

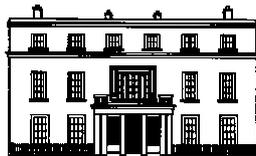
An Roinn Oideachais agus Scileanna

Department of Education and Skills

**Subject Inspection of Mathematics
REPORT**

**Lanesboro Community College
Lanesboro, County Longford
Roll number: 71720L**

Date of inspection: 8 October 2010



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

REPORT
ON
THE QUALITY OF LEARNING AND TEACHING IN MATHEMATICS

SUBJECT INSPECTION REPORT

This report has been written following a subject inspection in Lanesboro Community College. It presents the findings of an evaluation of the quality of teaching and learning in Mathematics and makes recommendations for the further development of the teaching of this subject in the school. The evaluation was conducted over one day during which the inspector visited classrooms and observed teaching and learning. The inspector interacted with students and teachers, examined students' work, and had discussions with the teachers. The inspector reviewed school planning documentation and teachers' written preparation. Following the evaluation visit, the inspector provided oral feedback on the outcomes of the evaluation to the principal.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

Timetabling provision for Mathematics in Lanesboro Community College is very good. The time allocated is in line with best practice, the classes are well distributed throughout the week and the balance of provision between morning and evening is also very good. Mathematics classes in first year are mixed ability and follow a common programme for the full year. They are then streamed at the end of the year. The composition of the classes is determined by students' performance in class tests and formal examinations carried out during the year and following consultation with the class teachers and parents. Mathematics classes are timetabled concurrently within each year for the remainder of the junior cycle and in senior cycle. This allows students to change level if the need arises without disrupting the remainder of their timetable and is very good practice.

The arrangements in place to assess the mathematical capabilities of the students transferring from the feeder primary schools are comprehensive and student centred. All incoming students sit standardised tests administered by the guidance counsellor and the learning-support teacher. The tests take place initially in May and are repeated in September and again in December. The tests are used to identify students in need of additional support. The needs of students are also assessed through screening tests carried out by the class teachers during this period. While acknowledging the very good work already in hand, it is recommended that the transfer programme should also feature a mathematics competency test, to establish the strengths and weaknesses in the students' skills set. The outcomes of this test should inform the content, structure and assessment of the first-year mathematics programme. Furthermore, the standardised tests currently in use should be reviewed to ensure their suitability and validity.

A mathematics programme, designed to develop the incoming students' key skills and to enhance their appreciation of Mathematics, runs for the duration of the transfer programme. The content of the programme is ideally suited to bridging the gap between primary and second-level mathematics, and engages the students in collaboration and investigation. The existence of such a programme is very welcome and reflects the innovative and committed manner in which the department operates.

Provision for students with special educational needs or in need of additional support in Mathematics is very good. The subject department plan contains detailed accounts of the difficulties being encountered by students in their classes and of the steps being taken to address them. Where possible, difficulties are addressed through differentiated teaching and modified modes of assessment within the mainstream classes. If it is deemed necessary, students are withdrawn from class for short periods where the underlying causes of the difficulties being experienced are addressed.

The school is committed to developing its information and communication technology (ICT) infrastructure. At the time of the inspection, the installation of digital projectors in each classroom was imminent. The increased availability of ICT is appropriate in light of the increased emphasis on investigation and active teaching and learning that will result from the national rollout of Project Maths. Currently, the subject department plan for Mathematics makes very little reference to ICT integration in teaching and learning. Therefore, in order that the enhanced facilities are exploited to their fullest, it is recommended that the mathematics department adopt ICT integration in teaching and learning as an immediate planning priority.

The mathematics department comprises four teachers who are open to new ideas and who operate in a supportive and collegial manner. Teacher attendance at relevant professional development courses is readily facilitated by management and the members of the department have attended a wide range of in-service courses, including those provided outside of school hours. In addition, all of the mathematics teachers are availing of the workshops provided a part of the national implementation of Project Maths.

PLANNING AND PREPARATION

Subject department planning in Mathematics is at an advanced stage. The department is well organised and a comprehensive subject department plan is in place. The plan provides a very clear guide to the operation of the department and, in particular, details very effectively the manner in which students requiring additional support in Mathematics are identified and supported. The plan explains the rationale for and operation of the Mathematics transfer programme for first-year students and explains in some detail the various approaches adopted in assessing student progress in Mathematics.

Individual teacher lesson planning is very good. Copies of the teachers' planning documentation are included in the subject department plan. This is a very good idea as it promotes discussion and reflection and enables the teachers to share good practice.

The plan also contains the schemes of work for each year and level. This element of the plan is in need of review. Currently the schemes detail the content to be covered in the form of chapter lists and an associated delivery schedule. In order that the schemes more closely resemble the new syllabuses and reflect the manner in which the curriculum is to be taught, it is recommended that the schemes be rewritten in the form of learning outcomes. The schemes should also include the resources to be integrated into lesson delivery, preferred teaching methods and modes of assessment in one matrix. Agreement should be reached on common methods for carrying out key mathematical operations. These should also be included where appropriate in the matrix.

