

An Roinn Oideachais agus Scileanna
Department of Education and Skills

Subject Inspection in Science and Chemistry

REPORT

Ainm na scoile / School name	Coláiste Chríost Rí
Seoladh na scoile / School address	Capwell Road, Turners Cross, Cork.
Uimhir rolla / Roll number	625600

Date of Inspection: 03-10-2018



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agus Scileanna
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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 and Chemistry 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

Dates of inspection	02 and 03-10-2018
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 and relevant staff

School context

Coláiste Chríost Rí is an all-boys secondary school located in Cork City. It has an enrolment of 600 students. The school offers the Junior Cycle programme, an optional Transition Year (TY), the Leaving Certificate (Established) and the Leaving Certificate Vocational Programme (LCVP).

SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS:

Findings

- Overall, good quality teaching and learning was observed during the evaluation with examples of excellent practice featuring in some lessons; in a minority of instances, there was scope for improvement in some areas.
- There was evidence of the use of formative feedback on students' written work in a minority of instances, a practice that should be extended.
- The quality of subject provision and whole-school support is very good.
- Overall, the quality of departmental planning is very good.
- Comprehensive departmental summative assessment arrangements are in place, although they require review in light of the new approach to assessment in Junior Cycle.

Recommendations

- Increased use of strategies that enhance students' active engagement with the learning process, including the use of an investigative approach to teaching Science, is advised, as appropriate.
- The enhanced use of formative assessment strategies should be extended across the science department.
- In light of student engagement with the classroom-based assessments (CBAs), the school should evaluate its current practices in relation to end-of-term assessment at the end of second year and Christmas of third year in order to avoid over assessment of students.

DETAILED FINDINGS AND RECOMMENDATIONS

1. TEACHING, LEARNING, AND ASSESSMENT

- Overall, good quality teaching and learning was observed during the evaluation with examples of excellent practice featuring in some lessons. In a minority of instances, there was scope for improvement in some areas.
- Lessons observed were well structured. The lessons of highest quality were built around a clear rationale and were driven by purposeful student-centred methodologies.
- The best lessons were underpinned by effective teacher planning and preparation that resulted in: whole-class discussion and questioning being interspersed with student activities; the setting of clear, challenging tasks; and continuity and progression in students' learning.
- Learning intentions were shared with students in most lessons. On occasion, it was recommended that learning intentions be used as a tool by the teacher to differentiate outcomes for students, in order to maximise learning for all students. Where best practice was observed, the learning intentions were also used to review the lesson with the students.
- Lessons generally started with a review of previous learning. In one instance, the creation of a mindmap using students' contributions was effective in providing clear linkage with the last lesson.
- Attention was given to the consolidation of student learning during and at the end of lessons. Incisive, higher-order questioning, to encourage and progress scientific thinking, was a key strength of the lessons where best practice was observed. These teachers posed challenging questions to develop the scientific concept under consideration. Students were supported and affirmed in their efforts when answering. The use of 'mini-white boards' and strategies such as 'think-pair-share' was recommended in some instances in order to enhance students' engagement with the questioning process.
- Increased use of an investigative approach to teaching Science in both practical and theory lessons was recommended in some instances. Less use of a teacher-led step-by-step approach was advised.
- In a small number of lessons, greater independence on the part of the students when engaging with practical work or tasks would have been beneficial. For example, in one instance teacher modelling of an experimental approach in advance would have effectively scaffolded the activity. In another lesson, work on designing models could have been based on research conducted by the students.
- Student learning in the practical lesson observed was enhanced by the support and advice given by the teacher, and by appropriate whole-class discussion and questioning during a plenary session. Students collaborated and worked safely when engaged in the practical activity.
- The focus on developing students' subject-specific vocabulary was very good. Where observed, note making rather than note taking was recommended to further facilitate students' engagement with learning.
- Interactions among students and teachers were very respectful and positive. Discipline was unobtrusively maintained on the rare occasion when teacher intervention was necessary. Overall, students participated well.
- In most lessons, there was evidence of monitoring and annotation of students' written work. In a minority of instances, formative feedback was provided, an approach that should be adopted across the department. The use of peer assessment was suggested in some instances.

2. SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- The quality of subject provision and whole-school support is very good.
- Senior leadership facilitates very good learning experiences for students by appropriately deploying science teachers and by providing a broad and balanced science curriculum. Science is a core subject in junior cycle and in TY where students study modules of Biology, Chemistry, Horticulture, and Physics. Students have the opportunity to study Biology, Chemistry, and Physics for Leaving Certificate. Agricultural Science is also offered for Leaving Certificate outside the regular school timetable.
- The uptake of Chemistry for Leaving Certificate is good.
- Senior leadership should keep arrangements with regard to ensuring continuity of students' learning experience under review, specifically with regard to instances where class groups are shared between a student teacher and a permanent teacher.
- Facilities for teaching the sciences are very good. The three laboratories and the demonstration room provide visually attractive learning environments and are well resourced. The school's garden and poly tunnel provide additional learning spaces that enhance students' learning experiences in the sciences. Resources are very well organised.
- A very good approach to health and safety pertains in the science department. Appropriate health and safety equipment is present. Chemicals are appropriately segregated and colour coded in most instances. In one instance, colour coding and the segregation of the few flammable chemicals was recommended.
- Students' learning experiences are enhanced through co-curricular and extra-curricular science activities. Students have the opportunity to participate in the BT Young Scientist competition, science and chemistry quizzes and in Science Olympiad competitions and have been successful in their endeavours.
- Links with external institutions such as University College Cork and Coláiste Stiofán Naofa also enrich students' learning experiences.
- Commendably, teachers continue to develop their pedagogical and subject-specific skills through attendance at continuing professional development events.

4. PLANNING AND PREPARATION

- Overall, the quality of departmental planning is very good. The work of the department is led by the subject co-ordinator. Subject plans have been developed for the science subjects.
- The science department is constructively engaged in professional collaboration. Formal meetings are held and are supplemented with informal meetings and discussions. Building on this very good collective practice, it is recommended that teaching and learning be included on the agenda of science meetings, with a view to the sharing of effective practices.
- The science department has engaged purposefully in developing a programme of work for the new Junior Cycle Science Specification. Planning for an integrated approach to teaching the nature of science strand with the contextual strands has been undertaken. This is very good.
- The development of students' key skills has been referenced in the planning documentation. Building on this good practice, it is recommended that the plan adopt an integrated approach to assist in the focused development of these skills.
- In light of student engagement with the classroom-based assessments (CBAs), the school should evaluate its current practices in relation to end-of-term assessment at the end of second year and Christmas of third year in order to avoid over assessment of students. In

addition the department should plan for the use of a range of assessment modes, which could include assessment of students' key skills and practical competencies.

- TY science plans indicate that students study topics and undertake learning experiences outside those listed on Department syllabuses and specifications. In addition, a range of modes are used to assess student progress. This is commended.

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 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;