

**An Roinn Oideachais agus Scileanna**

**Department of Education and Skills**

**Subject Inspection of Mathematics  
REPORT**

**Méan Scoil an Chlochair  
Kilbeggan, County Westmeath  
Roll number: 63221U**

**Date of inspection: 13 September 2011**



**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>Dates of inspection</b>	<b>12<sup>th</sup> and 13<sup>th</sup> September 2011</b>
<b>Inspection activities undertaken</b> <ul style="list-style-type: none"><li>• Review of planning 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 seven class periods</li><li>• Examination of students' work</li><li>• Feedback to principal and teachers</li></ul>

**MAIN FINDINGS**

- The quality of teaching and learning observed was very good.
- The strategies of sharing the learning objectives with students at the start of each lesson, linking new material to prior learning and checking the achievement of the learning objectives at the end of lessons contributed positively to the quality of learning.
- Assessment practices are very good.
- There is very good whole school support for the subject.
- The members of the mathematics department have engaged very well in the planning for the subject and a very good mathematics plan has been developed.

**MAIN RECOMMENDATIONS**

- Active methodologies should be used more extensively in lessons.
  - Strategies to differentiate learning and in particular, to ensure that each student is sufficiently challenged should be included in all lessons.
  - The Transition Year (TY) programme should be developed to include a wider variety of learning experiences for students.
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## **INTRODUCTION**

Méan Scoil an Chlochair, Kilbeggan is a co-educational voluntary Catholic secondary school with 428 students. The school is participating in the development of *Project Maths* as one of the initial twenty-four *Project* schools. TY is provided as an optional programme.

## **TEACHING AND LEARNING**

- The quality of teaching and learning observed was very good. A *Project Maths* approach was evident in the type of questioning and in the materials used both of which were designed to expose the mathematical concepts taught. It was also evident in the group and pair work, in the teacher demonstrations, and in the discovery methods used. However, while concrete materials were used in one lesson, there was scope in other lessons for the use of concrete materials and active learning methodologies. It is recommended that active methodologies be included in lessons wherever appropriate. This is particularly important as a way of allowing students enough time to fully explore concepts and to deepen their understanding.
- ICT was used in almost all lessons. There was scope for more diversity in the uses of ICT and it is good that this has been targeted for action in the mathematics plan.
- All teachers shared the learning objectives with the students at the start of lessons; new material was linked to prior learning and the achievement of the learning objectives was checked at the end of lessons. These strategies contributed positively to the quality of learning achieved by the students.
- There was very good practice in relation to assessment. Teachers routinely assess progress through observation and oral questioning. There was evidence of assessment for learning (AfL) in copybooks with the inclusion of comments providing advice and encouragement. AfL is also used to motivate students which is good. It is recommended that consideration be given to the use of laminate boards as an additional assessment strategy. This will provide teachers with a quick and comprehensive assessment of student learning.
- Learning was differentiated through providing students with opportunities to work at their own pace, to engage in pair or group work and through providing assistance to any student experiencing difficulty. These are very valuable differentiation strategies. In one lesson observed students, who had completed the task, had to wait for their classmates to finish. In another case the wide range of abilities present meant that learning would have benefited from the provision of material that graduated in difficulty. It is, therefore, recommended that additional work or more challenging material be provided to students where required.
- Students demonstrated that very good learning was taking place through answering teacher questions and making positive contributions in class. Teachers were affirming, supportive and encouraging. Students responded well when their efforts were frequently praised. In all the lessons observed students participated and engaged well.

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

- Timetable provision for Mathematics and arrangements for level choice are very good. The subject is well supported in terms of provision of information and communications technology (ICT) and other resources for teaching and learning.

- Students are assigned to mixed-ability mathematics class groups for the duration of first year and are assigned to higher and ordinary level groups from second year onwards. This is good practice.
- There has been extensive involvement in continuing professional development (CPD) courses by the members of the mathematics department and this is strongly supported by school management.
- A very good range of supports is provided for students with special educational needs and for students for whom English is an additional language (EAL). However, there is scope for the mathematics department's role in supporting literacy to be developed. As a way of doing this it is suggested that teachers use a section of the board to highlight the key words of each lesson. These should be accompanied by a picture, diagram or symbol, as appropriate and should be translated into the first language of any EAL student in the class group.
- A wide variety of valuable opportunities is provided for students to participate in extracurricular activities in Mathematics. Students have entered the John Hooper competition organised by the Central Statistics Office.

#### **PLANNING AND PREPARATION**

- A co-ordinator for the subject department has been appointed and it is good practice that this position rotates every two years. Formal meetings of the department are organised once per term and informal meetings take place throughout the year. There is a very high level of co-operation and collaboration amongst the mathematics teachers.
- The mathematics department engages in a valuable process of self-evaluation. The subject plan contains a section for action planning where needs and actions to address them are identified. The results of any actions taken are evaluated. The subject department meeting at the start of the school year is used for the mathematics team to reflect on and evaluate its work; this includes the comprehensive analysis of the students' performance in Mathematics in the certificate examinations.
- The mathematics plan contains the relevant policy documents and programmes of work for each year group and level. The latter comprise a detailed list of topics to be covered within set timeframes. It is evident that considerable effort has been invested in implementing the material from the new syllabuses. It is recommended that this work now focus on incorporating the *Project Maths* teaching and learning plans into the subject plan as a way of supporting the inclusion of active methodologies in mathematics lessons.
- The TY programme comprises mainly syllabus material with an emphasis on covering the new *Project Maths* Junior Certificate topics. While some elements of the programme are suitable for TY it requires further development to bring it in line with Department of Education and Skills guidelines. It is, therefore, recommended that the members of the teaching team collaborate in creating a TY programme that offers a broader range of mathematical experience for TY students.

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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 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.

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