

**An Roinn Oideachais agus Scileanna**

**Department of Education and Skills**

**Subject Inspection of Science and Biology  
REPORT**

**Killarney Community College  
New Road, Killarney, County Kerry  
Roll number: 70450D**

**Date of inspection: 19 September 2011**



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

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

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**INFORMATION ON THE INSPECTION**

<b>Date of inspection</b>	19 September 2011
<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, deputy principal and teachers</li></ul>

**MAIN FINDINGS**

- Some good practice was evident in the teaching and learning observed.
- Students are awarded a percentage of their assessment grade based on practical work completed which is a positive approach.
- Significant work has begun on the organisation of the preparation area.
- The good practice of appointing a science co-ordinator is in place, and the position is rotated among the science team.
- Available Information and Communication Technology (ICT) was used effectively in some of the science lessons observed.
- Good planning documents for Science and Biology have been formulated.

**MAIN RECOMMENDATIONS**

- The increased use of an enquiry-based approach to the teaching of science subjects is recommended.
- Science resources required for mandatory investigations should be placed in specific boxes or in designated areas to facilitate easy and efficient use.
- A fire alarm should be installed in the preparation area and the ventilation system should be improved.
- The good planning documents developed should be used as a framework for subject delivery in all year groups, with changes to the plan occurring after review by the science team.

## **INTRODUCTION**

Killarney Community College is a co-educational school under the auspices of County Kerry Vocational Education Committee (VEC). The school is currently experiencing a growth in enrolment with 314 students attending the school. Science is a core subject in junior cycle at Killarney Community College. Biology is an optional subject in senior cycle.

## **TEACHING AND LEARNING**

- Some good practice was evident in the lessons observed. To enhance the overall quality of teaching and learning, this good practice should be extended to all lessons. For example, the sharing of the intended learning objectives with the students at the start of each lesson is strongly encouraged. Further strategies to support student learning which might be incorporated into lessons could include: the use of learn checks; the recording of key learning points and key words on the board or on posters, or using ICT; the pacing of the lesson in order to allow time for lesson review as the lesson nears completion and the use of differentiation.
- A review of previous learning occurred in most lessons. This is good practice. Teachers should ensure that all student books and notes are closed during this activity to enable a true assessment of student knowledge.
- Handouts and ICT were used to highlight important points and provide appropriate visual support, which enhanced learning.
- Where facilitated, students were actively engaged in group work and practical activities. Students worked enthusiastically, in small groups, and had a definite focus for their practical activity; however adequate time for completion and clean up should be planned. Student participation in the observed teacher demonstration also helped student understanding. The inclusion of more student-centred methodologies which enable the learners become more active in their learning is encouraged. A balance between teacher and student activity and participation should be central to all lessons.
- The majority of questioning centred on the recall of information. Use of higher-order and more probing questioning to help ascertain students' learning is encouraged.
- The science team should develop the students' capacity to undertake and write up practical activities from their own experience of the task. The increased use of an enquiry-based approach to the teaching of Science subjects is recommended.
- Classes were well managed. Teacher-student rapport was good and there was a positive atmosphere present in all lessons.
- There was print material present, with some of student origin, which is good. This display should be updated regularly to reflect and support current learning.
- Homework was assigned and previous work corrected in lessons. This good practice should feature regularly in all lessons. Monitoring of student practical copies was noted. Follow-through on students' corrections should occur to ensure accuracy. The very good practice of awarding students marks for their practical copies as part of their overall grade in the subjects is acknowledged.

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

- Whole-school support for the Sciences is good. All students study Science in mixed-ability classes. Biology and Chemistry are provided as optional subjects in senior cycle. Due to the numbers in senior cycle, years one and two of Leaving Certificate are currently being taught in the same class for each of the senior cycle science subjects. It is hoped that separate classes will be established in the next academic year as a result of increased enrolment.
- One single and one double lesson are allocated to Science in first year. The curriculum guidelines recommend two single lessons and one double lesson weekly. In second and third year, students receive appropriate tuition time. The time allocation for Biology is within curriculum guidelines.
- The school has two laboratories and one demonstration room. Teachers have very good access to the facilities with the majority of science lessons occurring in the laboratories which is very good practice.
- The science team, with the aid of a technician, is currently in the process of reorganising chemicals, materials and equipment in all science facilities. This should proceed to completion in a timely fashion with the laboratory spaces set up for junior science. Chemicals should be colour coded and stored in accordance with safety guidelines. An audit of remaining materials, chemicals and equipment should then occur, with the results used to inform future resource requirements. Service and repair of relevant equipment should be organised with broken and obsolete items disposed of in the appropriate manner. Procedures to track usage and breakages should also be set up. The development of more effective storage strategies; to include the organisation of student's practical activities into topic specific boxes, is recommended.
- It is recommended that a fire alarm be installed in the preparation area and also that ventilation be improved.
- Students' progress is monitored by the teacher through regular tests, which is good practice. In addition, there are four main assessment points yearly when the results are collated electronically and parents informed of the students' progress, which is very positive. Senior management and the school's academic council also use this information to monitor each student's academic progress. The science team should plan for common assessments, at two of the main assessment points. In this way, standardisation of learning across the year groups can be ensured.

## **PLANNING AND PREPARATION**

- A subject co-ordinator is appointed. This role is rotated among the team, which is good practice. Minutes of department meetings are retained.
- A common programme of work for each of the science programmes has been devised. Topics are listed on a yearly basis and linked to teaching and learning methodologies and the resources to be used. This informs the teaching plan for each year group. It is recommended that the plan be used, and not deviated from, unless agreed as a result of a review process by the team.

- Building on the planning work to date, the team should now consider including learning outcomes as part of their current programmes. The area of self-evaluation strategies in the classroom for both the teacher and the learner could also be explored and the findings used to inform future lesson planning and curriculum delivery.
- Planning was evident in all lessons. The required materials and equipment necessary for each lesson were present.

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.