Mathematics particularly challenging are appropriately identified, most usually at their time of entry to the school. The structures in place for providing learning support, however, need to be reviewed. Currently numeracy support groupings are too large and have too wide a range of abilities to be fully effective.
- A number of members of the mathematics team are specialists in subjects other than Mathematics. It is recommended that a review be carried out to see if this is the most effective use of such teachers' expertise. Teachers wishing to continue to teach Mathematics but who do not hold a recognised qualification in the subject should undertake further study.
- Participation in continuing professional development (CPD) is encouraged and facilitated by school management and teachers are engaging with CPD both during and outside school time. This is indicative of a commitment by many teachers to improving teaching and learning for students.

#### **PLANNING AND PREPARATION**

- The quality of planning and preparation is good. A subject department structure is in place and a subject plan, in line with published guidelines, was prepared in September 2010. The role of subject co-ordinator has traditionally been the preserve of the most senior mathematics teacher. However, in line with good practice, plans are now in place to rotate the role among core members of the mathematics team.
  - Programmes of work have been prepared for each year group and level. These should now be presented in terms of learning outcomes for students. Links to resources that can assist with the achievement of the learning outcomes should also be included.
  - The TY plan should be better balanced between Leaving Certificate material and other topics, and strategies should be put in place so that all material is experienced differently by students.
  - Formal meetings of the mathematics team take place two to three times each year. Time should be set aside for the discussion of newly-tried methodologies or approaches, making the most of the opportunities to share experience and expertise. The trialling of Project Maths teaching and learning plans might inform this discussion.
  - Planning for the acquisition of resources has included an audit of existing resources prior to identifying requirements. This is good practice.
  - All teachers made individual planning and preparation materials available for review. These were of a high quality and indicated thorough preparation and a high level of organisation for teaching and assessment.
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The draft findings and recommendations arising out of this evaluation were discussed with the principal, the special educational needs co-ordinator and the 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 December 2011*

# **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 are very supportive of this report and its findings. The Board was most encouraged by the inspectorate's recognition and commendation of the Mathematics Department's high level of planning and preparation and their embracing of the approaches and methodologies connected with the Project Maths initiative.

**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 various recommendations contained in the inspection have either been addressed or are being addressed by the Mathematics department and the management of the school.