



An Roinn Oideachais
Department of Education

Subject Inspection: Science Report

REPORT

Ainm na scoile/School name	St. Ailbe's School
Seoladh na scoile/School address	Rosanna Road Tipperary Town
Uimhir rolla/Roll number	72480W
Dáta na cigireachta/ Date of evaluation	18-01-2023
Dáta eisiúna na tuairisce/ Date of issue of report	15/03/2023

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 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 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.

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> and this policy is reviewed annually.2. The board of management minutes record that the principal provides a report to the board at least once a term on the overall number of bullying cases reported (by means of the bullying recording template provided in the <i>Procedures</i>) since the previous report to the board.3. The school's anti-bullying policy is published on its website and/or is readily accessible to board of management members, teachers, parents and pupils/students.

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

Subject inspection

Date of inspection	16-01-2023 and 18-01-2023
Inspection activities undertaken <ul style="list-style-type: none">• Review of relevant documents• Meetings with principal and subject teachers• Interaction with students, including a focus group	<ul style="list-style-type: none">• Observation of teaching and learning during four lessons• Examination of students' work• Feedback to principal and subject teachers

School context

St Ailbe's School is a co-educational post-primary school under the patronage of Tipperary Education and Training Board (ETB). At the time of the evaluation, the school had an enrolment of 569 students. It offered the Junior Cycle, the Junior Certificate School Programme (JCSP), an optional Transition Year programme (TY), the Leaving Certificate Vocational Programme (LCVP), the Leaving Certificate Applied (LCA), and the Leaving Certificate (Established) (LCE). The school participated in Delivering Equality of Opportunity in Schools (DEIS), the action plan of the Department of Education for educational inclusion.

Summary of main findings and recommendations:

Findings

- The quality of teaching, learning and assessment was good, with some examples of very good practice.
- An effective focus on students' scientific literacy was evident in most lessons.
- All lessons began by linking to students' prior learning, which allowed teachers to assess students' understanding.
- In most lessons, student activity was central to learning, and ensured high levels of engagement and motivation.
- The quality of provision and whole-school support for Science was very good.
- Planning and preparation were of a good standard; individual lessons were very effectively planned.

Recommendations

- In half the lessons observed, the intended learning for the lesson was not discussed with students, and as a result, they were unclear about the learning to be achieved. The teachers should share the purpose of lessons with students in order to provide appropriate guidance for student self-assessment.
- While units of learning were identified in the junior cycle science plan, the key learning for each unit was not clarified. The science department should adjust the subject plan to include key learning and how this could be assessed.
- The science plan did not specify how students' investigative and research skills could be incrementally developed over the three years of junior cycle. When planning, the teachers should indicate the particular scientific skills to be advanced in each unit of learning.

Detailed findings and recommendations

1. Teaching, learning and assessment

- The quality of teaching, learning and assessment was good, with some examples of very good practice.
- The teachers provided a safe, caring environment, and they consistently acknowledged and affirmed students' contributions. As a result, students were comfortable asking questions and contributing to class discussions, during which they displayed good scientific knowledge and understanding.
- An effective focus on students' scientific literacy was evident in most lessons. Teachers clearly explained the meaning of new vocabulary and used activities such as word searches, crosswords, board games, and keyword-linking activities to emphasise important scientific terms and assess student understanding.
- In half the lessons observed, learning intentions were shared with students. In the most effective lessons, teachers spent time discussing the intended learning at various stages of the lesson, enabling students to assess their own learning. Where this was not discussed with students, they were less clear about their level of achievement. Teachers should share the purpose of lessons with students in order to provide appropriate guidance for student self-assessment.
- Teachers made explicit links with students' prior learning in all lessons, which supported teachers' capacity to assess understanding.
- The laboratories had suitable scientific charts, posters and samples of students' work on display, creating an environment that was conducive to learning.
- In most lessons, student activity was central to learning and ensured that students were engaged and motivated. Discussion of these activities and their outcomes provided teachers with valuable information about the level of student understanding. In some instances, insufficient time was allocated to analysis of the results of classroom activities. Teachers should ensure that students have an opportunity to discuss the outcomes of classroom tasks in order to consolidate their learning.
- In a minority of lessons, teacher talk predominated and some students were not fully engaged. Where this occurred, teachers should ensure a balance of teacher input and student activity.
- In one very successful lesson, students were involved in inquiry-based learning. They were highly motivated and worked collaboratively, while taking ownership of their learning. During this lesson, students had the opportunity to develop their creativity, communication, critical thinking, and problem-solving skills.
- A number of effective and inclusive supports for learning were utilised in lessons, such as worksheets, diagrams, audio-visual materials, and student involvement in model making.
- During the evaluation, a focus group was held with students. They indicated that they enjoyed being involved in group tasks, classroom activities, and research projects. They found it difficult to identify reliable sources of information for their research, but stated that the science teachers provided appropriate guidance on this. They also stated that the use of the school's digital platform to share notes and homework tasks supported their learning in Science.

