

An Roinn Oideachais agus Scileanna
Department of Education and Skills

Subject Inspection in Science

REPORT

Ainm na scoile / School name	Inver College
Seoladh na scoile / School address	Carrickmacross County Monaghan
Uimhir rolla / Roll number	72180K

Date of Inspection: 05-10-2016



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. Learning, teaching 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.

SUBJECT INSPECTION: SCIENCE

INSPECTION ACTIVITIES DURING THIS INSPECTION

Dates of inspection	4-10-2016 and 5-10-2016
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 four class periods• Examination of students' work• Feedback to principal and relevant staff

SCHOOL CONTEXT

Inver College offers the full range of curricular programmes: the Junior Certificate, the Junior Certificate School Programme (JCSP), an optional Transition Year (TY), the Leaving Certificate, the Leaving Certificate Applied (LCA) and the Leaving Certificate Vocational Programme (LCVP). The school participates in Delivering Equality of Opportunity in Schools (DEIS), the action plan of the Department of Education and Skills for educational inclusion. The current enrolment is 310 students.

SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS:

FINDINGS

- The overall quality of teaching and learning is of a good standard.
- In all of the lessons observed, there was a very good rapport evident between teachers and students.
- Lessons had been well planned: this was evident in the resources used such as information and communication technology (ICT) and in the sequencing of learning activities.
- While some active methodologies were deployed, several of the learning activities observed should have required a more active engagement on the part of students.
- Overall planning and preparation are of a high quality: the science department works in a cohesive and collaborative manner.
- Whole-school support and provision for science subjects are very good.

RECOMMENDATIONS

- The science teachers should collectively discuss and share ideas for increasing the level of active student learning in their lessons.
- All science teachers should be involved in developing the plans for the implementation of the new subject specifications for Science.

DETAILED FINDINGS AND RECOMMENDATIONS

1. TEACHING AND LEARNING

- The overall quality of teaching and learning is of a good standard.
- Lessons had been well planned; this was evident in the resources used such as information and communication technology (ICT) and in the sequencing of learning activities.
- Students were made aware of the focus of the lessons in different ways. In some cases, specific learning intentions to be achieved during the lesson were set out at the start. A more thorough review of these learning intentions at the end of lessons would further support student learning.
- In all of the lessons observed, there was a very good rapport evident between teachers and students. Students were comfortable in answering questions, they were cooperative and lessons were conducted in good humour.
- It was good practice that all lessons contained a variety of learning activities. Students worked well both individually and in small groups.
- While some active methodologies were deployed, several of the learning activities observed should have required a more active engagement on the part of students. For example, students could be required to develop their own notes or be given some advance questions before watching video material. It is recommended that the science teachers collectively discuss and share ideas for increasing the level of active student learning in their lessons.
- A good record of students' work was evident in notebooks and workbooks. This written work had been corrected with some good use of formative comments. Students' progress was assessed during lessons through some very good use of open-ended questions.
- Practical work featured both directly and indirectly in lessons observed. Such work supported students' learning and understanding of the relevant concepts.
- Very good links with general scientific issues helped make the relevant topics interesting and engaging for students. Students were able to bring their own experiences into the classroom discussions.
- Scientific literacy was well supported through an emphasis on the language of science. A print-rich environment has been created in the laboratories and throughout the school. The new 'Maths4Life' room is a particularly vibrant learning environment.

2. SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Whole-school support and provision for science subjects are very good.
- The school provides a broad curriculum including Junior Certificate Science, and four Leaving Certificate science subjects. Science-related courses are also provided in Transition Year and in the Leaving Certificate Applied programme.
- Good resources are available to support the teaching of science subjects: the school has two well-equipped laboratories and a demonstration room. Very good ICT resources are available in all the classrooms.

- The school has commenced some upgrading of the laboratory facilities including repairs to the gas and electrical supplies. The water and sinks have been prioritised as the next area for attention. The science department could support management's commitment to the continued improvement of facilities by providing a prioritised list of any further requirements.
- The school has provided very good support for teachers' continuing professional development. The whole-school initiative on 'Instructional Leadership' is introducing new ideas into classroom practice. The introduction of the new Junior Cycle Framework has been supported with whole-school and subject-specific in-service events.
- Timetabling provision for science subjects is appropriate. At present, some lessons are of thirty-five minutes duration: plans are in place to amend the timetable in line with the requirements of the new Junior Cycle Framework.
- The level of extra-curricular opportunities for students to engage in science-related competitions, trips and event is commendable. Students, for example, have participated in the Young Scientist and SciFest competitions.

3. PLANNING AND PREPARATION

- Overall planning and preparation are of a high quality.
- The science department works in a cohesive and collaborative manner. The role of subject coordinator is shared among the staff. The team discusses issues such as teaching approaches, laboratory access, and common examinations. Appropriate actions are put in place and teaching resources are shared electronically.
- Subject planning is well supported by regular formal department meetings: a good record is kept of such planning. A significant amount of informal collaboration among the science teachers supports the ongoing work of the science department.
- The science subject plan is comprehensive and reflects what is happening in the school. Schemes of work for all year groups have been developed and common assessment is in place for first-year students. It would be worthwhile to consider extending this practice to other year groups.
- It is very good practice that the science department reviews student attainment in certificate examinations. Uptake of higher-level Science has been identified as an area for improvement and agreed actions are being implemented. For example, the introduction of a self-reflection journal is designed to give students a sense of achievement so that they will be more confident in choosing higher-level.
- The teachers collectively organise laboratory resources, such as the ordering of new stock and the creation of kits for particular topics.
- Effective planning for the new Science specifications has focused initially on the short-term and the teachers are making good use of the resources provided by the Junior Cycle for Teacher (JCT) team. However, this planning is being led mainly by the teachers of first-year classes only. In order to share the responsibility and build capacity, it is recommended that all science teachers are more involved in developing the plans for first year and subsequent years.

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 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 very good 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. Overall, learners have access to a basic level of provision. 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;