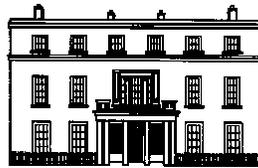


An Roinn Oideachais agus Scileanna
Department of Education and Skills

Subject Inspection of Mathematics
REPORT

Coláiste Cholmcille
Ballyshannon, County Donegal
Roll number: 91506V

Date of inspection: 7 October 2015



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	6 and 7 October 2015
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

- The quality of teaching and learning was consistently very good and there were many examples of excellent practice in all eight lessons observed.
- Students learned through active participation, discovery and investigation in many lessons.
- Very effective use of assessment for learning strategies was evident in all lessons.
- Teacher deployment to class groups needs to be reviewed.
- Mathematics subject department meetings include valuable discussion on student achievement, competencies and needs.
- The uptake of higher level Mathematics is very good in both the Junior Certificate and the Leaving Certificate.

MAIN RECOMMENDATIONS

- The good practices outlined in the teaching and learning section of this report should be extended where necessary.
 - Teachers should make greater use of mini-whiteboards in assessing students' progress during lessons.
 - In the interest of maintaining expertise and ensuring that teachers' on-going skills development is facilitated, all mathematics teachers should teach a range of year groups, programmes and levels.
 - The cross-topic links that are identified through teaching the syllabuses should be added to the subject plans over time.
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INTRODUCTION

Coláiste Cholmcille, Ballyshannon is a co-educational community school with 652 students. The school offers the Junior Certificate, the established Leaving Certificate, the Leaving Certificate Vocational Programme (LCVP) and the Leaving Certificate Applied (LCA) programme. Transition Year (TY) is optional for students.

TEACHING AND LEARNING

- The quality of teaching and learning was consistently very good and there were many examples of excellent practice in all eight lessons observed. Teachers demonstrated a strong personal commitment to ensuring that their students fulfil their potential in Mathematics. This commitment contributed to a focus on student-centred approaches and thorough assessment of students' learning in all lessons. Additionally, teachers are very generous in supporting students' learning in Mathematics, in their own time.
- A wide variety of valuable methodologies was observed. Group or pair work, involving the completion of well-designed tasks, was a feature of all lessons. Students engaged very well with the tasks provided and their contributions in the lessons demonstrated solid learning.
- Some of the lesson activities observed required students to make presentations to their classmates. This practice is very beneficial to learning and it is recommended that further use be made of it, for example by asking students to explain their thinking when undertaking problem-solving activities.
- Students learned through active participation, discovery and investigation in many lessons. These strategies were particularly successful because teachers consolidated learning and ensured that the learning outcomes were achieved. Students were encouraged to learn independently and this promoted the development of essential mathematical skills such as persistence, resilience and problem solving. Additionally, these active methodologies enabled students to gain experience of applying their knowledge and dealing with material presented in unfamiliar contexts.
- Some excellent examples of cross-topic links were observed. In one lesson, for example algebra, functions, complex numbers and problem solving were linked in their appropriate mathematical context. Presenting concepts in this way connects new learning to existing understanding, contributes to the development of logical thinking skills, and, by facilitating deeper learning, reduces the need for revision. Further use of this strategy is recommended.
- Very effective use of assessment-for-learning strategies was evident in all lessons. The learning intentions of each lesson were shared with students and progress was monitored through teacher observation and higher-order questioning strategies. Mini-whiteboards were used to provide teachers with a quick and comprehensive assessment of students' learning in some lessons; this practice should be extended where appropriate.
- Teachers know their students well and very good relationships were evident. They affirmed students' achievements regularly and provided appropriate levels of support for students experiencing difficulty. The atmosphere in all classrooms visited was warm and encouraging.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- The provision of information and communication technology (ICT) and resources for teaching and learning in Mathematics is very good. Timetable provision for the subject is also very good.
- Teacher deployment to class groups needs to be reviewed. For example, seven of the fourteen teachers are timetabled for just one class group. In the interest of maintaining expertise and ensuring that teachers' on-going skills' development is facilitated, it is recommended that all mathematics teachers teach a range of year groups, programmes and levels.
- The supports and procedures around students choosing and changing levels are very good. Students are encouraged to study Mathematics at the highest level possible for as long as possible. Concurrent timetabling of mathematics lessons is provided to allow students the flexibility to change level where necessary.
- A range of valuable opportunities is provided for students to participate in extra-curricular mathematics activities.

PLANNING AND PREPARATION

- Planning time is provided termly for the mathematics department. The minutes of the subject department meeting indicate the very good practice of discussing methodologies, resources and lesson ideas. Very valuable discussion on student achievement, competencies and needs also takes place.
- Sharing of expertise is a valuable feature of the mathematics department's practice. This sharing takes the form of teachers providing support and advice to each other on a day-to-day basis. Additionally, members of the mathematics department collaborate on a more formal level through, for example, presentations made by one teacher who acts as advising examiner for the State Examinations Commission.
- The mathematics teachers have worked hard in planning for the subject. Programmes of work for each year group and level have been created, the best of which outline expected learning outcomes with the methodologies and resources to be used. It is recommended that cross-topic links, that are identified through teaching the syllabuses, be added to the subject plans over time.
- The TY plan for Mathematics includes a range of experiences and material that students would not encounter in studying the certificate examination syllabuses; this is in keeping with the spirit of a good TY programme. In addition, the mathematics department plans to introduce a peer mentoring system where TY students support first years in their study of the subject. A particularly valuable aspect of this initiative is that the TY students will receive formal training.
- An analysis of the students' achievement in the certificate examinations compared to national norms is included in the mathematics plan. In keeping with very good practice, a commentary on this analysis is also provided and it is evident that this informs planning for Mathematics in the school and teaching and learning in the classroom. The results analysis indicates that the uptake of higher level mathematics is very good in both the Junior Certificate and the Leaving Certificate.

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, and the response of the board will be found in the appendix of this report.

Published December 2015

Appendix

SCHOOL RESPONSE TO THE REPORT

Submitted by the Board of Management

Part A: Observations on the content of the inspection report

The Board acknowledges this very positive report and expresses its appreciation for the hard work of the teachers involved.

Part B : Follow-up actions planned or undertaken since the completion of the inspection activity to implement the findings and recommendations of the inspection