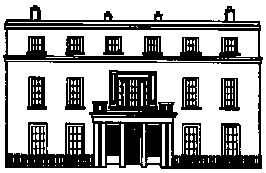
An Roinn Oideachais agus Scileanna

Department of Education and Skills

Subject Inspection of Science, Biology and Agricultural Science
REPORT

Boherbue Comprehensive School
Boherbue, County Cork
Roll number: 81009B

Date of inspection: 3 December 2014



AN ROINN OIDEACHAIS AGUS SCILEANNA | DEPARTMENT OF EDUCATION AND SKILLS

REPORT
ON
THE QUALITY OF LEARNING AND TEACHING IN SCIENCE, BIOLOGY AND AGRICULTURAL SCIENCE

INFORMATION ON THE INSPECTION

Dates of inspection	1 and 3 December 2015
Inspection activities undertaken • Review of relevant documents • Discussion with principal and teachers • Interaction with students	• Observation of teaching and learning during eight class periods • Examination of students' work • Feedback to principal and teachers

MAIN FINDINGS

- The quality of learning and teaching observed in the majority of lessons was of a high standard with significant scope to improve the learner experience and the quality of delivery in one lesson.
- In the majority of lessons, the learning intentions were shared with the students.
- The science facilities are well organised and maintained by the science team.
- All facilities are Information and Communication Technology (ICT) enabled.
- In the main, there was positive learning environment with good affirmation of student effort in lessons.
- There was clear evidence of planning and preparation for the lessons observed.

MAIN RECOMMENDATIONS

- The recommendations made in the teaching and learning section should be used to build on existing practice of a high standard and develop practice, where necessary.
- The safe storage of chemicals should be enhanced through colour coding all chemicals for ease of safe storage.
- The subject plan should include a section on the area of practical work.

INTRODUCTION

Boherbue Comprehensive School is a co-educational school providing post-primary education to 337 students. The school serves a mainly rural student population. It offers Junior Certificate and an optional Transition Year (TY) programme. At senior cycle, students can choose between the Leaving Certificate and the Leaving Certificate Vocational Programme (LCVP).

TEACHING AND LEARNING

- The quality of learning and teaching observed in the majority of lessons was of a high standard with significant scope to improve the learner experience and the quality of delivery in one lesson.
- The majority of lessons were well prepared and planned. Where practice was of a high standard, content delivery was systematic and logical; the learners were guided through the material at an appropriate pace, with learning intentions shared with the students and some good use of "learn checks" also observed. It is recommended that a defined lesson summation be included to aid consolidation of learning for the student.
- Teacher delivery was a feature of all lessons. Best practice was when this was not the main methodology used and where student participation was encouraged and maximised through the types of activities organised, resulting in positive student engagement. Co-operative and collaborative learning opportunities were observed in some lessons. To enhance the benefits of these strategies, where possible, changes to the room layout should be considered. In addition, the students understanding of how to engage more effectively with these strategies, should also be explored by the team.
- There were good linkages with prior learning and effective integration of course areas in most lessons. This enabled the learners to make valuable connections in their understanding.
- Teacher use of subject-specific language and key terms was a feature in some lessons. In some instances, this vocabulary was written on the board or chart with the learner encouraged to use and record it during the lesson. This practice should be a feature of all lessons.
- A range of visual and written materials, including ICT, was used to communicate lesson content. ICT was most effective in supporting student learning when it was incorporated throughout the lesson to highlight salient points and provide visual images for the learner. The use of a remote electronic clicker will facilitate teacher movement around the room, while using this resource. The clarity of other visual supports, including overhead transparencies used, should be reviewed to ensure student understanding is not compromised.
- In some lessons, students were required to record material presented in their note-copies. Sufficient time should be allowed for this task with monitoring by the teacher required to ensure accuracy of recording by the students.
- The lessons were effectively managed. In the main, there was a positive rapport between teacher and student with affirmation of student effort a feature of the majority of lessons observed.
- Practical activities were observed in some lessons, with evidence of more completed and recorded by the students. The student learning experience was positive and supportive of

topic understanding when: there was sufficient time allowed for the practical task; clear instructions were delivered and correct sequencing and organisation of the task were considered. This approach is to be encouraged. In addition, the merits of a more enquiry-based approach, should also be considered. There was monitoring of students' practical written records by the teachers. All students should complete any corrections advised by the teacher. Students are awarded marks for their practical written records as part of their overall grade, which is good practice.

- Questioning was used to elicit students' responses and enhance their engagement with the topics. Both lower-order and higher-order questioning was noted. Some probing techniques were also used on occasion and could be utilised more to ascertain learning. In addition, the use of chorus answering should be avoided as it will not ascertain individual student learning in the classroom.
- Homework was assigned with previous work corrected in many of the lessons observed. This good practice should feature regularly in all lessons. In some instances, the orally delivered correct answer may also need to be written up for students to visualise. Students were encouraged to use their journal to record homework in the majority of lessons observed.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Science is a core subject in junior cycle, with science subjects compulsory in TY, and four science subjects optional at senior cycle. Option bands in senior cycle are based on students' preferences, which is good practice.
- Over the three years of junior cycle, there is an appropriate time allocation to science. Current timetabling allows one double lesson in first year. This arrangement should be kept under review with continuity of learning considered. An appropriate number of periods, including double periods are allocated to both Biology and Agricultural Science.
- The school has three well-equipped, maintained and presented laboratories. There are preparation and storage rooms associated with the laboratories. Some equipment is organised by topic, with plans in place to complete this task. The storage of chemicals should be reviewed. It is recommended that the safe storage of chemicals should be enhanced through colour coding all chemicals for ease of safe storage. Students have good access to the laboratories and access is rotated, if required.
- The science team has participated in some professional development activities. Regular involvement in the area of professional development is encouraged. The school encourages and supports teachers' involvement in subject associations and further study.
- Assessment practices in the school involve class tests, with assessment points at Christmas and summer. Pre-examinations are also held yearly. Teachers keep records of all assessment outcomes, which is good practice.
- A range of activities has contributed to the learning experience of students. These include listening to visiting speakers, participation in, and attendance at, Science Week and the BT Young Scientist competition, going on fieldtrips and industrial visits and participation in science quizzes. The commitment of the science team is acknowledged.

PLANNING AND PREPARATION

- A subject department structure is in place with the role of subject co-ordinator rotated among the team, which is good practice. Minutes of formal meeting are recorded. The inclusion of an evaluative and review component in the meeting structure should be considered by the team. It is acknowledged that many informal meetings take place on a regular basis.
- Planning documents have been developed for all the sciences. State examination results are analysed annually. The findings should be used to inform future planning and classroom practice. It is recommended that the department plan should include a section on the area of practical work. Resource implications and planning for them should also be considered as part of this work.

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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