

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

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

**Meanscoil Chroimghlinne,**  
**Crumlin, Dublin 12**  
**Roll number: 60990G**

**Date of inspection: 17 January 2012**



**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 of inspection</b>	17 January 2012
<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><li>• Examination of students' work</li></ul>	<ul style="list-style-type: none"><li>• Observation of teaching and learning during three mainstream mathematics lessons</li><li>• Observation of a Junior Cycle School Programme (JCSP) numeracy initiative 'Maths for Fun'</li><li>• Feedback to principal and teacher</li></ul>

**MAIN FINDINGS**

- The quality of the teaching and learning in mainstream Mathematics requires significant development.
- The overall quality of the organisation, preparation and student engagement observed in the JCSP numeracy support initiative which featured 'Maths for Fun' was very good.
- There is very good support from school management for Mathematics, including significant investment in information and communication technology (ICT) and support for teacher continuing professional development (CPD).
- Students receive very good individual annotated feedback on their class work and assessments.

**MAIN RECOMMENDATIONS**

- There is significant scope for improvement in many aspects of mainstream teaching including; lesson structure, the use of active methodologies, the range of questioning strategies, the integration of resources and in-class management.
  - Teaching in mainstream Mathematics should be sufficiently differentiated to suit the range of abilities and learning styles present in each class group; strategies to ensure that all students are sufficiently challenged should be included in all lessons.
  - Significant planning for the subject is required, including schemes of work for each year group, prepared in terms of learning outcomes that provide for the incremental development of students' skills and competencies.
  - Analysis of students' uptake of levels and achievement in examinations should be used to inform planning for the subject.
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## **INTRODUCTION**

Meanscoil Chroimghlinne is a voluntary lay second-level school with a manager owner. The school is a co-educational with 108 students. It participates in the Delivering Equality of Opportunity in Schools (DEIS) programme. Transition Year is not provided.

## **TEACHING AND LEARNING**

- The quality of teaching and learning observed was mostly poor. There is scope for improvement in mainstream Mathematics in the lesson structure, methodologies, questioning strategies, integration of available resources and classroom management.
- The quality of numeracy support observed during a JCSP initiative ‘Maths for Fun’ was very good. While the duration of this initiative is short and it targets a small cohort of students, it was observed to be very engaging of students and provided opportunities for group work and the development of numerical competencies.
- Most lessons began with the teacher continuing work from the previous lesson. It is recommended that clear learning objectives be established at the outset of lessons providing clarity for students about what is to be achieved and what is expected of them while also providing a structure to the lesson.
- In mainstream mathematics lessons, the predominant methodology used was teacher-directed instruction. This did not prove to be successful, as most students were not sufficiently engaged or challenged during the lesson. It is strongly recommended that active methodologies encountered during Project Maths in-service be incorporated into lessons. The use of such methodologies would provide opportunities for all students to participate fully in their learning and progress at a pace commensurate with their ability. As such methods were used in the delivery of the numeracy initiative, it is recommended that closer collaboration between teachers take place and that the sharing of best practice is fostered through the subject planning process.
- In most instances, interactions between the teacher and students focused mainly on procedural or discipline matters. Lower-order questioning strategies were used in almost all lessons. In addition, the use of global questioning and chorus answering took place in many lessons. Such practices were ineffective and are not inclusive of all students; in some instances students became disengaged and talkative. The use of questioning strategies that will promote and develop students’ higher-order thinking skills is therefore recommended.
- The textbook and examination papers were the main resources used in many lessons. It is recommended that differentiated work be used to support the learning styles of the diverse range of ability of the student cohort. Significant investment has been made by school management to improve ICT, particularly for Mathematics. Therefore, it was disappointing that no ICT was used during the lessons observed. The use, for example, of available dynamic software would have enhanced the teaching and learning in many lessons.
- Overall, classroom management in mainstream mathematics lessons was poor and resulted in limited student engagement and participation. It is imperative that supportive strategies and tactics are developed and integrated into lessons to increase the level of student engagement.

- Many students indicated poor achievement in their understanding of Mathematics commensurate with their stage of development. This is a matter that requires significant improvement. Increased use both by the mainstream teacher and by students of mathematical terminology is recommended. Furthermore, JCSP keyword posters and other supplementary materials should be used to assist and develop students' verbalisation and exposure to the language of Mathematics.
- The mainstream mathematics classroom had some Project Maths posters displayed. However, further work to promote Mathematics should be undertaken to create a stimulating subject-specific visual environment. Such displays could also be used as a resource to teach topics while supporting preferred learning styles. The learning support and JCSP departments could provide assistance in this regard.
- Monitoring of student homework and assessment papers is good with evidence of teacher annotation that highlights areas for improvement.
- There is evidence that absenteeism among some students is high. Ongoing problems with attendance can affect the continuity in learning for students and present considerable challenges for lesson planning and the completion of the curriculum. Poor attendance further contributes to students' poor performance and attainment in examinations. A whole-school strategy is required to address attendance.

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

- Time allocated to Mathematics is very good and daily contact with the subject is facilitated by the timetable.
- The size of the school determines that one mixed-level class grouping is created in each year. Over the past three years, evidence suggests an increase in the numbers choosing foundation level for both the Junior and Leaving Certificate. This is a source of concern. Ongoing monitoring of this trend is necessary with strategies developed to ensure that students are choosing a level commensurate with their abilities.
- There is very good support by management for attendance at CPD programmes and the provision of resources. It is recommended that materials and supports engaged with during a range of whole-school and subject-specific in-services, such as differentiation in the classroom, be utilised in all lessons.
- Additional student numeracy needs are met through the provision of individual or small group withdrawal.

#### **PLANNING AND PREPARATION**

- Planning for Mathematics is poor with significant improvement required. A succinct mathematics plan should be developed that should include goals for the long-term development and promotion of Mathematics. In addition, schemes of work with key learning objectives for each topic should be developed for all year groups and levels. In this way, a clear overview of the incremental developments of skills and competencies each student should achieve in their mathematics education should be evident.

- The analysis of students' performance in state examinations does not form part of a regular monitoring activity of the mathematics department. This should be undertaken and used to inform long-term planning, as well as supporting DEIS planning.
- Ongoing and regular collaboration between the learning support and mathematics departments should be further developed to share best practices in teaching strategies and enable discussions to take place on the most appropriate methodologies and the use of available resources to support learning in Mathematics.

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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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