

An Roinn Oideachais agus Scileanna
Department of Education and Skills

Subject Inspection in Mathematics

REPORT

Ainm na scoile / School name	Naas Community College
Seoladh na scoile / School address	Craddockstown Naas Co. Kildare
Uimhir rolla / Roll number	76194S

Date of Inspection: 06-12-2016



WHAT IS A SUBJECT INSPECTION?

Subject Inspections report on the quality of work in individual curriculum areas within a school. They affirm good practice and make recommendations, where appropriate, to aid the further development of the subject in the school.

HOW TO READ THIS REPORT

During this inspection, the inspector evaluated learning and teaching in Mathematics under the following headings:

1. Learning, teaching and assessment
2. Subject provision and whole-school support
3. Planning and preparation

Inspectors describe the quality of each of these areas using the Inspectorate's quality continuum which is shown on the final page of this report. The quality continuum provides examples of the language used by inspectors when evaluating and describing the quality of the school's provision in each area.

Subject Inspection

INSPECTION ACTIVITIES DURING THIS INSPECTION

Dates of inspection	06 & 05 December 2016
Inspection activities undertaken <ul style="list-style-type: none">• Review of relevant documents• Discussion with principal and key staff• Interaction with students	<ul style="list-style-type: none">• Observation of teaching and learning during four class periods• Examination of students' work• Feedback to principal and relevant staff

SCHOOL CONTEXT

Operating under the auspices of Kildare and Wicklow Education and Training Board, Naas Community College is a co-educational, multi-denominational post-primary school. Opened in August 2015, the school now has two-year groups and has a current enrolment of 162 students. The number of teachers deployed to teach Mathematics has increased from one to three this year.

SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS:

FINDINGS

- The quality of teaching was good or very good with the quality of learning observed to be good or satisfactory.
- Resources were well utilised in lessons, however, on occasion the use of Information and communication technology (ICT) did compromise meaningful learning in some lessons.
- Timetabling of Mathematics is good and the mathematics department is very well resourced.
- Management is very supportive in promoting and facilitating staff participation in continuing professional development (CPD) and staff has engaged very positively with in-service events.
- Students are afforded a wide range of opportunities to participate in co-curricular and extra-curricular mathematics events.
- The co-ordination of Mathematics is very good and a significant programme of work has been achieved to date.

RECOMMENDATIONS

- Greater differentiation of students' tasks should be further developed in all lessons.
- Students' learning requires development so that they recognise that Mathematics is a series of connections rather than topics learnt in isolation.
- Greater use of higher-order questions that challenge students to develop critical thinking skills should be extended in all lessons.

DETAILED FINDINGS AND RECOMMENDATIONS

1. TEACHING AND LEARNING

- The overall quality of teaching was good or very good.
- Teacher preparation for lessons was uniformly very good. All necessary materials, and resources were prepared and ready for use in all lessons. The mathematics department's scheme of work was used for the planning of the lessons.
- Learning intentions were orally communicated and in almost all lessons were also written on the whiteboard. Most teachers reviewed the learning intentions, on occasion, however, this took the form of the teacher recalling the main points, rather than eliciting through questioning student learning in the lesson. This is an area for development.
- Overall, classroom management was good, students were mostly focused and engaged in their learning. In a very few instances when a student became distracted the teacher moved swiftly to intervene to encourage them to redirect their attention to the lesson.
- The quality of learning in lessons was good or satisfactory. While students demonstrated capabilities in answering questions posed to them, on occasions, some lacked the confidence to link current learning and previous learning. This is an area for development in all lessons, to ensure that students develop an understanding that Mathematics is a series of connections rather than topics learnt in isolation.
- Teaching methods observed included teacher-led instructions, paired or group work and think pair and share activities. Most effective practice was noted where there was a good balance between teacher and student input and also when students were active in their learning.
- While the use of group or paired work did allow students to work collaboratively, there were occasions where deeper development of the topic, through the differentiation of tasks would have provided greater challenge to all students.
- Assessment of students took many forms including in-class questioning and peer assessment. Effective practice was noted in a lesson where the teacher asked students to read the measure of an angle which was displayed on a tablet device, before entering the class. This enabled the teacher to assess students' confidence with the topic and allowed for immediate feedback to be given.
- Equally effective was the use of peer assessment during a geometry lesson where students reviewed their peers' work and provided some oral formative feedback. Such strategies should be further developed to provide students with greater opportunities to work collaboratively and develop confidence in their learning.
- Effective practice was noted when teachers used a balance between targeted and global questions. However, in general there was scope for the greater use of higher-order questions that challenged students to develop their critical thinking skills.
- The use of formative written feedback was noted in some copybooks while in others there was evidence of teachers regularly monitoring students' work. Greater consistency in the application of formative feedback by all teachers is recommended.
- Resources were used very effectively in all lessons to support the learning in the lessons. In all lessons, tablet devices were used by both the student and the teachers. Although ICT was mostly effectively used, on occasion its use compromised meaningful learning of the topic.
- Prepared materials such as visual aids were very effective in supporting student learning. Placemats were well used during a lesson on number systems.
- Classrooms have been configured to support and facilitate collaboration among students, which is good practice.

2. SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Mathematics is timetabled for four class periods per week for both year groups. Management is committed to increasing time to Mathematics in the coming year, this is to be welcomed.
- Concurrent timetabling of Mathematics is facilitated in second year. This allows for the creation of a small class grouping to support the learning needs of students and the development of independent level groupings for Mathematics.
- The qualifications profile of the mathematics department is good and the majority of teachers are graduates in the subject. Commendably, a key priority of school management is capacity building in the mathematics department. This will be necessary as the school develops and as demand on the school availability of teachers to support the mathematics curriculum increases.
- CPD is very well supported and promoted in the school as is evident in the participation of staff in national events such as the Instructional Leadership Programme and TL21. The mathematics department is participating in *Reflection and Practice*, organised through Project Maths. This initiative involves collaboration of mathematics teachers in three post-primary schools, in the planning, preparation and delivery of a mathematics lesson. The culmination of this work will result in a presentation at the annual Maths Counts event to be held in 2017.
- A significant range of co-curricular and extra-curricular activities are in place to support Mathematics in the school. Students have participated in events such as those arranged during Irish Maths Week and in Problem Solving for Irish Second level Mathematicians competitions.

3. PLANNING AND PREPARATION

- Overall, very good co-ordination and development of Mathematics was noted in the school. Very good practices and procedures have been developed and commendably a significant programme of work has been achieved within a short period of time.
- Very good progress has been made in the development of a plan for Mathematics. Schemes of work could now be updated so that the time spent teaching each topic is aligned with the findings from teachers' lesson observations and other baseline data available in the school. This should also facilitate the linking of topics across the syllabus strands.
- Commendably the mathematics department has identified areas for development. These could be further subdivided into short, medium and long-term plans for the department with strategies for their implementation agreed and documented.
- Collaborative practices such as the sharing of all materials and subject department materials via the school's online shared system are very good.

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.