

An Roinn Oideachais agus Scileanna

Department of Education and Skills

**Subject Inspection of Mathematics
REPORT**

**Rice College
Westport, County Mayo
Roll number: 647000**

Date of inspection: 14 March 2013



**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	13 and 14 March 2013
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 eight class periods• Examination of students' work• Feedback to principal and teachers

MAIN FINDINGS

- Overall, the standard of teaching observed was good and some examples of very good practice were noted.
- While the quality of student learning was good or better in the majority of lessons, there was scope to increase the level of students' active participation in some lessons.
- Formal, summative assessment practices are well established but there is a need to develop greater consistency of approach with regards to formative assessment.
- There is very good timetabling provision for senior cycle Mathematics, however, the allocation for first-year students falls short of the recommended one lesson per day.
- Students who find Mathematics particularly challenging are well catered for in the school.
- The mathematics teachers present as a dedicated team, committed to maintaining high standards within the school.

MAIN RECOMMENDATIONS

- It is recommended that teachers devise and implement strategies that will lead to full student participation and engagement in lessons.
 - An assessment for learning (AfL) strategy should be developed with the aim of ensuring that students participate more fully in, and reflect on, their own learning.
 - One additional period per week should be allocated to Mathematics for first-year students.
 - Schemes of work should be further developed to include intended learning outcomes for each topic and each level. Reference should be made in these schemes to corresponding resources particularly those relating to Project Maths.
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INTRODUCTION

Rice College is a post-primary school for boys with a current enrolment of 547 students. The programmes offered are the Junior Certificate, an optional Transition Year (TY), the Leaving Certificate Vocational Programme (LCVP), the Leaving Certificate Applied Programme (LCA) and the established Leaving Certificate.

TEACHING AND LEARNING

- Overall, the standard of teaching observed was good with some examples of very good practice noted. In a small number of lessons, there was scope for improvement in the quality of student learning.
- Students demonstrated positive dispositions towards Mathematics and responded knowledgeably and articulately when questioned. Learning could have been enhanced in some lessons by requiring students to engage more actively with the content of the lesson, either individually or in collaboration with other students. It is, therefore, recommended that teachers devise and implement strategies that will lead to full student participation and engagement in lessons.
- Information and communication technology (ICT) was used in a small number of lessons as a teaching aid and was used to very good effect in one lesson. Its integration into this lesson was planned in a way that optimised time usage and provided a level of dynamism that significantly enhanced student engagement. There is considerable scope to extend this very good practice to other mathematics classes.
- There was good use of topic-specific terminology in all lessons and appropriate mathematical routines were used consistently.
- An examination of students' journals indicates that homework is assigned regularly. All lessons featured the correction of homework and in some instances, students were given individual formative feedback on the presentation and overall quality of their homework. In a significant minority of lessons, the amount of time allocated to the correction of homework was excessive. In such instances, a peer-assessment approach could be used to streamline the process and to provide students with an opportunity to focus on individual problem areas. It would also allow time for the teacher to provide focussed assistance to students experiencing difficulty.
- Formal, summative assessment is well established in Mathematics and students sit common class tests where practical. Common marking schemes are used for such assessments and this is good practice.
- There was evidence of some formative assessment through comments in students' copybooks and orally during class time. In order to ensure consistency of practice, it is recommended that a range of assessment for learning (AfL) strategies be developed. As part of these strategies, the sharing of learning objectives with students at the start of lessons should be encouraged. The attainment of these learning objectives should also be monitored during and at the end of lessons. This will allow students to participate more fully in, and reflect on, their own learning.
- The learning environment was positive and supportive in all lessons and teachers had a relaxed working relationship with students.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Timetabling arrangements for senior cycle Mathematics are very good. The current provision of four periods per week in first year falls short of the one period per day recommended in Circular 0058/2011 and Circular 0025/2012. It is therefore recommended that this provision be increased. Second and third year provision already falls in line with this recommendation.
- Students are assigned to mixed-ability mathematics classes for first year and for TY. In other year groups, students are banded based on their level of study. Within these bands, students are taught in mixed ability settings. This is good practice.
- Appropriate systems are in place to identify students who find Mathematics particularly challenging and they are given supports by a highly qualified team of experts who have undertaken a range of post-graduate studies in the area of additional educational needs. Support is provided mainly in small group settings. As a means of promoting greater inclusion, it is suggested that team teaching be investigated as a possible alternative means of provision for these students.
- The qualifications profile of the staff of the mathematics department is very good. Most of the mathematics teachers have specialist qualifications in Mathematics and all of the department's members have attended the workshops provided as part of the national roll out of Project Maths.
- Teachers of Mathematics have a significant range of resources to support teaching and learning at their disposal. Each classroom is equipped with a data projector and a desktop computer with subject specific software installed. Plans are currently being developed by management, in consultation with a core group of staff, to introduce an online file sharing resource that can be used by both teachers and students. This is a welcome development.

PLANNING AND PREPARATION

- The mathematics department presents as a dedicated team of teachers who collaborate regularly on issues pertaining to Mathematics. The department's planning folder contains an outline content plan with a list of topics to be covered in each year and at each level. In order to further progress work on the implementation of Project Maths, planning should now focus on developing more comprehensive schemes of work. These schemes of work should match the learning outcomes on the syllabus with relevant teaching and learning resources including the teaching and learning plans provided by the Project Maths development team.
- The mathematics department is co-ordinated on a voluntary basis by a senior member of the team. As a means of building experience of co-ordination among the members of the mathematics team, it is suggested that the role of co-ordinator be rotated periodically.
- Formal meetings take place twice per year as part of the whole-school planning process. Further informal meetings are held regularly throughout the year and key decisions from all meetings are recorded.
- Teachers rotate the teaching of levels in junior cycle, providing teachers with a good variety of classroom experience. As part of capacity building at Leaving Certificate level, some teachers have engaged in peer observation and mentoring and the school has recently increased by one per week the number of higher level classes offered in fifth and sixth year. This is a welcome development and demonstrates the commitment of the

mathematics team and school management to ensuring that as many students as possible attempt the higher level course.

- An analysis of students' performance in the certificate examinations indicates a consistently good level of performance. In order to maintain and build on these standards, data on achievements in certificate examinations should be compiled over three to four-year periods so as to facilitate discussion and the identification of trends. Analysis should be documented and accompanied by action plans to address any areas for development that are identified.

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; a response was not received from the board.