

An Roinn Oideachais agus Scileanna

Department of Education and Skills

**Subject Inspection of Science
REPORT**

**Saint Vincent's Secondary School
Saint Mary's Road, Cork
Roll number: 62590A**

Date of inspection: 11 February 2016



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

REPORT ON THE QUALITY OF LEARNING AND TEACHING IN SCIENCE

INFORMATION ON THE INSPECTION

Date of inspection	11 February 2016
Inspection activities undertaken <ul style="list-style-type: none">• Review of relevant documents• Discussion with principal and teachers• Interaction with students	<ul style="list-style-type: none">• Observation of teaching and learning during four class periods• Examination of students' work• Feedback to principal and teachers

MAIN FINDINGS

- The quality of teaching and learning in lessons observed was very high, and all lessons were student-centred.
- The use of the camera to record and display students' practical activity was particularly effective in consolidating learning.
- Differentiation was facilitated in all lessons observed and teachers were very aware of the individual needs of the students.
- Particularly noteworthy is the use of a different approach to assessing students' learning in TY.
- Whole-school support for the sciences is very good.
- Subject department planning is very good and preparation for lessons was of a very high quality.

MAIN RECOMMENDATIONS

- Where recommendations were made, they related to identification of student roles as they engage in collaborative activities and the use of 'think-pair-share' in question answering.
 - In the context of syllabus reform, it is recommended that the department includes teaching and learning on the agenda of science meetings, with a view to formalising the sharing of effective practices.
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INTRODUCTION

St Vincent's Secondary School is an all-girls, voluntary secondary school on the north side of Cork City. It offers the following programmes: Junior Certificate, Transition Year (TY), the established Leaving Certificate and the Leaving Certificate Vocational Programme (LCVP), to its current enrolment of 226 girls.

TEACHING AND LEARNING

- The quality of teaching and learning in lessons observed was very high.
- A very positive and supportive learning environment, that was student-centred and inclusive, pertained in all lessons observed.
- Lessons were well structured. Students had a clear understanding of the learning that was to take place in lessons.
- Pair or group tasks or student practical activities were a very positive feature in all lessons observed. Classroom management was very good and lesson activities were very well organised. Overall, students worked well together and where they used scientific equipment, they did so competently and safely.
- On one occasion, in order to further promote collaboration among some students, it was suggested that there was a need to pre-identify different roles for members of the group or pair in order for them to obtain optimum benefit from the activity.
- Questioning, both higher-order and lower order, was used effectively to develop lesson content and to ascertain learning. In one instance, the use of a think-pair-share approach was recommended for student answering of questions to facilitate the active engagement of all students.
- Plenary sessions were used very effectively in all lessons to consolidate student learning. In one lesson, the use of the camera to record and display students' practical activity was particularly effective in consolidating learning, in addition to adding to the enjoyment of the lesson.
- Teachers were very aware of the individual needs of the students. Differentiation was facilitated in all lessons observed through, for example, students individually completing charts or worksheets with the assistance of the teacher as needed. In addition, in one instance, individual students were provided with a list of key terms in advance to assist them in their work.
- Very good awareness of the development of students' literacy skills was evident where students were encouraged to use the scientific terms they were learning both orally and in writing. In addition, development of students' literacy skills was further facilitated by giving homework that was based on the spelling of those scientific terms.
- In the lessons observed, teaching and learning approaches were used which facilitated the development of students' investigative and reasoning skills. This is very good.
- Students displayed a good level of learning in the lessons observed. It was clear that the students' enjoyed their learning experiences and the opportunities provided to develop both collaborative and independent learning skills.

- A very high level of co-curricular and extracurricular activities enhances students' interest and learning in the sciences. Very strong links with both University College Cork (UCC), the Crawford College of Art and Design, and the University of Limerick (UL) facilitate the broadening of students' learning experiences. For example, students have completed projects which were supported and assessed by EPI-STEM, Nation Centre for STEM education, in UL. This is very positive.
- Students' learning is assessed through questioning, regular topic tests, Christmas and summer tests. Particularly noteworthy is the use of a different approach to assessing students' learning in TY. One element of this assessment comprises students' presentation of their 'Art meets Science' projects to personnel from the Crawford College of Art and Design. The end-of-term assessment of students' learning of Science in TY includes a focus on determining students' ability to use previous learning to critically interpret and analyse data and draw conclusions. This is very good practice.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Whole-school support for the sciences is very good. The school has two, well-resourced laboratories and a very good level of information and communication technology (ICT) including a visualiser and a web camera to support teaching and learning in science subjects.
- Commendably, health and safety practices are central to the work of the science department. A very good level of safety equipment exists in the department. Chemicals have been colour coded in accordance with Departmental guidelines. Minor re-organisation is recommended to ensure appropriate segregation.
- The school has an up-to-date health and safety statement, which is based on risk assessment analysis. This is good practice.
- All students study Science in first year. Almost all students choose to study Science for Junior Certificate and the uptake of the subject is very high. The uptake of Biology is very high for Leaving Certificate. Significant work is done to promote the uptake of the physical sciences among the students. The school should consider surveying students to ascertain how the uptake of both Chemistry and Physics might be enhanced.
- The time allocation for the Leaving Certificate sciences and for Junior Certificate Science is in line with syllabus requirements, with the exception of first year, where the time allocation is slightly low due to the commendable practice of operating a subject-sampling system for non-core subjects.
- Senior Management encourages teacher participation in continuing professional development (CPD). Teachers' engagement in CPD is very good. The involvement of one teacher in delivering training to student teachers is noted as positive.

PLANNING AND PREPARATION

- Subject department planning is very good. Particularly noteworthy is the school's approach to TY Science, which is innovative and supports the development of students' creativity. A cross-curricular approach is embedded in the module 'Science Meets Art'.

This cohesive approach to student learning is highly commended. Students' work in this regard was impressive.

- Commendably, a culture of self-evaluation exists in the science department. This is manifest, for example, by the use of student questionnaires to evaluate teaching practice.
- Preparation for lessons was of a very high quality and this clearly supported very effective teaching and learning.
- Minuted meetings support the good level of collaboration that exists among science department members. Building on this good practice and in the context of syllabus reform, it is recommended that the department puts teaching and learning on the agenda of science meetings, with a view to formalising the sharing of effective practices.

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.