

**An Roinn Oideachais agus Scileanna**  
**Department of Education and Skills**

**Subject Inspection of Science, Biology and Agricultural  
Science  
REPORT**

**Christian Brothers Secondary School  
Mitchelstown, County Cork  
Roll number: 62420V**

**Date of inspection: 11 November 2014**



**AN ROINN | DEPARTMENT OF  
OIDEACHAIS | EDUCATION  
AGUS SCILEANNA | AND SKILLS**

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

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**INFORMATION ON THE INSPECTION**

<b>Dates of inspection</b>	10 and 11 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 eight class periods</li><li>• Examination of students' work</li><li>• Feedback to principal and teachers</li></ul>

**MAIN FINDINGS**

- The quality of learning and teaching observed in the majority of lessons was of a high standard with satisfactory practice observed in some lessons.
- Good use of key words to support literacy was observed in some lessons.
- A positive learning environment was observed with good affirmation of student effort.
- All facilities are Information and Communication Technology (ICT) enabled.
- The school is developing another science space in addition to its current facilities.
- 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 the high standard of practice observed, and develop practice where necessary.
  - The safe storage of chemicals should be enhanced through colour coding all chemicals for ease of safe storage.
  - More detailed plans need to be developed for Transition Year (TY).
  - The subject plan should include a section on the area of practical work.
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## **INTRODUCTION**

Christian Brothers Secondary School is a voluntary secondary school providing post-primary education to 333 boys. The school serves both an urban and rural student population. It offers Junior Certificate and an optional TY programme. At senior cycle, students can choose between the Leaving Certificate, the Leaving Certificate Vocational Programme (LCVP) and the Leaving Certificate Applied programme (LCA).

## **TEACHING AND LEARNING**

- The quality of learning and teaching observed in the majority of lessons was of a high standard with satisfactory practice observed in some lessons. Where practice was of a high standard, effective routines had been established, lesson pace was good with content delivery being systematic and logical. Strategies used to support student learning included: the sharing of the learning intentions at the start of the lesson; the development of good linkages with prior learning; the use of learn checks during the lesson; the use of assessment for learning strategies in some lessons; the highlighting, recording and explanation of subject-specific terminology and key words during the lesson. It is recommended that this good practice be extended to all lessons. In addition, it is also recommended that a defined lesson summation should form part of the lesson structure to aid consolidation of learning for the student.
- Student engagement was optimal when there was a range of methodologies observed, where teacher delivery was not dominant and where students were more active in their learning, resulting in a balance between teacher and student inputs. Opportunities for collaborative and co-operative learning were provided in some lessons. Further development of this is encouraged. Where possible, changes to room layout, in this context, should be considered.
- Practical activities occurred in some lessons; this supported topic understanding for the students. When group size was small, more active student participation was ensured. This should be considered by the team, especially when planning future resourcing. Some practical activities were very much teacher led. The merits of a more enquiry-based approach, which will challenge and allow students to explore, observe, analyse and deduce information and then use and link it to information delivered during whole class discussion, should be considered. Such an approach offers another opportunity for the teacher to interact with the learner in order to further challenge the student and promote targeted discussion and questioning.
- Good use was made of a range of visual and written materials to communicate lesson content in the majority of lessons. ICT resources are located in all laboratories and were used effectively in some lessons. The further development of the use of this resource is recommended. In support of this, the further development and use by all of a shared science ICT folder is also recommended. Board-work and posters were used to illustrate new material and highlight key points in some lessons. Further consideration should be given to both the font size and the amount of material displayed, to ensure their effectiveness for student learning.
- Questioning occurred in all lessons observed, with both lower-order and higher-order questioning noted. Probing techniques were also used on occasion to good effect. These 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. Monitoring of homework was observed in some lessons and should be done consistently by all teachers. Some student work included comments for improvement from the teacher. This is very positive and is to be encouraged. Students were encouraged to use their journal to record homework in the majority of lessons.
- The lessons were effectively managed; this was supported by teacher movement around the room during the majority of lessons observed. A positive rapport was evident between teacher and student with affirmation of student effort a key feature of the lessons observed.

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

- Science is a core subject in the junior cycle with four science subjects optional at senior cycle. Option bands in senior cycle are based on students' preferences, which is good practice.
- An appropriate number of periods are allocated to the subjects evaluated with double periods provided in order to facilitate practical work.
- 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 the teacher's involvement in their subject associations.
- The school has two laboratories. There is one preparation and storage room in addition to the laboratories. The school is in the process of converting a classroom near the laboratories into an additional science space. The organisation of materials and equipment is varied. An audit of existing resources is required and a strategy should be devised, in consultation with management, to organise by topic and develop them over time. In addition, it is recommended that the safe storage of chemicals should be enhanced through colour coding all chemicals for ease of safe storage.
- The team should continue developing cross-curricular linkages between other subjects and the sciences. Participation in various quizzes, field trips, industrial visits and the hosting of visiting speakers all contribute to the learning experience of the student. The commitment of the science team in this regard is acknowledged.

### **PLANNING AND PREPARATION**

- Management facilitates the planning process by providing time for science department meetings each term. A subject co-ordinator is in place. This role is 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. In addition, it is acknowledged that many informal meetings take place on a regular basis.
- State examination results are analysed annually, with the findings used to inform subject development, which is good practice.
- Significant work has occurred in the development of the current plans, with a range of approaches adopted. The team should endeavour to create all planning documents using

the ICT facilities, with the approach taken in some plans used as a guide. More detailed plans need to be developed for TY; these should document the learning outcomes of the chosen topics for the students. In addition, it is recommended that the department plan should include a section on the area of practical work.

- Lessons were well prepared and planned. During planning, the team should consider greater use of differentiation to support learners in mixed-ability settings.

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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 in writing on the findings and recommendations of the report, and the response of the board will be found in the appendix of this report.

# **Appendix**

**SCHOOL RESPONSE TO THE REPORT**

**Submitted by the Board of Management**

**Area 1 Observations on the content of the inspection report**

Fair and objective report with some useful suggestions and recommendations

**Area 2 Follow-up actions planned or undertaken since the completion of the inspection activity to implement the findings and recommendations of the inspection.**

Staff in-service on Fri 13<sup>th</sup> March on Assessment for Learning.