

**An Roinn Oideachais agus Scileanna**

**Department of Education and Skills**

**Subject Inspection of Science  
REPORT**

**Newport College  
Newport, County Tipperary  
Roll number: 72450N**

**Date of inspection: 16 November 2015**



**A N R O I N N | D E P A R T M E N T O F  
O I D E A C H A I S | E D U C A T I O N  
A G U S S C I L E A N N A | A N D S K I L L S**

**REPORT  
ON  
THE QUALITY OF LEARNING AND TEACHING IN SCIENCE**

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**INFORMATION ON THE INSPECTION**

<b>Date of inspection</b>	16 November 2015
<b>Inspection activities undertaken</b> <ul style="list-style-type: none"><li>• Review of relevant documents</li><li>• Discussion with principal and teachers</li><li>• Interaction with students</li></ul>	<ul style="list-style-type: none"><li>• Observation of teaching and learning during four class periods</li><li>• Examination of students' work</li><li>• Feedback to principal and teachers</li></ul>

**MAIN FINDINGS**

- The quality of teaching and learning ranged from good to very good during the evaluation.
- Lessons were very well prepared and a range of methodologies, including enquiry-based learning and information and communications technology (ICT), was employed effectively by the science teachers.
- Homework is assigned and monitored regularly and students are provided with written formative feedback in their practical copybooks.
- Science is a core subject at junior cycle and students can choose to study Agricultural Science, Biology and Chemistry at senior cycle as well as a number of science modules in the Leaving Certificate Applied (LCA) programme.
- The school has one well-resourced science laboratory and, currently, all science lessons are timetabled to take place in this laboratory.
- The science teachers' planning is good and common schemes of work are in place as well as the analysis of certification examination results.

**MAIN RECOMMENDATIONS**

- The science teachers should implement strategies to aid students in reflecting on the learning outcomes to improve their learning skills.
- The science department should assess and review the effectiveness of any literacy and numeracy strategies that they undertake.
- Management should endeavour to provide Physics as an option for senior-cycle students into the future, should teaching resources become available.
- The schemes of work should be extended to include specific teaching and learning methodologies linked to the learning outcomes and assessment modes.

## INTRODUCTION

Newport College is a co-educational school, operating under the auspices of the Tipperary Education and Training Board (ETB). The school participates in the Delivering Equality of Opportunity in Schools (DEIS) initiative. At the time of the inspection it had an enrolment of 127 students. The school provides the Junior Certificate Schools Programme (JCSP) in addition to the Junior Certificate (JC) at junior cycle. At senior cycle, the established Leaving Certificate (LC), Leaving Certificate Vocational Programme (LCVP), and the LCA programme are all offered.

## TEACHING AND LEARNING

- The quality of learning and teaching ranged from good to very good during the evaluation. Teachers had prepared very well for their lessons. Good use was made of ICT and well-chosen resources and equipment. Prior learning was reinforced effectively and learning intentions were shared appropriately with the students at the start of all lessons. Commendably, teachers used these intentions for recapitulating lessons. Students should now be encouraged to reflect on these intentions to evaluate their own learning.
- A good range of learning and teaching methodologies was employed during the observed lessons and a good balance between teacher input and student activity was provided. Practices such as clear teacher instruction, student performance of experimental work, pair work, individual student tasks, and the emphasis on enquiry-based learning were included. Where pair work is undertaken, teachers should provide students with a clear timeframe and written and oral descriptions of the assigned task, ensure that all students are given roles and enable students to provide feedback to their peers.
- Classroom management was good overall. Students were affirmed for their contributions and a good student-teacher rapport was evident. The laboratory was print-rich; charts and posters were conducive to learning. Students followed good health and safety procedures and gathered and cleared away equipment efficiently for practical lessons.
- Good differentiation strategies were used in lessons in order to ensure students of varying abilities were suitably challenged. Some effective *assessment for learning* (AfL) strategies were used during the lessons. In the main, students were engaged and the majority showed a good level of understanding of concepts and facts.
- Questioning was the main form of assessment observed; the standard of questioning was good overall. Best practice occurred where targeted, higher-order questions were well distributed across the class, the use of wait time was appropriate, and questioning was used as a means of differentiation. In some cases, teachers were observed to over-scaffold their questions: this should be avoided.
- Homework is assigned, monitored and corrected regularly. Appropriately, students were provided with written comments that identified strengths as well as guiding students towards improvement in their practical copybooks. All teachers should ensure that students write up their practical work in their own words rather than transcribing from a template.
- In the lessons observed, there was some attention given to the development of students' literacy through the explanation of keywords, and numeracy through an importance placed on percentages and scale. The science department should undertake a review of the effectiveness of any classroom strategies it currently uses to support literacy and numeracy.

## **SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT**

- Whole school support for the sciences is good. Science is a core subject at junior cycle and classes are of mixed ability. Students can choose Agricultural Science, Biology, and Chemistry from an open choice of science subjects at senior cycle. LCA students also study modules of Science in their programme. Currently, Physics is not offered to students due to available teaching resources. Management should endeavour to rectify this situation into the future, should the opportunity arise.
- The time allocation for Science is generous. However the third-year students have five single periods per week currently. Management should ensure that all year groups have a double period for practical work.
- There is one well-resourced science laboratory and the science teachers and management have worked collaboratively to ensure that all science lessons take place there. Management and teachers also ensure that the science department is well resourced.
- The science department undertakes a careful risk assessment at the start of the school year. Chemicals are stored correctly and appropriate health and safety apparatus and first-aid equipment are in place. The school has a health and safety policy; however, this policy should be reviewed regularly and ratified annually.
- Students are encouraged to participate in extra-curricular activities such as Science Week and the BT Young Scientist and Technology Exhibition. Teachers are also facilitated in attending continuing professional development (CPD) courses by senior management and are members of the Irish Science Teachers' Association (ISTA).
- The school has increased its enrolment in the past few years and now have two first-year classes. The science teachers reported that they plan to provide both these groups with common assessments at Christmas and summer. They should also consider providing a percentage score for students' attainment in practical work during the year as part of this process.

## **PLANNING AND PREPARATION**

- The quality of planning and preparation is good overall. The teachers meet regularly and minutes of these meetings are maintained. The science department also conducts an analysis of certificate examination results. This analysis should be extended to setting measurable targets and agreeing time-bound action plans in order to improve upon student learning, and the extended analysis should be discussed at department meetings.
  - While the department's planning is good overall, the science teachers should consider appointing a subject co-coordinator with assigned duties to further streamline planning. Common schemes of work are developed for Science where applicable; the schemes contain timeframes and a teacher-review section. Schemes should now be extended to include specific teaching and learning methodologies linked to the learning outcomes and assessment modes. It is also recommended that a better balance of the three sciences be taught in first year than is currently the case.
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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 of the school was given an opportunity to comment on the findings and recommendations of the report; the board chose to accept the report without response.

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