

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

Subject Inspection in Mathematics

REPORT

School name	Confey Community College
School address	Confey Leixlip Co Kildare
Roll number	70691C

Date of Inspection: 25-11-2016



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	24 & 25 November 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 nine class periods• Examination of students' work• Discussion with representatives of the learning-support department• Feedback to principal and relevant staff

SCHOOL CONTEXT

Confey College is a co-educational post-primary school operating under the aegis of Kildare and Wicklow Education and Training Board and the Archdiocese of Dublin. It provides a broad and balanced curriculum including an optional Transition Year (TY). At the time of the inspection the school had an enrolment of 731.

SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS:

FINDINGS

- The quality of teaching and learning was very good in all of the lessons observed.
- All of the lessons benefited from the innovative integration of resources and incisive teacher questioning.
- Developing the students' mathematical skills and deepening their conceptual understanding was a feature of all lessons.
- Support for Mathematics, including timetabling provision, teacher deployment and availability of resources is very good.
- Very good use is made of the school's information and communications technology (ICT) infrastructure in lesson design and delivery
- Subject department planning in Mathematics is very good.

RECOMMENDATIONS

- Future planning in Mathematics should seek to promote wider adoption of the flipped classroom model of curriculum delivery.
- The schemes of work in the subject department plan for Mathematics should be developed to include approaches to developing the students' conceptual understanding of key elements of the curriculum.
- The projects included the TY mathematics programme should be modified to include an enhanced focus on research and problem solving.

DETAILED FINDINGS AND RECOMMENDATIONS

1. TEACHING AND LEARNING

- The quality of teaching and learning was uniformly very good. All lessons featured a range of teaching approaches designed to enhance the students' understanding and appreciation of Mathematics.
- A key feature of all lessons was the innovative and effective manner in which resources, including ICT, were used to introduce and explore mathematical concepts and to facilitate collaborative learning.
- High-quality student learning was facilitated by the integration of assessment for learning throughout the lessons. This approach, which included incisive teacher questioning, encouraged the students to speculate, develop hypotheses and defend their reasoning.
- In a number of lessons a particular focus was placed on inquiry-based learning. In one instance, for example, the relationship between the graph of a cubic function and the expression for the function was explored using a graph-matching exercise. This involved the students, working in small groups, discussing the various features of each graph and how they depended upon the function's coefficients. The work of each group was very well supported by the teacher who insisted that the students communicate their solutions in an unambiguous fashion and provided additional challenging problems when then need arose.
- A very good balance between the development of skills and the exploration of concepts was maintained in all lessons. More importantly, the skills were mediated through engagement with rich tasks which allowed for skills development in a context-rich manner rather than through the use of mundane repetitive exercises.
- An innovative approach to skills development was evident in one lesson exploring linear equations. During the course of the lesson, the cause of common errors was fully explored and students were provided with opportunities to test their solutions using a variety of approaches including substitution and the use of graphs. The level of challenge provided to the students graduated as the lesson progressed and, by its conclusion, the students were solving very complex equations.
- Student engagement and participation was uniformly very good. Their participation in the lessons demonstrated their proficiency in a wide range of mathematical skills and knowledge and positive dispositions towards Mathematics.

2. SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Timetabling provision for Mathematics is very good. The time allocated is generous and the scheduling of mathematics lessons ensures that students have access to the level most appropriate to their needs and interests.
- All of the members of the department are appropriately qualified and their deployment ensures that the capacity within the department to teach mathematics across all programmes and levels is maximised.
- Teacher attendance at continuing professional development courses is strongly supported by senior management and practices relating to sharing teacher experiences of, and the outcomes from, the various events are very good. For their part, the mathematics teachers have engaged with a wide range of courses relevant to teaching Mathematics including post graduate programmes taken during their own time.

- The mathematics department is very well resourced. The school's ICT facilities are extensive, providing teachers and students with access to mobile technologies and a virtual learning environment that enables and encourages collaboration and enhanced communication.
- The virtual learning environment is also being used to implement a flipped classroom model allowing students to practise fundamental mathematical skills outside of school time and providing additional opportunities for deeper exploration of concepts during class. While this approach to teaching and learning is new to the department, good progress has already been made with a number of teachers utilising it. To build upon this very good work, it is recommended that subject department planning in Mathematics includes an enhanced focus on the flipped classroom model with a view to encouraging its wider adoption across the department.

3. PLANNING AND PREPARATION

- Subject department planning in Mathematics is an integral part of the school's self-evaluation process and benefits from a spirit of collaboration within the department and the very good leadership provided by the subject co-ordinator.
- A very good subject department plan has been developed which includes comprehensive schemes of work and details the common approaches that should be followed when dealing with key mathematical operations during lessons. In order to further enhance the schemes of work, future planning should focus on the most appropriate ways to develop the students' conceptual approaches to be adopted when teaching key elements of the curriculum. This should include, for example, the inclusion of strategies to exploit the links between algebra and the curriculum strands dealing with number and functions.
- A very good plan for Mathematics in TY is in place. Its content, and the teaching approaches detailed in the schemes of work, reflect the aims of the revised curriculums. Student performance on a number of projects carried out during the year contribute to the mark they achieve in the year's final assessment. In order to enhance this approach, it is recommended that the projects with which the students engage include a greater degree of research and focus on problem solving, possibly mediated through the use of dynamic mathematical software.
- Planning in relation to the formal assessment of student progress in Mathematics is very good. Common assessments, prepared following a comprehensive moderation process, are provided for all house examinations. The assessments model the approach adopted in the certificate examinations focussing on skills and concepts and including problems integrating a number of curricular strands in their design.
- Individual teacher planning is also of a very high quality. This was evident from the focus on teaching for understanding, the innovative integration of resources and the focus on assessment for learning evident in all of the lessons visited during the evaluation.

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.