

An Roinn Oideachais agus Scileanna
Department of Education and Skills

Subject Inspection in Mathematics

REPORT

Ainm na scoile / School name	Sacred Heart Secondary School
Seoladh na scoile / School address	Sunnyside Drogheda Co Louth
Uimhir rolla / Roll number	63860I

Date of Inspection: 09-04-2019



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

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. Teaching, learning 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.

The board of management of the school was given an opportunity to comment on the findings and recommendations of the report; the board chose to accept the report without response.

CHILD PROTECTION

During the inspection visit, the following checks in relation to the school's child protection procedures were conducted:

1. The name of the DLP and the Child Safeguarding Statement are prominently displayed near the main entrance to the school.
2. The Child Safeguarding Statement has been ratified by the board and includes an annual review and a risk assessment.
3. All teachers visited reported that they have read the Child Safeguarding Statement and that they are aware of their responsibilities as mandated persons.

The school met the requirements in relation to each of the checks above.

SUBJECT INSPECTION

INSPECTION ACTIVITIES

Dates of inspection	08-04-2019 to 09-04-2019
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 eight class periods• Examination of students' work• Feedback to principal and relevant staff

School context

Sacred Heart Secondary School is a voluntary secondary school under the trusteeship of Catholic Education An Irish Schools' Trust (CEIST) with a current enrolment of 635 girls. The school provides the Junior Cycle, an optional Transition Year (TY), the Leaving Certificate Applied (LCA), the Leaving Certificate and the Leaving Certificate Vocational programmes.

SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS:

Findings

- The quality of teaching and learning in all lessons observed was consistently of a very high standard and some lessons were exemplary.
- Students were actively engaged in their learning; they demonstrated very good understanding of the key concepts and developed a wide range of key mathematical skills in all lessons.
- Subject provision and whole school support for Mathematics and, in particular, access to digital technologies, are very good; while good use of tablet devices is outlined in the TY plan, there is scope to extend their use to add further variety of learning experiences for students in TY.
- Students are assigned to higher and ordinary-level classes at the beginning of second year; in light of the school's action plan to optimise higher-level uptake and recent curricular changes this practice is currently being reviewed in favour of retaining them in a mixed-ability setting for as long as possible.
- The mathematics teachers work very well as a team under the leadership of a committed subject co-ordinator; the minutes of subject meetings indicate some valuable teacher reflective practice but much meeting time is taken up with organisational issues.
- The quality of the mathematics plan is very good overall but the TY plan is overly weighted towards Leaving Certificate material.

Recommendations

- Time should be allocated at subject department meetings to facilitate teacher reflective practice.

- Further non-examination topics should be added to the TY programme for Mathematics, and tablet devices should be used to facilitate self-learning in TY and to further broaden the range of TY course content.

DETAILED FINDINGS AND RECOMMENDATIONS

1. TEACHING, LEARNING, AND ASSESSMENT

- The quality of teaching and learning in all lessons observed was of a very high standard. Some lessons were exemplary. The very high level of collaboration and collegial support that the Mathematics teachers provide for each other has contributed significantly to ensuring consistency in the quality of teaching and learning.
- Prior learning was very well recapped and used to situate new learning. The learning objectives were shared with the students at the outset of all lessons. Best practice was seen where the lesson tasks were negotiated with the students and where students were allowed to contribute to the activities planned for the lesson. There was very good practice in relation to checking the achievement of the learning objectives at the end of lessons.
- Students were actively engaged in their learning in all lessons. Group and pair work, brainstorming, indoor and outdoor measuring activities, discovery learning, and model making were all used in a highly-effective manner to stimulate students and enhance learning. These activities served to make students independent in their learning and to facilitate the deep exploration of mathematical concepts.
- Students demonstrated a wide range of key skills in the lessons observed. They thrashed out mathematical ideas, used subject terminology fluently, and engaged in very high quality mathematical discussions. Students completed exercises individually or in groups, and demonstrated very good understanding of the key concepts.
- Almost all teacher explanations and instructions were clear. There was very good use made of negative examples to explain concepts in some lessons. Key words were very well highlighted, and their meanings used to enhance explanations. However, there was a need for greater clarity in a few teacher explanations and deeper treatment of concepts. The very good practice evident in most lessons should be extended to all lessons.
- Teachers had prepared a range of suitable resources to support learning. Digital technology was used as an integral part of some lessons. Tablet devices were used to very good effect in one lesson to enhance the learning of geometry. It is recommended that tablet devices be further used to facilitate self-learning in TY and to broaden the range of TY course content.
- Highly-effective assessment practice was evident in all lessons. Teachers monitored progress through observation as students worked. The quality of teacher questioning as a form of assessment was particularly good. Teachers also used higher-order questioning strategies to help students to develop their thinking and to deepen learning. Students participated very well and demonstrated confidence in asking and answering questions.
- The tasks used in lessons were very creatively designed and provided highly-effective frameworks for learning. There was excellent differentiation of learning in all lessons; the methodologies used were student-centred and allowed students to work at their own pace and to regulate the level of challenge to meet their own needs. Additionally, these methodologies provided teachers with ample opportunity to assist any student experiencing difficulty.
- Exemplary practice was evident in some lessons in relation to teachers trusting students to drive their own learning. Teachers allowed students to work independently and only

intervened when absolutely necessary and then only in the form of providing encouragement to persist. Students collaborated when they encountered stumbling blocks, demonstrated excellent problem-solving skills, and used logic to enhance the depth of their learning. This practice should be extended as opportunities present themselves in lessons.

