

An Roinn Oideachais agus Scileanna

Department of Education and Skills

**Subject Inspection of Mathematics
REPORT**

**Moyne Community School
Moyne, County Longford
Roll number: 91436D**

Date of inspection: 17 April 2013



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

REPORT
ON
THE QUALITY OF LEARNING AND TEACHING IN MATHEMATICS

INFORMATION ON THE INSPECTION

Dates of inspection	16 th and 17 th April 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 seven class periods• Examination of students' work• Feedback to principal and teachers

MAIN FINDINGS

- The quality of teaching and learning observed in the evaluation ranged from fair to excellent with the majority of lessons being very good.
- Very good attention was given to developing students' mathematical literacy.
- Students engaged well with the work during most lessons and their contributions indicated very good learning.
- The classroom atmosphere was warm and encouraging during all lessons evaluated.
- There is very good whole-school support for Mathematics.
- Very good work has been done in gathering a range of resources that are stored in a shared folder on the school's computer system.

MAIN RECOMMENDATIONS

- The teaching and learning plans produced by the *Project Maths* development team should be used more widely and problem solving should be integrated into the everyday work of lessons.
 - Activities that encourage students to personally engage with Mathematics should be included in all lessons
 - A more mixed-ability approach should be taken when assigning students to class groups within levels for Mathematics.
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INTRODUCTION

Moyne Community School has a current enrolment of 307 boys and 285 girls. The school offers the Junior Certificate and all Leaving Certificate curricular programmes. Transition Year (TY) is also provided and is optional for students.

TEACHING AND LEARNING

- Overall, the quality of teaching and learning observed during the evaluation ranged from fair to excellent with the majority of lessons being very good. All teachers shared the learning objectives with their students at the start of lessons and assessed learning throughout. Teacher explanations and instructions were clear. Lesson material was related to student experience and to real life which is very good practice. Lessons progressed at a pace appropriate to the ability level of the students. There was scope for improvement in some lessons and significant scope for improvement in one lesson.
- The teaching methodologies used included teacher example followed by student exercise, group and pair work, games and PowerPoint presentations. One lesson included a practical activity. Best practice was noted in most lessons, where there was a good balance between teacher input and student activity. In a minority of lessons there was scope for a greater variety of activities. It is, therefore, recommended that activities that encourage students to personally engage with the subject be included in all lessons.
- A *Project Maths* approach was evident in the use of higher-order questions, cross-topic links and where the students were encouraged to think independently. This occurred in some but not all lessons. It is essential that all students are facilitated in developing the problem solving, analytical and critical thinking skills necessary to answer *Project Maths* examination questions independent of teacher assistance. Therefore, it is recommended that the teaching and learning plans produced by the *Project Maths* development team be used more widely and that teachers integrate problem solving into the everyday work of lessons.
- Teacher explanations were most supportive of students' learning where they focused on the reasons for the mathematical methods used. In some lessons explanations focused on the steps to be followed in arriving at a solution rather than understanding the reasons for applying those steps. It is recommended that teaching focus on fully exploring the logic behind the Mathematics taught. This will help students develop their conceptual understanding and will contribute positively to students' overall mathematical experience.
- Very good attention was given to developing students' mathematical literacy with the key words highlighted where appropriate in all lessons.
- Students with a wide range of abilities are present in some class groups and the need to differentiate learning was noted. The provision of additional work and the use of methodologies that allow students to work at their own pace are recommended to address this.
- Very good assessment practices were evident. Teachers make very good use of questioning and observation to assess students' progress. Advice on how to improve was provided orally by teachers and was also written into students' copybooks.
- Students participated in and engaged well with the work of most lessons and their contributions indicated very good learning.

- The classroom atmosphere was warm and encouraging during the lessons evaluated. Teachers provided regular specific praise. Additional support for students is generously provided by teachers in their own time. This is evidence of the teachers' commitment to meeting their students' needs and to developing students' confidence with Mathematics.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Mathematics is allocated very good time on the school's timetable. Concurrent timetabling is provided to enable students to study the subject at a level appropriate to their ability. A good range of resources that includes information and communication technology (ICT) is provided for the subject.
- First years study Mathematics in mixed-ability groups. Students are assigned to higher and ordinary-level mathematics classes from second year onwards which is good practice. Where there is a need to form more than one class at any level, groups are formed in strict order of ability. This means that the top thirty students approximately of a particular level will be placed in one class, the next thirty in another class group and so on. It is recommended that a more mixed-ability approach should be taken to assigning students to class groups within levels for Mathematics.
- There is good rotation of levels amongst teachers. This is valuable in ensuring that the necessary skills are retained in the subject department. Leaving Certificate Applied (LCA) Mathematical Applications is, however, the responsibility of one teacher only. More teachers should become involved in teaching this course.
- Attendance at continuing professional development (CPD) courses is well supported by school management.
- Valuable extracurricular opportunities are provided for students to experience Mathematics for fun.

PLANNING AND PREPARATION

- A co-ordinator for the subject department has been appointed and planning time is provided once per term. The work of planning meetings focuses on organisational issues and on introducing whole-school literacy and numeracy strategies. Meeting time should also be used to share teaching strategies and to discuss how independent learning and problem solving can be integrated into lessons. It is suggested that teachers observe each other's lessons as a further way to share expertise.
- Very good work has been done in gathering a range of resources that are stored on a shared folder on the school's computer system. The mathematics plan contains common programmes of work for each year group and level that are set out in terms of topics to be covered within defined timeframes. While a *Project Maths* approach was evident in the evaluation, the text book is currently the main resource used in planning for Mathematics. The text books are set out topic-by-topic and this is reflected in the programmes of work. This approach does not allow for teaching the syllabuses in a way that supports the need for students to gain an appreciation of the cross-topic links that exist. It is recommended that the teaching team collaborates in ensuring that the programmes of work are planned to reflect the way *Project Maths* is examined. This will mean identifying cross-topic links and using them in planning for teaching the subject.

- A comprehensive results analysis is carried out, comparing the school's performance in the certificate examinations to national norms. In keeping with good practice this analysis is reflected upon and used to inform planning for the subject.

The draft findings and recommendations arising out of this evaluation were discussed with the principal, deputy 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.