An Roinn Oideachais agus Scileanna

Department of Education and Skills

Subject Inspection of Science and Physics
REPORT

Saint Anne’s Community College
Killaloe, County Clare
Roll number: 70901K

Date of inspection: 13 May 2014
REPORT
ON
THE QUALITY OF LEARNING AND TEACHING IN SCIENCE AND PHYSICS

INFORMATION ON THE INSPECTION

<table>
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<th>Dates of inspection</th>
<th>12 and 13 May 2014</th>
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| Inspection activities undertaken | • Observation of teaching and learning during eight class periods  
• Examination of students’ work  
• Feedback to principal, deputy principal and teachers |
| • Review of relevant documents  
• Discussion with principal and teachers  
• Interaction with students |

MAIN FINDINGS

• The quality of teaching and learning was mostly very good.
• Lessons generally had good pace and structure and most lessons used a very good variety of teaching and learning methodologies, including some that supported assessment for learning (AfL) and the development of students’ literacy skills.
• Homework is being assigned and monitored in all lessons; some formative feedback was seen in samples of students’ work.
• Science is an optional subject and the majority of students study it at junior cycle, while at senior cycle the uptake of Physics is good.
• The school has three well-resourced and well-presented science laboratories to which students have good access for their practical lessons.
• Common schemes of work have been developed for first year students.

MAIN RECOMMENDATIONS

• The science department should adopt a strategy of providing written formative feedback on substantive pieces of students’ work as a means of encouraging students to reflect on and to improve the quality of their work.
• A flame-proof cabinet is urgently needed for the storage of flammable materials.
• The science department should produce common schemes of work for all year groups in order to allow for common assessments at various times throughout the year.
• The subject department’s schemes of work should be further developed to include learning outcomes for topics, linked to specific teaching methodologies, and a teacher-review section to improve their usefulness as detailed working documents.
INTRODUCTION

St Anne’s Community College is a co-educational school in Killaloe, operating under the auspices of the Limerick and Clare Education Training Board (ETB). At the time of the inspection it had an enrolment of 543 students. In addition to Junior Certificate, the school offers students the established Leaving Certificate, the Leaving Certificate Vocational Programme (LCVP) and an optional Transition Year (TY) Programme.

TEACHING AND LEARNING

• The quality of teaching and learning was very good in most lessons. A good variety of active learning methodologies was employed within lessons and a very good balance between teacher instruction and student activity was observed. There was evidence that an investigative approach to teaching Science is practised when new topics are being introduced to students.

• During the evaluation, sixth-year students of Physics were observed to be using learning outcomes to self-reflect on their learning to date. This good practice should be extended to all year groups and in conjunction with this, teachers should also provide students with clear statements of the learning intention at the beginning of lessons.

• Lessons had been well prepared and generally had good pace and structure to them. Teachers had access to a shared server where good information and communication technology (ICT) resources are stored. The laboratories were print-rich and contained a mixture of scientific posters and students’ work. However, this was not the case in one lesson that took place in a general classroom.

• Classroom management was very good. Classroom atmosphere was conducive to learning. Students were engaged and challenged during lessons and they were affirmed for their contributions. This led to a very good student-teacher rapport.

• Questioning was a significant strength of the lessons observed. Good use of AfL techniques was evident during questioning. Students were asked to design differentiated questions that were to be answered by their peers and good use was made of show-me boards during group activities. In the main, questions were directed to named students and in many classes, particularly revision lessons, very good use of higher-order questions was observed.

• All classes are of mixed ability and good differentiation strategies were used in lessons. Students showed good knowledge of topics being taught and good structures were put on group work with students being assigned different roles.

• Homework was assigned and monitored in all lessons. Good use was made of peer corrections and students re-correcting their own errors. Some formative feedback was seen in samples of students’ work. The science department should adopt a strategy of providing written formative feedback on substantive pieces of students’ work as a means of encouraging students to reflect on and to improve the quality of their work.

• The teachers in St Anne’s Community College have devised a hand-out for students on terminology in examination papers as well as instructions on dictionary use. Revision lessons used keywords to assess students’ understanding of these terms. There was a strong emphasis on units of measurement in Physics and in science lessons in an effort to support numeracy skills.
SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Science is an optional subject and the majority of students study it at junior cycle. It is compulsory in TY where students experience a good balance of the science disciplines. Four science subjects, including Physics, are offered as optional subjects for Leaving Certificate. The uptake of Physics is good.

- The time allocation for Junior Certificate Science is in line with syllabus guidelines. Currently, only one double period is offered to TY Science students. In sixth year, one single period and two double periods are provided for the sciences, while the more optimal practice of three single periods and one double is provided in fifth year. Should resources allow it, management should try to increase the allocation of time in TY and review the current timetabling practice in sixth year to ensure class contact on more days throughout the week.

- Through teacher collaboration, all classes have good access to the three well-presented laboratories for practical work. Management and teachers ensure that the science department is well-resourced and ICT facilities are good. First aid facilities are available in the laboratories. However, a flame-proof cabinet is urgently needed for the storage of flammable materials.

- Teachers’ attendance at professional development courses is facilitated and whole-staff training has been provided on relevant topics such as AfL and the use of ICT in teaching and learning. Teachers encourage and assist students in taking part in a number of extra-curricular and co-curricular activities such as Science Week, visiting speakers and participation in the BT Young Scientist and Technology Exhibition.

- Common schemes of work are prepared by the science department for first year students, allowing for common assessments to take place. The science department should produce common schemes of work for all year groups in order to allow for common assessments at various times throughout the year. When reporting to parents at junior cycle, the students’ overall result includes a percentage for their attainment in practical work during the term.

PLANNING AND PREPARATION

- A subject co-ordinator is appointed on a voluntary basis and this role is rotated periodically amongst the science teachers. Formal department meetings are held each term and minutes are kept of some meetings. It is recommended that a consistent approach to record-keeping be adopted during these formal meetings.

- Individual schemes of work, and some common schemes are available. However, additional work is required to develop collaborative schemes for each year group and these should include learning outcomes for topics, linked to specific teaching methodologies, and a teacher-review section. This increased detail would improve their usefulness as working documents.

- The subject department undertakes an analysis of certificate examination results and compares these with national averages every year. This good practice should be used to create an action plan and strategies for improvement so that future planning in the department can be enhanced.
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 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.