An Roinn Oideachais agus Scileanna

Department of Education and Skills

Subject Inspection in Mathematics

REPORT

Ainm na scoile / School name	St Joseph's C.B.S
Seoladh na scoile / School address	Summerhill Nenagh Co Tipperary
Uimhir rolla / Roll number	65370B

Date of Inspection: 05 April 2017

AN ROINN OIDEACHAIS AGUS SCILEANNA | DEPARTMENT OF EDUCATION AND SKILLS

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

Date of inspection	05 April 2017
Inspection activities undertaken • Review of relevant documents • Discussion with principal and key staff • Interaction with students	• Observation of teaching and learning during seven class periods • Examination of students' work • Feedback to principal and relevant staff

SCHOOL CONTEXT

Saint Joseph's Christian Brothers' School (CBS) is an all-boys' voluntary secondary school. The school operates under the trusteeship of the Edmund Rice Schools Trust (ERST) and has a current enrolment of 535 students. As well as the established Leaving Certificate and Junior Certificate programmes, the school offers the Leaving Certificate Applied (LCA), the Leaving Certificate Vocational Programme (LCVP) and an optional Transition Year (TY) programme.

SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS:

FINDINGS

- The quality of teaching ranged from good to very good in the majority of lessons; in one lesson the quality of teaching was fair and in two lessons the quality was satisfactory.
- The overall quality of learning was good, with very good practices noted in some lessons and scope for improvement in others.
- Assessment strategies are well developed for Mathematics.
- Subject provision and whole-school support for Mathematics is very good.
- Management is supportive of teachers' engagement with continuing professional development (CPD) and support membership of professional networks.
- Planning and preparation for Mathematics is good with scope to further develop the short-term schemes of work.

RECOMMENDATIONS

- The good practice observed of students working on clear, purposeful tasks with suitably high expectations should be extended to all lessons**.**
- It is recommended that the schemes of work be further developed to link methodologies, resources and modes of assessment to specific learning outcomes for all year groups and levels.
- To extend the range of good quality assessment modes observed, the subject department should agree and implement formative written feedback practices which should be used in all mathematics lessons.

DETAILED FINDINGS AND RECOMMENDATIONS

1. TEACHING, LEARNING AND ASSESSMENT

- The overall quality of teaching in the lessons observed was good. In the best lessons, expectations for students' knowledge and ability were suitably high. Students worked collaboratively on tasks which were prepared or sourced in advance. In one lesson, the revision of a topic was expertly conducted. Prior learning was elicited, keywords and terms were reinforced and students were set up to succeed in the innovative and fun task which ensured inclusion and progress for all. There was scope for improvement where lessons were overly dependent on the teacher to supply solutions and where there was little variety in the methodologies employed.
- The quality of learning ranged from fair to very good. Students' learning was best when learning intentions focused on the mathematical concepts and skills to be achieved, and were supported by the use of suitable tasks and resources. In the best lessons, the teachers' practice and pace adapted to meet students' needs and all students' inputs were valued. In some instances there was a need to frame the lesson with clear, purposeful learning intentions with a focus on developing independence and problem-solving skills as well as making progress with the lesson topic.
- Assessment practices observed ranged from good quality in the majority of lessons to unsatisfactory in one lesson. Self-assessment was facilitated in some lessons to correct homework. This practice was further supported where students could access solutions using a file-sharing information and communications technology (ICT) platform. There is scope to develop the use of written formative feedback to provide guidance on how to improve and to affirm students' efforts in all lessons; particular attention should be paid to the work of senior-cycle students preparing for certificate examinations.
- Questioning strategies were used to great effect in a small number of lessons. A combination of higher-order, lower-order, directed and global questioning was used to check for understanding, elicit prior knowledge, develop students' oral literacy skills and to prompt and support learning. In the best instances, suitable think-time was allowed for students to formulate their replies and all learning opportunities from students' responses were utilised. In one lesson, the teacher supplied very few solutions but instead used questioning expertly to prompt and elicit prior knowledge and to facilitate peer learning and support.
- ICT was used in all of the lessons observed. A range of uses was seen such as presenting pre-prepared solutions, providing a scaffold for revision exercises, allowing students to research online to complete set tasks, showcasing students' work, providing opportunities for students to see the teacher working through questions and providing an outline of learning objectives.
- A range of supports is in place for students with special educational needs (SEN). Small group instruction happens in place of language classes where students have exemptions and support for numeracy is the focus of these lessons on a regular basis. Resources are also deployed to create smaller class groups, where appropriate. The introduction of team-teaching to some mathematics classes has been successful and all mainstream teachers are well informed of students' abilities and needs. Students are supported and encouraged to take part in extra-curricular mathematics events and successes at these events has helped to ensure the profile of Mathematics remains high in the school.

2. SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Subject provision and whole-school support for Mathematics is very good. Timetable provision is in line with syllabus requirements and there is generous provision for fifth-year, sixth-year and TY students. A collaborative approach is used to make modifications to timetabling provision when planning for the next school year and suggestions are sought from the mathematics department before finalising changes. Management's willingness to adapt provision during the year can be seen in the arrangements put in place for the current third year group. This flexibility is commendable as is the collaborative nature of timetabling planning.
- The mathematics department is well resourced. Additional resources are provided on request, where possible. All classrooms have ICT facilities to support teaching and learning and a shared drive allows access to a range of resources.
- First-year and TY students are taught in mixed-ability settings in line with best practice. All other year groups are timetabled concurrently to allow movement between levels. Students are encouraged and supported to remain at the highest level possible and changes of level can only occur after consultation with the teacher, parents and management.
- The teachers of Mathematics have a very good qualifications profile. All of the teachers satisfy the requirements of the Teaching Council for the teaching of Mathematics and have attended a range of CPD events. School management provides financial support for membership of relevant professional networks.
- The system which is in place to rotate teachers between levels and year groups is highly commendable as it builds capacity among department members and ensures all teachers remain fully familiar with the entire mathematics course.

3. PLANNING AND PREPARATION

- The standard of planning and preparation for Mathematics is good. The mathematics department is co-ordinated on a rotating basis in line with good practice. A comprehensive subject plan has been developed collaboratively. Details of whole-school strategies, tailored to suit the mathematics lessons, as well as a bank of relevant and useful resources and templates form part of the plan.
- Subject department meetings are held regularly throughout the year. Detailed minutes are maintained in the subject planning folder. As well as necessary operational issues, discussion around teaching methodologies and various mathematical topics form part of the agenda. This is good practice.
- Schemes of work for each year group and level of study comprise broad content details and timelines. It is recommended that the next stage of development link specific learning intentions with relevant resources, methodologies and assessment modes. Timelines should be more detailed and it is recommended that planning for revision lessons be included in the schemes.
- The mathematics department conducts analysis of students' performance in certificate examinations each year focusing on levels of attainment and comparisons with national averages. A report is compiled and presented to the board of management annually.

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 of the school 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.

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 both the findings and the recommendations of the inspector.

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

The school management has met with the Maths teachers individually and as a group to discuss both the findings and the recommendations. Subject planning will focus on the recommendations in the coming months.

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 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 *very good* 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;