2. Subject provision and whole school support

- The quality of provision and whole-school support for Science was very good.
- The time allocation for junior cycle Science was above the minimum requirements of the specification, and Science was studied by all junior cycle students.
- All science teachers in the school taught the junior cycle specification. This very successful deployment of teachers ensured a wide skills base across the subject department.
- A school-designed TY science course provided all transition year students with the opportunity to experience aspects of each senior cycle science subject. This assisted them in their choice of subjects at senior cycle.
- Student access to senior cycle Science was very good. Students enrolled on the LCA programme studied modules in Science and Agriculture/Horticulture, while Agricultural Science, Biology, Chemistry, and Physics were offered to all students following the LCE.

At the time of the evaluation, uptake was not sufficient to include Physics on the timetable. This was reviewed on an annual basis.

- The school had two purpose-built science laboratories. A converted classroom was also being used as a laboratory, and plans were in place to build a new science room and preparation area. Access to the existing specialist rooms for practical investigations was very good.
- Students participated in extra-curricular and co-curricular activities, for example, participation in a national agricultural science competition, the Green-Schools programme, and an initiative linking the school with a pharmaceutical company in the community. These activities helped students to extend their learning beyond the classroom and informed them about possible careers in Science.
- At the time of the evaluation, the science, technology and art departments were engaged in a collaborative project to develop the school gardens as part of a TY biodiversity initiative.
- The school provided very good support for teachers' continuing professional learning and teachers demonstrated a notable commitment to ongoing professional development.
- Formative school reports were available to parents on four occasions per year and provided students and parents with a clear picture of the quality of student learning and the steps required to progress.

3. Planning and preparation

- Overall, planning and preparation were of a good standard. Individual lessons were very effectively planned and group activities were highly organised.
- The science department had done considerable work on the junior cycle science plan, which outlined units of learning and their dates of implementation for each year group.
- While the topics included in the units of learning were identified in the subject plan, the key learning for each unit had not been clarified. The science department should adjust the junior cycle subject plan to include the key learning associated with each unit and how this could be assessed.
- Commendably, the planned units of learning linked learning outcomes from different contextual strands with those from the *Nature of Science* strand, thus facilitating an integrated approach to the teaching and learning of investigating and researching in Science. However, the plan lacked detail on how these skills would be incrementally developed over the three years of junior cycle. When planning, the teachers should indicate the particular scientific skills to be advanced in each unit of learning.
- The teachers demonstrated a good level of informal communication when sharing resources and teaching methodologies. To further supplement this good practice, teachers should include discussion of teaching and learning on the agenda of formal department meetings. In addition, resources, linked to particular units of learning, could be shared on the school's online platform.

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 of the school's provision of each area.

Level	Description	Example of descriptive terms
Very Good	<i>Very good</i> 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 <i>outstanding</i> 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	<i>Good</i> 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	<i>Satisfactory</i> 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	<i>Fair</i> 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	<i>Weak</i> 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

Part A Observations on the content of the inspection report

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

As a department, we accept the recommendations noted during our Science inspection in January 2023. As a department we have taken the following steps to improve our planning,

- Teaching and learning is on the agenda at the start of all department meetings and discussed as a department to ensure good collaboration and student-centred learning.
- Teachers are very much aware of the importance of outlining intended learning at the start and end of all lessons and there will be a focus on this in our department going forward.
- Key learning for each unit of our junior cycle scheme of work has been included to ensure that it is clearly identified in all planning.
- Scientific skill development in junior cycle Science has been updated in our subject plan to help show how students are developing their skills incrementally over the three years of Junior Cycle.