

An Roinn Oideachais agus Scileanna
Department of Education and Skills

Subject Inspection in Science

REPORT

Ainm na scoile / School name	Edmund Rice Secondary School
Seoladh na scoile / School address	Mount St. Nicholas Carrick-On-Suir Co. Tipperary
Uimhir rolla / Roll number	65270U

Date of Inspection: 13-03-2019



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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 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 was given an opportunity to comment in writing on the findings and recommendations of the report; a response was not received from the board.

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

Date of inspection	13-03-2019
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 five class periods• Examination of students' work• Feedback to principal, deputy principal and relevant staff

School context

Edmund Rice Secondary School, Carrick-on-Suir, has a current enrolment of 283 boys. It offers the Junior Cycle Programme, an optional Transition Year (TY), the Leaving Certificate and the Leaving Certificate Vocational Programme (LCVP). All science subjects are offered as optional subjects for Leaving Certificate.

SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS:

Findings

- Overall, a very good quality of teaching and learning was observed in science lessons.
- There is scope to extend effective practice observed during the inspection, including the use of an investigation approach to learning and the provision of written, formative feedback to students with clear guidance on how to further improve their work.
- Whole-school support and timetabling for science subjects is good overall; timetabling of Leaving Certificate Agricultural Science requires review as some lessons take place outside of the regular school timetable.
- Overall, collaborative and individual planning is very good; while there are many positive aspects to the TY science programme, there are also areas for development.

Recommendations

- An investigative approach to the teaching and learning of Science should be used to a greater extent in order to enhance students' development of problem solving skills.
- Provision of written formative feedback to students should be extended across the department.
- All lessons for Agricultural Science should be facilitated within the school's timetable.
- The TY science programme should incorporate balanced knowledge and skill development from across the science subjects.

DETAILED FINDINGS AND RECOMMENDATIONS

1. TEACHING, LEARNING AND ASSESSMENT

- Overall, a very good quality of teaching and learning of knowledge and skills was observed in science lessons.
- Lessons were well structured, with individual or group student tasks interspersed with whole-class discussion.
- Learning intentions were shared with students; in one instance, students devised the learning intentions with the teacher. Such clarification of proposed learning provided a focus and a structure for the lesson. In addition, success criteria were shared which helped students understand how progress would be achieved by the end of the lesson. This is very positive.
- Active learning methodologies were used in lessons observed. They provided opportunities for all students to develop the key skills of thinking critically and verbalising their learning. These practical-based methodologies very effectively allowed differentiation for students of all levels, and the nature of the tasks facilitated students to work at a differentiated pace. This is very good.
- However, on occasion, more efficient use of lesson time and planning for differentiated learning to provide sufficient challenge for all students was recommended. In addition, it was advised that the scope of the learning intentions devised in allowing for differentiation could be interrogated further.
- Overall, students conducted their practical work in a safe and skilful manner in lessons. On occasion, students were reminded to wear their safety glasses.
- Student outcomes were very good where they were enabled to work on a topic that interested them or when they engaged in practical tasks; they worked purposefully during such activities and opportunities were provided to the students to report on their progress. In addition, the teacher provided support to further students' learning, thus enhancing their understanding and skill development.
- In one practical lesson, consolidation of learning was particularly effective where students applied the knowledge garnered. This task was undertaken in order to check if the hypotheses students had devised were proven to be correct.
- It was good to note that some use of an investigative approach to learning was observed. This approach should be used to a greater extent in order to enhance students' development of problem solving skills.
- The positive and relaxed atmosphere in lessons was conducive to students' learning. Constructive student-teacher relationships facilitated students' engagement in the learning process. Their contributions were encouraged and affirmed.
- Questioning was of a good standard with teachers encouraging of students' efforts. In particular, asking questions that encouraged critical thinking, with time allowed for students to expand on their initial answer, is very good practice.
- In some instances, written formative feedback provided students with clear guidance on how to further improve their work. This very good practice should be extended across the department.

2. SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Subject provision and whole-school support for science subjects is good. Science is a core subject in Junior Cycle and Biology, Agricultural Science and Physics are offered for Leaving

Certificate. Commendably, in an effort to provide the broadest subject choice possible, the boys can study Chemistry as an optional subject in the neighbouring girls' school. Students also study modules of Science in TY.

- Overall, timetabling of the science subjects is appropriate. Timetabling of Leaving Certificate Agricultural Science requires review as some lessons take place outside of the regular school timetable. All lessons for Agricultural Science should be facilitated within the school's timetable.
- The school should review its time allocation for Agricultural Science to ensure that all lessons are facilitated within the school's timetable.
- The two laboratories are visually stimulating with displays of students' work, projects and scientific posters.
- Resources are very well organised. Appropriate health and safety equipment is present in the laboratories. Some chemicals are appropriately segregated, while others are not. It is recommended that all chemicals be appropriately colour-coded as this would ensure correct segregation.
- It is recommended that a risk assessment approach be taken to the annual review of the health and safety statement.
- It is very positive that students' learning experiences are enhanced through co-curricular and extra-curricular science activities. Students have opportunities to participate in the BT Young Scientist competition and in SciFest. Other activities that enhance students' learning experiences include the Carrick-on-Suir Library and *Primary Schools' project* where TY students who are trained in advance, host science workshops for the primary school pupils. This is very good as it facilitates the development of a range of holistic skills in addition to scientific knowledge and skills.
- Commendably very close links have been developed with local industries and a third level institution; these links facilitate enhancement of students' learning experiences.

3. PLANNING AND PREPARATION

- Overall, collaborative and individual planning is very good.
- The approach to subject department meetings is very good, with a planned agenda, based on the time of the year, included in the templates. Minutes indicate that there is a focused approach to action planning. Teaching and learning is a standard item on agenda. This is very positive. This item could be valuably used to further develop the sharing of good practice, particularly in relation to Junior Cycle.
- To ensure successful planning for teaching, learning and assessment of Junior Cycle Science, a collaborative approach to detailed planning has been undertaken.
- Commendably the learning outcomes in the nature of science strand have been specifically linked to the learning outcomes in the contextual strands, thus facilitating an integrated approach to teaching these aspects. Building on this very good practice, it is recommended that teaching methodologies, which would include reference to key skills as appropriate, be also outlined in the plan.
- The scientific content of the TY plans should incorporate balanced knowledge and skill development across the sciences. To facilitate this, a departmental approach to planning for TY Science should take place. It is positive that TY students have the opportunity to study scientific topics that are not included in examination syllabuses and specifications.
- It is good to note that the school analyses data from the certificate examinations.
- Overall, planning for individual lessons was very good.

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;