

An Roinn Oideachais agus Scileanna
Department of Education and Skills

Subject Inspection in Science & Biology

REPORT

Ainm na scoile / School name	Mullingar Community College
Seoladh na scoile / School address	Millmount Road Mullingar Co. Westmeath
Uimhir rolla / Roll number	71450I

Date of Inspection: 22-10-2019



**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 Science & Biology 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.

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	22 & 23-10-2019
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 four lessons• Examination of students' work• Feedback to principal and relevant staff

School context

Mullingar Community College is a co-educational post-primary school with 303 students, and 71 in further education courses, under the patronage of Longford and Westmeath Education and Training Board (LWETB). The school participates in Delivering Equality of Opportunity in Schools (DEIS), the action plan the Department of Education and Skills for educational inclusion. It provides the Junior Cycle programme, Junior Certificate School Programme (JCSP), Leaving Certificate Vocational Programme and Leaving Certificate Applied. Currently there is no Transition Year programme.

SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS:

Findings

- The overall quality of teaching in lessons was very good.
- The quality of learning was generally good with very high levels of active inquiry-based collaborative learning activities.
- Teachers consistently used very high quality assessment for learning (AfL) strategies in all lessons; there is significant scope to provide more developmental written feedback to students.
- Whole-school provision for the sciences is very good.
- Very high quality planning for senior Biology and the junior cycle Science specification supports highly effective collaborative approaches to the sharing of teaching methodologies.
- The school participates in many co-curricular and extra-curricular activities that promote study of the sciences in the school.

Recommendations

- The biology and science departments should build on their use of an agreed strategy for written formative feedback outlined in subject planning; whilst incorporating success criteria to facilitate improvement in students' written exercises.
- Building on the strengths of the variety of AfL used in lessons, teachers should extend the development of students' oracy skills through frequent opportunities to provide substantial verbal feedback in lessons.

DETAILED FINDINGS AND RECOMMENDATIONS

1. TEACHING, LEARNING, AND ASSESSMENT

- The overall quality of teaching and learning was very good. Teachers were very well prepared for lessons. All lessons were characterised by a very high standard of lesson design which developed students' knowledge through inquiry.
- Junior cycle lessons successfully incorporated methodologies that supported development of the key skills of the Junior Cycle programme.
- A notable variety of teaching methodologies was used to support effective learning in all lessons through valuable inquiry-based tasks. Highly valuable use of problem-solving approaches successfully supported attainment in Biology. These active student-centred tasks required co-operative learning which sustained students' productive engagement. Most students' experienced enjoyment and challenged themselves throughout all lessons.
- Teachers' instruction was very well supported through the use of a wide variety of highly effective AfL strategies. These highly student-centred approaches allowed teachers to progressively challenge and support learning throughout lessons.
- The *Nature of Science* strand of Junior Cycle Science was seamlessly integrated into relevant learning and exemplified by the use of research style approaches from a variety of sources including local media. Suitable worksheets enabled students to relate the learning to solving problems in new contexts.
- The majority of tasks challenged students appropriately. In all lessons students' science and biology literacy and numeracy skills were developed through highly effective referencing, emphasis and visual displays. Ways to further challenge the more able students ought to be applied through further differentiation of tasks, where appropriate.
- Classroom management and student behaviour was very good in all lessons. A very successful personalised reward system, in one lesson, contributed to sustaining positive behaviours to an exceptionally high level. In this lesson students' well-being was pivotal in sustaining engagement and enjoyment in learning.
- The majority of students were confident in using subject-specific terminology and when communicating their understanding to the whole class. However; students predominantly offered one-word answers to teacher's questions. Opportunities exist to further develop students' skills in orally communicating their understanding and knowledge. Teachers should provide extended and explicit opportunities for students to build their confidence in speaking about science.
- Teachers provided students with very good oral feedback on their work in lessons. A review of student copybooks, experiment write ups and worksheets shows that the students are engaging in a comprehensive array of work. Teachers made use of commendable qualitative statements in a small number of samples of students' work. There remains significant scope to further embed the written formative feedback strategy outlined in science and biology subject plans.

2. SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Provision for the Sciences is very good.
- Science is compulsory for junior cycle. All science subjects are available to senior cycle students. Time allocation to the sciences is at the syllabus and specification requirements.
- The school has two laboratories and a well organised preparatory room. Chemicals have been stored appropriately. Students have access to ICT in the computer room, a valuable Science library is available after school and during lunchtimes, and can bring books home to support research and homework.
- Teachers provide very good support for a wide range of science-related extra-curricular activities. It is very positive that STEM-related activities and exhibitions are promoted and attended regularly. The school has annual success at regional and national science related competitions.
- Teachers, with the support of senior management, have availed of extensive and relevant continuous professional development opportunities. Teachers are members of the Irish Science Teachers' Association. One teacher has a leadership role to support whole school approaches to teaching and learning.
- There are very good systems in place for formal assessment through common termly examinations and continuous assessment in lessons.

3. PLANNING AND PREPARATION

- The quality of planning and preparation was a significant strength of the school and facilitated collaborative approaches to learning. Commendably the schools has recently engaged in the use of an online platform to successfully share planning, meetings and resources.
- Very good subject department planning was seen for Science and Biology. Collegiality amongst the members of the Science and Biology teams is very good and highly valued.
- The very high degree of planning and co-operative sharing of facilities commendably maximises the use of laboratory time to deliver practical lessons. All students have weekly access to a laboratory. Practical class planning is highly effective and students reported high levels of enjoyment in their practical lessons.
- The departments are well organised, and the role of co-ordinator is rotated every two to three years providing very good leadership opportunities. Minutes of meetings are kept and notably show discussion of teaching and learning, school self-evaluation targets and current needs within the department.
- Planning documents indicate substantive work has occurred recently to support implementation of the junior cycle specification. Planning documents are commendably written in terms of learning outcomes with associated teaching methodologies and assessment strategies.
- The science and biology teachers carry out an annual analysis of outcomes from certificate examinations. Commendably this analysis informs an evidence-based approach to reflection and improvement planning.

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.

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 of 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;

Appendix

SCHOOL RESPONSE TO THE REPORT

Submitted by the Board of Management

Area 1 Observations on the content of the inspection report

The Board of Management of Mullingar Community College accepts the report of the Science and Biology inspection of 22/10/2019. The Board is pleased to see that the report acknowledges the very good teaching that was evident in the class. The Board is also pleased to note that the quality of learning was good with very high levels of active inquiry-based collaborative learning activities. Furthermore, it is pleased to note that whole-school provision for Sciences is very good and that the very high-quality planning undertaken within the Science Department supports highly effective collaboration amongst the teachers.

Area 2 Follow-up actions planned or undertaken since the completion of the inspection activity to implement the findings and recommendations of the inspection.

The report recommends that more emphasis be placed on providing written development feedback to students; the integration of success criteria to facilitate improvements in student's written exercises and the development of student's oracy skills through more opportunities for substantial verbal feedback in lessons. The Board accepts these recommendations and strategies are already in place to ensure the recommendations are adopted across the curriculum so as to ensure continuous improvements in learning and teaching within our school.