- Some teachers assigned mathematics questions presented in unfamiliar contexts for students to do in class and for homework. These tasks were set slightly above the students' current stage of learning and required the students to develop new concepts independently. This practice was highly effective in developing students' critical thinking skills, providing them with a strategy for tackling unfamiliar questions in examinations, and enabling them to experience the joy of creating Mathematics for themselves.
- The relationships between students and their teachers were warm and respectful. Lessons were conducted in an atmosphere of fun and students were enjoying Mathematics.

2. SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Subject provision and whole school support for Mathematics is very good. Timetabling arrangements for assigning students to levels for Mathematics are effective. There is a very good range of resources available for the subject, including digital technology. Commendably, a class set of tablet devices is available for use in mathematics lessons.
- There is comprehensive analysis of students' achievement in the certificate examinations compared to national norms. In keeping with good practice, this analysis informs decision making and planning for Mathematics. The school has recently established a system to compare student achievement in the certificate examinations with intake data and student achievement in school-based tests. This very good development will contribute to a fuller perspective on achievement.
- Increasing the uptake of higher-level in the certificate examinations has been identified by the mathematics action-planning process; the available data shows an upward trend. The process for changing level throughout the year involves consultation between the guidance counsellor, principal, parents, and students. In light of curricular changes, the practice of assigning students to level classes at the beginning of second year is currently being reviewed in favour of retaining them in a mixed-ability setting for as long as possible.
- Valuable extracurricular opportunities are provided for students to experience Mathematics for fun. There is a mathematics club to provide additional support to students preparing for the certificate examinations.

3. PLANNING AND PREPARATION

- The mathematics teachers work very well as a team under the leadership of a committed subject co-ordinator. They have participated extensively in continuing professional development (CPD) and bring this valuable expertise to their classroom practice. There is much formal and informal communication around Mathematics and this has contributed to the consistent very good teaching and learning practice evident in the evaluation. An electronic planning system is used effectively to share resources for teaching and learning.
- Very good records of discussions at mathematics department meetings are maintained. The minutes of whole-team meetings indicate that organisation of classes and analyses of student achievement are the main items discussed. While there is value in discussing these items, the minutes of the meetings of subsets of the mathematics department show much

richer discussion of teaching and learning. It is recommended that time be allocated in whole-team meetings to include further teacher reflective practice.

- The quality of the mathematics plan is very good. Programmes of work have been developed for each year group and level. Considerable work has been done on ensuring that the new Junior Cycle specification's learning intentions, statements of learning and key skills are incorporated as an integral part of the programmes of work.
- The TY plan is good, and outlines a modular programme for Mathematics that includes some alternative learning experiences such as a robot-building project. However, the TY plan is overly weighted towards Leaving Certificate material. It is recommended that further non-examination content be added to TY Mathematics. An aim of the TY mathematics' programme in the school is to facilitate the development of skills that will be of benefit to students in fifth and sixth year. The chosen content should satisfy this important aim.

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 INSPECTORATE'S QUALITY CONTINUUM

Inspectors describe the quality of provision in the school using the Inspectorate's quality continuum which is shown below. The quality continuum provides examples of the language used by inspectors when evaluating and describing the of quality the school's provision of each area.

Level	Description	Example of descriptive terms
Very Good	Very good applies where the quality of the areas evaluated is of a very high standard. The very few areas for improvement that exist do not significantly impact on the overall quality of provision. For some schools in this category the quality of what is evaluated is outstanding and provides an example for other schools of exceptionally high standards of provision.	Very good; of a very high quality; very effective practice; highly commendable; very successful; few areas for improvement; notable; of a very high standard. Excellent; outstanding; exceptionally high standard, with very significant strengths; exemplary
Good	Good applies where the strengths in the areas evaluated clearly outweigh the areas in need of improvement. The areas requiring improvement impact on the quality of pupils' learning. The school needs to build on its strengths and take action to address the areas identified as requiring improvement in order to achieve a <i>very good</i> standard.	Good; good quality; valuable; effective practice; competent; useful; commendable; good standard; some areas for improvement
Satisfactory	Satisfactory applies where the quality of provision is adequate. The strengths in what is being evaluated just outweigh the shortcomings. While the shortcomings do not have a significant negative impact they constrain the quality of the learning experiences and should be addressed in order to achieve a better standard.	Satisfactory; adequate; appropriate provision although some possibilities for improvement exist; acceptable level of quality; improvement needed in some areas
Fair	Fair applies where, although there are some strengths in the areas evaluated, deficiencies or shortcomings that outweigh those strengths also exist. The school will have to address certain deficiencies without delay in order to ensure that provision is satisfactory or better.	Fair; evident weaknesses that are impacting on pupils' learning; less than satisfactory; experiencing difficulty; must improve in specified areas; action required to improve
Weak	Weak applies where there are serious deficiencies in the areas evaluated. Immediate and coordinated whole-school action is required to address the areas of concern. In some cases, the intervention of other agencies may be required to support improvements.	Weak; unsatisfactory; insufficient; ineffective; poor; requiring significant change, development or improvement; experiencing significant difficulties;