Detailed analysis of student performance in the 2010 state examinations was carried out by the department and the outcomes of the analysis are contained in the subject department plan. This

very good practice should form an integral part of the department's ongoing activities and the outcomes of the analysis should be submitted to management each year.

TEACHING AND LEARNING

The quality of the teaching observed during the inspection was, in almost all cases, very good. In the best cases, all of the students were appropriately challenged and the teachers had high expectations of what could be achieved in the lessons. These expectations were communicated effectively to the students. However, in a very small number of cases, the pace of the lessons was pedestrian and the needs of the more able students were not being met. In order to address this, it is recommended that all members of the department contribute to the review of the schemes of work mentioned earlier in this report and that existing good practice in differentiating lesson delivery be captured and mainstreamed as part of the review process.

All of the lessons had a good structure, the intended learning outcome was shared with the students at the outset and a review of the lesson content was conducted as the lessons drew to a close. The teachers relied on traditional methods involving exposition at the board followed by the students working individually on assigned tasks as the primary vehicle of lesson delivery. The teachers then circulated offering assistance to students encountering difficulties and, in some instances, to distribute additional material to the more able students. The teachers were acutely aware of the needs of all of the students and the level of support offered to individual students during these interactions was very impressive. There is scope, however, to enhance the degree to which resources including ICT are integrated in teaching and learning, particularly in light of the curricular changes currently taking place.

The learning environment provided for the students is visually stimulating. The main mathematics classroom is decorated with a montage of mathematical artwork which is designed to provide practical assistance during class but also creates a sense of the importance of the subject in the school. Classroom management and student behaviour and engagement were of a very high standard in all classes and the interactions between the teachers and students were warm and affirming.

In almost all cases, the quality of student learning was very good. The work contained in the students' copybooks, their responses during the lessons and the performance of the majority of the students in the state examinations all offer clear evidence that the students are performing adequately. There is some work to be done, however, to ensure that students take the most appropriate level in the Leaving Certificate. Initiatives to promote the uptake of higher-level Mathematics in junior and senior cycle should also put in place.

ASSESSMENT

Practices regarding the setting and correction of homework are very good and are in line with the school's homework policy. Homework is assigned at the end of each lesson and is corrected at the beginning of the following lesson. Any difficulties encountered by students in completing homework assignments are used to create opportunities for shared learning while homework is being corrected. The students' homework copies are in very good order. They are diligently monitored by the teachers and feature teacher comments, corrections and amendments. In some classes the students have a hardback copybook for class notes and a separate copybook for homework. This very good practice should be adopted as standard across the department.

Ongoing student progress is also determined through the use of regular class tests, teacher questioning in class and formal examinations at Christmas and prior to the summer holidays.

The results of class and formal tests are monitored by the student-support teachers and if there are concerns about a student's progress the learning-support teacher meets with the class teacher to discuss the most appropriate manner in which the student can be supported. A formal whole-school review of each year group's progress is conducted at the beginning of the school year and is conducted again for the relevant year group just prior to each parent-teacher meeting.

Procedures regarding ongoing contact with parents are very good. Reports issue to parents following all formal examinations. An interim report also issues to parents of first-year students in October while parents of students in examination classes receive reports in October and following the mock examinations in February. The use of these interim reports is very welcome as it provides parents with valuable information regarding how well the students are performing at critical times during the year. The student diary is a key means of maintaining ongoing contact with parents and it is used to great effect in the school. The students record their homework in the diaries as a matter of course. Issues with homework compliance are recorded in the diaries and student performance in class tests is entered in the relevant diary by the teacher when the tests are being returned.

Very good use is made of the teacher diaries in relation to monitoring student attendance and attainment in class and in formal examinations. Roll call is taken at the beginning of each lesson and the results of class and formal tests, and compliance with homework assignments, are recorded in the teachers' diaries.

SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS

The following are the main strengths identified in the evaluation:

- Timetabled provision for Mathematics is very good
- The arrangements in place to assess the mathematical capabilities of the students transferring from the feeder primary schools are comprehensive and student centred and the provision for students with special educational needs or in need of additional support in Mathematics is very good.
- The transfer programme from primary to post primary school features a mathematics programme designed to develop the incoming students' key skills and to enhance their appreciation of Mathematics.
- Subject department planning and individual teacher planning in Mathematics is very good.
- Practices in relation to homework and assessment and to facilitate communicating with parents are very good.

As a means of building on these strengths and to address areas for development, the following key recommendations are made:

- In addition to the provision already in place, it is recommended that the transfer programme should also feature a mathematics competency test to establish the strengths and weaknesses in the students' skills set. Furthermore, the standardised tests currently in use should be reviewed to ensure their suitability and validity.

- In order that the school's enhanced ICT facilities are exploited to their fullest, it is recommended that the mathematics department adopt ICT integration in teaching and learning as an immediate planning priority.
- It is recommended that the schemes of work contained in the subject-department plan be rewritten in the form of learning outcomes. The schemes should also include the resources to be integrated into lesson delivery, preferred teaching methods and modes of assessment. Agreement should be reached on common methods for carrying out key mathematical operations and these should also be included.

A post-evaluation meeting was held with the principal at the conclusion of the evaluation when the draft findings and recommendations of the evaluation were presented and discussed.