

An Roinn Oideachais agus Scileanna
Department of Education and Skills

Subject Inspection in Science and Chemistry

REPORT

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| Ainm na scoile / School name | North Monastery Secondary School |
| Seoladh na scoile / School address | Our Lady's Mount North Monastery Rd. Cork |
| Uimhir rolla / Roll number | 62530F |

Date of Inspection: 28-11-2017



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 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.

SUBJECT INSPECTION

INSPECTION ACTIVITIES

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| Dates of inspection | 27 and 28 November 2017 |
| 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 seven class periods• Examination of students' work• Feedback to principal and relevant staff |

School context

North Monastery Secondary School provides post-primary education for boys on the north side of Cork City and has an enrolment of 401. The school offers the junior cycle and Leaving Certificate Established (LCE) as well as the Leaving Certificate Applied (LCA) and an optional Transition Year (TY) programme. The school participates in Delivering Equality of Opportunity in Schools (DEIS), the action plan of the Department of Education and Skills for educational inclusion.

SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS:

Findings

- The quality of teaching and learning observed during lessons ranged from excellent to good, with aspects for development noted in a minority of instances.
- The highest quality lessons had a clear rationale and were driven by purposeful student-centred methodologies.
- Assessment of learning was accomplished through regular testing, questioning and occasional use of self-assessment and the provision of formative feedback; there was some scope for the use of a broader range of assessment strategies.
- Overall, the quality of subject provision and whole-school support is very good.
- While overall learning environments in the laboratories are positive and health and safety practices are generally appropriate, some work is required in these areas.
- The quality of departmental planning is very good overall.

Recommendations

- Science teachers should plan for the use of a range of assessment modes which would include the evaluation of students' practical and key skills and increased use of formative feedback.
- Work is required to upgrade aspects of the laboratory environments and recommendations made in this report in relation to health and safety practices should be implemented.

DETAILED FINDINGS AND RECOMMENDATIONS

1. TEACHING, LEARNING, AND ASSESSMENT

- The quality of teaching and learning observed during lessons ranged from excellent to good, with aspects for development noted in a minority of instances.
- The highest quality lessons had a clear rationale and structure, appropriate pace and were driven by purposeful student-centred methodologies. In these instances, students' active engagement in learning was interspersed with whole-class explanation, discussion and questioning, thus enhancing learning.
- Effective teacher planning and preparation and clear explanations ensured continuity and progression in students' learning.
- Explicit sharing of intending learning with students occurred in almost all lessons. Best practice was observed where learning intentions were used as a means of reviewing students' learning. In a small minority of instances, the planning for sufficient time for recapitulation was recommended.
- Questioning was very effectively used both to ascertain and consolidate learning. The use of strategies such as think-pair-share was recommended on occasion to enhance students' engagement with the process.
- Generally, presentation software was used to stimulate interest, provide visual images and highlight key points. Such use was particularly good when the key points were used to consolidate learning following student activity and discussion.
- Students collaborated and worked well when engaged in practical activities. Good cognisance was taken of safety practices.
- The use of an investigative approach to the teaching of Science would be further enhanced if students record their planning phases and decisions made as they proceed.
- Literacy development was a feature of junior cycle lessons, with particular focus on developing students' subject-specific vocabulary. Commendably, in one instance, an innovative approach, using visual prompts was used to introduce new terms, which the students then recorded.
- Note making rather than note taking was recommended, as such an approach would enhance students' independent learning skills and their engagement with learning.
- Interactions among students and between teachers and students were very respectful and conducive to enhancing students' wellbeing. Students' contributions were encouraged and affirmed in all lessons.
- Overall, students participated very well in lessons. Student engagement in their learning was enhanced when they were encouraged to make links and create meaning through the use of real life experiences and through linking with previous learning.
- Opportunities for self-assessment were very effectively used in one lesson.
- In the context of the new subject specification for Science, the department should plan for the use of a range of assessment modes which would include the evaluation of students' practical and key skills.

- 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.
- Learning was of very good quality when students were appropriately challenged and encouraged, especially when learning was supported through the careful design of purposeful tasks and through the creation of opportunities to provide individual support for learning.

2. SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Overall, the quality of subject provision and whole-school support is very good.
- Learning experiences are enhanced through appropriate deployment of science teachers and by providing a broad and balanced science curriculum.
- Commendably, Science is provided in all programmes. It is a core subject in junior cycle. Students can study a range of sciences including Biology, Chemistry and Environmental Science in TY. The teaching of Coding enhances students' understanding of aspects of Physics. Biology, Physics and Chemistry are offered for Leaving Certificate and Science is also provided in LCA.
- Timetable allocation for the sciences is appropriate. Timetabling double periods for the TY sciences should be considered in order to more easily facilitate the further development of students' practical skills.
- While the learning environments in two laboratories are very positive, work is required in the other laboratory.
- Notwithstanding the efforts made to enhance the learning environments, the chemical fume cupboards and many electrical sockets on the student benches are not working, and there are no electrical isolation switches in the laboratories. The school should plan to upgrade these facilities.
- A good level of information and communications technology (ICT) supports student learning. In recent years, the science department has put significant energy into enhancing the resources to support teaching and learning.
- Overall, appropriate health and safety equipment is present in the laboratories and preparation rooms. Some storage areas are well organised, but in one instance, work is required. Chemicals should be appropriately segregated and colour coded. Risk assessments for the laboratories should be included in the school's health and safety policy.
- Science teachers are very committed to enhancing students' learning experiences and outcomes. A very good level of co-curricular and extracurricular activities, including entries into the BT Young Scientist and SciFest competitions, supports students' learning of and interest in the sciences. Students have performed well in these competitions.

3. PLANNING AND PREPARATION

- Overall, the quality of departmental planning is very good.
- The science department is constructively engaged in professional collaboration. Subject department planning is well advanced and detailed schemes of work have been developed in Science, and in the TY and Leaving Certificate sciences. An integrated approach to teaching the Nature of Science Strand with the contextual strands has been planned. In addition, a

focus on literacy and numeracy has been included in the planning of each topic. This is very good practice.

- Building on the good collaborative practice that exists, the department should put teaching and learning on the agenda of meetings, with a view to formalising the sharing of effective practices.
- In light of student engagement in classroom based assessment, it is suggested that the school evaluates its current practices in relation to terminal assessment in order to avoid over assessment of students' achievement in second year and third year.
- Teachers' lesson preparation ranged from excellent to good.

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

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; |