An Roinn Oideachais agus Scileanna

Department of Education and Skills

Subject Inspection in Mathematics

REPORT

Ainm na scoile / School name	Celbridge Community School
Seoladh na scoile / School address	Moortown Maynooth Road Celbridge Co Kildare
Uimhir rolla / Roll number	91614B

Date of Inspection: 15-09-2016

Date of issue of report: 06-02-2017 25 November 2016

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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	14 & 15-09-2016
Inspection activities undertaken • Review of relevant documents • Discussion with principal and key staff • Interaction with students	• Observation of teaching and learning during four class periods • Examination of students' work • Feedback to principal and relevant staff

SCHOOL CONTEXT

Celbridge Community is a co-educational, multi-denominational post-primary school operating under the joint patronage of Educate Together and Kildare and Wicklow Education and Training Board. The school opened in August 2015 and has 142 students.

SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS:

FINDINGS

- The quality of teaching in the majority of lessons was of a very high standard.
- Assessment for learning (AfL) strategies were used very effectively in all lessons.
- Teaching approaches were highly effective and engaged students meaningfully in their learning.
- Exemplary practices are in place in the provision of feedback to students.
- Mathematics teachers demonstrate a very strong commitment and willingness for ongoing improvements in the development of the subject and student learning.
- Continuing professional development (CPD) features prominently in the school's programme of ongoing development and there was much evidence of initiatives being utilised in lessons.

RECOMMENDATIONS

- Further differentiation of extension sheets provided to students should offer them an opportunity and challenge to engage with a topic in a variety of contexts.
- Common strategies for the teaching of various topics should be documented as a means to supporting ongoing department planning while further developing numeracy across the curriculum.

DETAILED FINDINGS AND RECOMMENDATIONS

1. TEACHING AND LEARNING

- The quality of teaching in the majority of lessons was very good, with good practice also noted.
- All lessons were underpinned by very good individual teacher planning. The lesson content was based on the relevant subject syllabuses and on the school developed schemes of work.
- Learning intentions were shared with all students in every class, providing a very clear structure to the lesson. A review of the intentions was undertaken and identified areas for further attention.
- Effective use was made of subject-specific terminology and mathematical symbols by students during class discussions, group activities or when writing. Of particular note was the ability of students to provide appropriate definitions for key mathematical terms. This is very good practice and it was evident that students encounter mathematical terminology on a regular basis.
- The predominant methodology used in lessons was discovery based learning and was mostly highly effective. For example, during the teaching of geometry, this approach enabled students to work collaboratively, share hypotheses and derive the theorem of Pythagoras.
- Group activities were observed in all lessons and were very well organised allowing for the individual needs of students to be supported. Group tasks were carefully selected and provided for meaningful engagement with the lesson content facilitating an exchange of views among peers.
- Very good practice was noted in the quality of questioning strategies used by the teachers. Questions that probed and challenged students' understanding featured prominently in lessons. Teachers regularly redirected a student's answer to pose another question thereby deepening understanding.
- High levels of student learning were noted in almost all lessons. During interactions with students they demonstrated very good subject knowledge drawing on other areas of the curriculum to provide an answer for their learning.
- The schools uses tablet devices as a teaching and learning tool. During the evaluation there was evidence that students used these devices to capture images of completed work in the lesson and as a repository for the storing of a teacher developed textbook.
- Additional resources used in lessons included, teacher developed worksheets and mathematical materials, such as geostrips, all of which enhanced student learning.
- To extend and challenge the abilities of students, supplementary materials are available to provide further examples or as additional extension work. There was some evidence that further differentiation of these extension sheets would be beneficial.
- Excellent assessment practices are in place to support student learning. These include the use of success criteria, peer-assessment and written formative feedback.
- A review of student copybooks indicated that teachers provide excellent written feedback through a department developed sheet which identifies the learning outcomes for the topic and teachers highlight individual areas for improvement by the students. This is then supported with supplementary materials linked to the student's specific learning needs.
- Overall classroom management was very good. This included appropriate student engagement in their learning and a willingness to work diligently in the challenging tasks assigned by the teachers.

- Classrooms are arranged to facilitate collaborative practices and there are many examples of visual displays which support learning and promote high expectations.

2. SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Whole-school support from management for Mathematics is underpinned by sound educational rationale with the best interest and the needs of the students paramount in the decision making process.
- The school has three mixed-ability classes in each of the two year groups. The school operates a one-hour timetable, and Mathematics is allocated three lessons per week, fulfilling the syllabus requirements.
- Two mathematics teachers are deployed to teach Mathematics, both of whom are subject specialists. As the school develops, the feasibility of concurrent timetabling of Mathematics will become more realistic and the distribution of Mathematics throughout the school week will be reviewed.
- CPD is very well supported by school management. Teachers participated in national in-service such as Maths Counts and are members of the Irish Mathematics Teachers Association. Whole-school CPD has taken place on areas such as joint practice development and AfL, with much evidence of these practices observed during the evaluation.
- Students who find Mathematics challenging receive support through a team-teaching setting with further support provided on an individual basis.

3. THE EFFECTIVENESS OF SCHOOL PLANNING, INCLUDING SSE, IN PROGRESSING PUPILS' LEARNING

- The mathematics teachers demonstrated a strong commitment to and promotion of the subject. A significant range of extra-curricular and co-curricular events is offered to students including a weekly maths club arranged by the mathematics department and through the school's virtual learning environment.
- The coordination of Mathematics is highly effective and agreed roles and responsibilities for the position of coordinator are clearly documented. There is much evidence that the two teachers of Mathematics work very effectively and collaborate regularly sharing teaching experiences.
- The quality of subject planning documentation is very good. To further guide and support curriculum planning, data garnered from entrance assessment, primary school information and competency based assessments should be used.
- Highly effective practice was noted in how the mathematics plan has been developed to integrate whole-school strategies including the school self-evaluation targets and how they translate into the teaching and learning of Mathematics. It is now timely that records of key decisions taken, regarding the use of common strategies to teach topics be documented as a reference for all teachers who are delivering and will in the future deliver Mathematics and support numeracy across the curriculum.

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 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;

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