



An Roinn Oideachais
Department of Education

Subject Inspection: Science & Biology

Report

REPORT

Ainm na scoile/School name	Coláiste na Mí
Seoladh na scoile/School address	Johnstown Educational Campus Johnstown Navan
Uimhir rolla/Roll number	76173K
Dáta na cigireachta/ Date of evaluation	16/04/2024
Dáta eisiúna na tuairisce/ Date of issue of report	06/06/2024

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(s) 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.

Included in this subject inspection report is a student-friendly page that provides information for the children/young people in your school about the inspection that occurred recently. It outlines for them some of the main findings and recommendations.

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.

Actions of the school to safeguard children and prevent and tackle bullying

During the inspection visit, the following checks in relation to the school's child protection and anti-bullying procedures were conducted:	
<i>Child Protection</i>	<i>Anti-bullying</i>
<ol style="list-style-type: none">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.	<ol style="list-style-type: none">1. The school has developed an anti-bullying policy that meets the requirements of the <i>Anti-Bullying Procedures for Primary and Post-Primary Schools (2013)</i> or <i>Bí Cineálta (2024)</i> and this policy is reviewed annually.2. The school's current anti-bullying policy is published on its website and/or is readily accessible to board of management members, teachers, parents and students.

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

Subject inspection

Date of inspection	16/04/2024
Inspection activities undertaken <ul style="list-style-type: none">• Review of relevant documents• Discussion with principal and key staff• Interaction with students, including focus groups	<ul style="list-style-type: none">• Observation of teaching and learning during 7 lessons• Examination of students' work• Feedback to principal and relevant staff

School context

Coláiste na Mí is a co-educational school under the patronage of the Louth and Meath Education and Training Board. The current enrolment is 810. The school offers the Junior Cycle, an optional Transition Year (TY), the Leaving Certificate and the Leaving Certificate Applied. The school is nearing the completion of a sixteen-classroom extension which includes four additional laboratories.

Summary of main findings and recommendations:

Findings

- The overall quality of teaching and learning observed was very good with instances of excellent practice.
- A positive and affirming learning environment was apparent in all lessons: students engaged very well with the learning intentions of the lessons and worked purposefully.
- Engaging, inquiry-based activities were incorporated into all lessons which allowed learners to take ownership of their learning.
- Overall, the quality of subject provision and whole-school support for junior cycle Science and senior cycle Biology was very good.
- The science department worked in a collaborative and collegial manner: the school's digital platform is used very effectively to share resources.
- Overall, the quality of planning and preparation for Science and Biology was very good.

Recommendations

- The subject department should discuss how best to provide feedback to learners on how to improve their work and encourage all learners to engage with the feedback provided.
- Teachers should plan for a comprehensive consolidation of learning, particularly at the conclusion to lessons.

Detailed findings and recommendations

1. Teaching, learning and assessment

- The overall quality of teaching and learning was very good and in some instances excellent practice was observed. In all lessons, teachers possessed very good subject knowledge and displayed enthusiasm for their subject and this served to further engage learners.
- Very clear learning intentions were shared with students, which outlined what students would know, understand and be able to do as a result of the teaching and learning activities. Lessons were well prepared and entailed a good balance between teacher and learner inputs. Students displayed very good knowledge, skills and understanding; they answered questions confidently and worked purposefully.

- Very positive and respectful interactions were observed between students and teachers. An affirming learning environment was apparent in all lessons. During discussion in a focus group, students were complimentary about their experience of science lessons. They talked about the respectful atmosphere in lessons and appreciated the range of interventions in place to support their wellbeing.
- Best use of success criteria was observed where teachers made very effective use of exemplars of best practice to encourage discussions and evaluations by the learners. This was particularly evident in lessons where samples of previous investigations were used to introduce the topic. Where appropriate, all teachers should include opportunities to co-create success criteria with students in lessons.
- Highly effective practice was observed when lesson content was clearly linked to students' prior knowledge or interests and experiences beyond the classroom. One excellent example involved the use of digital devices to carry out a short research topic as a think-pair-share exercise. Learners used a link provided by the teacher and the transition between classroom teaching and the use of the device were seamless.
- Students were provided with opportunities to work independently and collaboratively in lessons. Group work and pair work included activities such as learning games, use of mini white boards and revision games. Highly effective group work was evident where students were assigned clear tasks and had opportunities to discuss the activity with their peers. In one lesson, excellent practice was observed as student creativity was encouraged through the development of models to represent chromosomes and DNA structure and the activity was differentiated to ensure all learners could deepen their learning.
- Digital technology was used in all classrooms to support teaching and learning and was most effective when used for short inputs such as presentations, images, animations, video clips and diagrams. In the student focus group, students spoke very positively regarding their use of tablet devices and how the school's digital platform was used to share notes and homework tasks, which supported their learning.
- Teacher questioning as a means of assessment was very effective. In most instances, questions were directed and open-ended, and best practice was observed when questions were used to promote higher-order thinking with good wait time. High-quality learner outcomes were particularly well facilitated where questions were challenging and the questioning was graduated as the level of challenge in activities deepened. In these instances, the students were encouraged to develop their answers, using appropriate subject-specific terminology and by providing a sound rationale for their responses.
- A valuable focus on developing students' literacy skills was evident through good use of subject-specific language and a focus on key words, while numeracy skills were developed through graph work and calculations. This was in line with the whole-school strategy.
- Highly effective practice was observed where students were engaged in meaningful inquiry-based learning activities. When questioned, students could draw on knowledge and apply it to different contexts which encouraged them to think critically and to draw conclusions. Best practice was noted in one lesson where students compared graphically the fluctuations in social media followers with the growth curves of bacteria.
- A good range of assessment strategies were utilised. Students' work was regularly corrected, and constructive and encouraging comments were documented, which focused on progress and improvement. The science team should explore a common approach to assessment of student work and encourage students to follow up on teacher advice and feedback.
- Highly successful plenary sessions were planned to assess students' achievement of the intended learning. The most effective plenary sessions provided time for learners to reflect on their learning and teachers facilitated discussions, which promoted deeper learning. Some of the plenary sessions lacked sufficient time to ensure students could fully demonstrate their learning. Teachers should plan for a comprehensive consolidation of learning, particularly at the conclusion to lessons.
- Some sharing of practice in teaching and learning had taken place in the form of peer observation between members of the subject team. This very good practice is encouraged.

