Subject Inspection of Science and Physics
REPORT

Coola Post Primary School
Riverstown, County Sligo
Roll number: 72310U

Date of inspection: 4 December 2015
REPORT
ON
THE QUALITY OF LEARNING AND TEACHING IN SCIENCE AND PHYSICS

INFORMATION ON THE INSPECTION

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MAIN FINDINGS

- The quality of learning and teaching during the evaluation was good overall.
- Teachers were well prepared for their lessons and use was made of information and communications technology (ICT) and effective methodologies including some enquiry-based learning.
- Homework is assigned, monitored and corrected with some evidence of written formative feedback seen in samples of students’ work.
- Science is a core subject at junior cycle and Physics is one of four science subjects offered at senior cycle and the uptake of Physics is good.
- While the school has two well-resourced science laboratories with a third planned to be built in the near future, students currently only have single class periods for Junior Certificate Science.
- The science department plans are of good quality but there is scope to develop further consistency and to include more detail in schemes of work.

MAIN RECOMMENDATIONS

- Teachers should avoid over-reliance on presentation software when using ICT in lessons.
- The science department should agree and adopt a policy of providing written formative feedback to students on substantial pieces of students’ work.
- Senior management should ensure that all junior cycle science class groups are provided with one double and two single periods across the week in line with syllabus guidelines.
- The science department’s schemes of work should be extended to include specific teaching and learning methodologies and assessment modes, which are linked to student learning outcomes and schemes should contain a teacher review section to inform future planning.
INTRODUCTION
Coola Post Primary School is co-educational and operates under the auspices of the Mayo, Sligo, and Leitrim Education and Training Board. At the time of the inspection it had an enrolment of 453 students. The school provides the Junior Certificate and the established Leaving Certificate as well as an optional Transition Year (TY) programme, the Leaving Certificate Vocational Programme, and the Leaving Certificate Applied programme.

TEACHING AND LEARNING
• The quality of learning and teaching in Science and Physics during the evaluation was good overall.
• Lessons were well prepared and good use was made of the resources and equipment available. The good practice of sharing learning intentions with students was observed in some lessons. All teachers should consistently use learning intentions to focus students’ attention and to recapitulate lessons. Teachers should also facilitate students to reflect on the learning intentions in order to evaluate their own learning.
• The good practices observed in lessons included recapitulation of prior learning, clear teacher instruction, student performance of experimental work, structured group work and pair work, individual student tasks, student demonstrations and the use of mind maps. The best lessons used a variety of methodologies and had a good balance between teacher instruction and student activity. Where ICT was used there was an over-reliance on using presentation software. This methodology is teacher-centred, can lead to passive learning and should be avoided. Enquiry-based methodologies were also used in some lessons. Teachers of science should place increased emphasis on investigation and enquiry learning in as many lessons as possible in order to promote discovery learning.
• Classroom management was very good overall and student behaviour was exemplary in the lessons observed. A positive student-teacher rapport was evident throughout lessons and students generally showed a good level of understanding of concepts and facts.
• Science and Physics classes are of mixed ability and some differentiation strategies were observed in all lessons. However, the science department should ensure that all methodologies are differentiated carefully to ensure that they cater for students of all abilities and maximise students’ engagement in learning.
• Some assessment for learning (AfL) strategies were observed and questioning was good overall. Good practice in questioning occurred when questions were differentiated and distributed across the student cohort and students were given sufficient time to formulate a response. In a number of cases, an overuse of chorus responses or teachers answering their own questions were observed and these practices should be minimised or avoided.
• Homework was assigned, monitored and corrected and some evidence of teachers’ comments was seen in samples of students’ work. Teachers should vary the type of homework given and avoid an over-reliance on written questions and revision exercises. The science department should also agree and adopt a policy of providing written formative feedback to students on substantial pieces of students’ work.
• There was attention given to the development of students’ literacy through the explanation of difficult terminology, and to students’ numeracy through the importance placed on units. 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 in the junior cycle and is compulsory in TY. Physics is one of four science subjects offered to students in an open choice for the Leaving Certificate. The uptake of Physics is good and is currently above the national average.

- While the time allocation for Science and Physics is in line with syllabus guidelines, students currently have four single class periods for Science. Senior management should change this practice and ensure that Science is provided with one double and two single periods across the week in each year group. Physics lessons currently have one single and two double periods during the week. If resources allow, management should consider changing one of the double periods into two single periods to allow students to have more contact days with the subject.

- The school has two well-resourced science laboratories to which students have good access for practical work. As a result of collaboration amongst the science teachers and senior management, most science lessons occur in these laboratories. A third proposed laboratory, which is to be built soon, should improve this access. All laboratories have appropriate safety equipment and chemicals are stored correctly. The school has an up-to-date health and safety policy; however, teachers should ensure that risk assessments of the laboratories are undertaken annually.

- Teachers are facilitated in attending continuing professional development (CPD) courses by senior management and are members of the Irish Science Teachers’ Association (ISTA). TY students are involved in performing science experiments for local primary school pupils, and students are also encouraged to participate in extra-curricular activities such as Science Week and the BT Young Scientist and Technology Exhibition.

- Common assessments take place at Christmas and summer. All science teachers should consider providing students’ overall results in these examinations with a percentage for their attainment in practical work during the term.

PLANNING AND PREPARATION

- The quality of planning and preparation is good overall. A co-ordinator is in place and this position is rotated periodically. The science teachers should agree on assigned duties for the co-ordinator role and review these when necessary. Formal meetings are held each term, minutes of these meetings are maintained and the CPD undertaken by teachers is also filed.

- The science teachers conduct an analysis of student performance in certificate examinations. This analysis should be extended by the setting of measurable targets and time-bound action plans to improve upon student learning and outcomes. Any strategies devised should be discussed at all department meetings and recorded in the minutes.

- There is a need for consistent plans across all year groups. Schemes of work should be extended to include specific teaching and learning methodologies and assessment modes linked to student learning outcomes. The plans should also include a review section in order to inform future planning.
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.