2. Subject provision and whole school support

- The overall quality of subject provision and whole-school support was very good. The three science laboratories were well organised with good displays of student-generated work and science key words and terminology.
- Appropriate timetabled provision was made for junior cycle Science and senior cycle Biology; students had very good access to the subject.
- Science teachers were fully qualified and all had attended a wide range of continuing professional development (CPD) activities.
- A very good range of co- and extra-curricular activities were provided for learners such as SciFest, Reel Science, Environmental Awareness and activities during Science Week.

3. Planning and preparation

- The overall quality of planning and preparation was very good. Individual lessons were very effectively planned and the use of the school's online platform to share plans and resources was highly effective.
- The science department had carried out extensive work on the junior cycle science plan. The order of topics was outlined in an appropriate timeframe. The plan explicitly linked learning outcomes from the *Nature of Science* and the contextual strands, which facilitated a highly effective integrated approach. The schemes of work for both Science and Biology identified the key learning for each unit of learning with a clear indication of what students should be able to do, hyperlinked to appropriate resources. This constituted work in progress, which will provide a rich resource for the science teachers in future planning.
- Planning for TY Science covered a broad range of knowledge and skill development. It was good to note that there was an appropriate focus on bridging the gap between junior cycle Science and the senior cycle science subjects.
- The subject department was highly collaborative and demonstrated a very good level of informal and formal communication. A culture of reflective self-evaluative practice was evident at subject department level. Minutes of subject department meetings indicated a broad range of items discussed, such as logistical items, planning for assessment and access to laboratories. The addition of teaching and learning to the agenda would help build on some of the highly effective practices mentioned in the plans such as the regular teach meets. Potential topics for discussion could be linked to the results of the self-evaluation questionnaires relating to 'being literate', 'being numerate' and 'working with others'.

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.



An Roinn Oideachais
Department of Education

For the students of Coláiste na Mí about their learning in **Science & Biology**

16/04/2024

What kind of inspection did your school have?



Recently, an inspector called to your school to carry out a subject inspection. The inspector visited some classes and had a talk with the principal and teachers. They also met with a focus group of students who study **Science & Biology**. The inspector wanted to hear what the focus group of students had to say about their learning experience in that subject.

What were the main findings of the inspection?



The inspector saw many things during the inspection. The main findings were:

- The quality of teaching, learning and assessment was overall very good with some excellent practice.
- Students had opportunities to work in groups and collaborate with their peers.
- Digital technology was used very well by both teachers and students to research topics and to share documentation.

What did the inspector recommend to make teaching and learning better in **Science & Biology**?



- Teachers should explore how best they can provide feedback to learners on how to improve their work.
- Teachers should discuss and share best practices in teaching, learning and assessment at their subject department meetings.

**Thank you for taking the time to read this page.
A special thank you to the students who participated in the focus group.**

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	Examples of descriptive terms
Excellent	Provision that is excellent is exemplary in meeting the needs of learners. This provision provides an example for other schools and settings of exceptionally high standards of provision.	Excellent; exemplary; outstanding; exceptionally high standard; with very significant strengths
Very good	Provision that is very good is very effective in meeting the needs of learners and is of a very high standard. There is potential to build on existing strengths to achieve an excellent standard.	Very good; of a very high quality; very effective practice; highly commendable; very successful
Good	Provision that is good is effective in meeting the needs of learners. There is need to build on existing strengths in order to address the aspects to be developed and achieve a very good standard.	Good; of good quality; effective practice; competent; useful; commendable; good standard; strengths outweigh the shortcomings; appropriate provision although some possibilities for improvement exist
Requires improvement to achieve a good standard	Provision that requires improvement to achieve a good standard is not sufficiently effective in meeting the needs of learners. There is need to address certain deficiencies without delay in order to ensure that provision is good or better.	Fair; less than effective; less than sufficient; evident weaknesses that are impacting on learning; experiencing difficulty; shortcomings outweigh strengths; must improve in specified areas; action required to improve
Requires significant improvement to achieve a good standard	Provision that requires significant improvement to achieve a good standard is not meeting the needs of learners. There is immediate need for significant action to address the areas of concern.	Weak; poor; ineffective; insufficient; unacceptable; experiencing significant difficulties; serious deficiencies in the areas evaluated; requiring significant change, development and improvement to be effective