

An Roinn Oideachais agus Scileanna

Department of Education and Skills

**Subject Inspection of Science and Chemistry
REPORT**

**St Benildus College,
Upper Kilmacud Road, Stillorgan
County Dublin
Roll number: 60261R**

Date of inspection: 1 April 2014



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

REPORT
ON
THE QUALITY OF LEARNING AND TEACHING IN SCIENCE AND CHEMISTRY

INFORMATION ON THE INSPECTION

Dates of inspection	31 March and 1 April 2014
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 eight class periods• Examination of students' work• Feedback to principal, deputy principal and teachers

MAIN FINDINGS

- The quality of teaching and learning was very good.
- There were high levels of active participation by students in lesson activities, with appropriate opportunities being provided for active learning and collaborative work throughout.
- Effective use of information and communication technology (ICT) enhanced student learning.
- Whole school support for the provision of Science and Chemistry is very good and Science is a core subject in junior cycle.
- Very good subject planning is being undertaken which has led to the development of a comprehensive subject plan.
- The innovative use of blended learning through the 'Flipped Learning Science Project' to support the learning of first-year students is commended.

MAIN RECOMMENDATIONS

- The subject department's assessment policy should be further developed to address the provision of marks for practical work and an agreed common approach to the provision of written formative comment.
 - The subject department should further identify and implement literacy and numeracy strategies.
 - The Transition Year Module for Chemistry should be reviewed and restructured in line with the Department's *Transition Year Programmes- Guidelines for Schools*, to incorporate a greater focus on the development of students' skills.
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INTRODUCTION

St. Benildus College is a voluntary secondary school for boys with a current enrolment of 764 students. The school offers the Junior Certificate, an optional Transition Year (TY) programme, the established Leaving Certificate and Leaving Certificate Vocational Programme (LCVP).

TEACHING AND LEARNING

- The quality of teaching and learning was very good.
- A very good variety of teaching strategies for active learning including both independent and collaborative learning such as pair and group work were used. Clear instructions were given for activities throughout with appropriate attention being given to safety considerations during practical classes. Lessons were appropriately pitched to the students' level of understanding.
- A very good focus on most aspects of assessment for learning (AfL) was maintained in all lessons. Learning outcomes were shared with the students though in some lessons, what students 'should and could know and be able to do' by the end of the lesson could be more clearly highlighted. Learning was effectively consolidated and summarised in all lessons with some very good practice being noted when this was student led. The greater provision of creative opportunities for student-led activities is encouraged across all year groups.
- There was good continuity with prior learning. In some instances, students' understanding of topics could have been further strengthened through linking the lesson content with examples from everyday life.
- A good rapport between students and teachers was evident in all lessons which contributed to a positive supportive learning environment. Teachers generated enthusiasm and interest in the lesson topics and this was accompanied by oral developmental feedback and affirmation of the students' work.
- Teaching resources included the whiteboard, teacher-generated worksheets, and textbooks. Very creative use of ICT was observed which engaged students and enhanced their learning.
- Students' literacy development was well supported through effective use of subject specific terminology. In some lessons, explicit attention was given to literacy, focusing on key words.
- The quality of learning was very good, with the students participating in and contributing well to lesson activities. A lively dynamic pace was evident in lessons which stimulated and motivated students and their enjoyment of learning was tangible.
- Good differentiation was evident with clear explanations, appropriate questioning strategies and one to one support being provided as needed. The innovative use of blended learning through the 'Flipped Learning Science Project' to support the learning of first-year students is commended.
- Assessment for learning was mainly through teacher-led questioning. There was very good use of questioning including lower-order recall type questions and higher-order questions to develop critical thinking skills.

- In one lesson, student presentations accompanied by peer assessment were facilitated which was an excellent example of a student-led activity. Greater opportunities should be provided whereby students are encouraged and supported to take responsibility for their own learning through the development of their skills in self and peer assessment.
- Homework is given, monitored and corrected. A common approach should be adopted by the subject department to the provision of written formative comment on significant written assignments. Assessment policy and practice should also be further developed through the provision of marks for practical work. Students' progress is being tracked and monitored which is good practice.
- Common examinations are used for each year group which is good practice. All students are encouraged to take the higher-level papers in state examinations.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Whole school support for the provision of Science and Chemistry is very good. Science is a core subject at junior cycle. Three science subjects are provided in senior cycle: Chemistry, Physics and Biology and option bands are generated from students' choices. The TY programme provides students with the opportunity to sample six week Science related modules such as Forensic Science, as well as modules in science subjects.
- The timetabling of Science and Chemistry is in line with the syllabus guidelines, and there is good provision for practical work.
- There is very good provision of resources, with four laboratories and a preparation room, all of which are well equipped and fitted with up to date ICT facilities. Appropriate health and safety equipment is provided and a health and safety statement is in place.
- School management is very supportive of teachers' continuing professional development and recent whole school in-service for teachers has focused on ICT and AfL. Teachers' membership of professional organisations is supported.
- Co-curricular and extra-curricular activities include student participation in the Young Scientist competition and in quizzes. Consideration could be given to running a school science week to parallel the annual National Science week.

PLANNING AND PREPARATION

- There are very good structures in place for subject planning with a formal meeting each term. The department works well collaboratively and informal meetings are held when needed. The co-ordination role, which is clearly defined, is undertaken on a voluntary basis. Consideration should now be given to the rotation of the role.
- Significant work has been undertaken to develop comprehensive subject plans for Science and Chemistry which address differentiation teaching strategies, special education needs and the induction of new and student teachers.
- Good practice is evident in the common schemes of work which include clearly identified learning outcomes. Further development of the schemes could address the timeframe for each topic, explicit detail on cross-curricular links and literacy and numeracy strategies.
- A strategic approach to subject planning could now be developed through identifying key priorities and action targets for the work of the department.

- To build on the existing good practice of developing students' scientific literacy, the science department should further identify and implement strategies to support the development of students' general literacy and numeracy.
- Examination results are analysed and compared to national norms. This should now be extended to include the analysis of trends in attainment in Science.
- The programme for Chemistry module in TY should be reviewed and further developed in line with the Department's *Transition Year Programmes-Guidelines for Schools* to incorporate a greater focus on the development of students' skills and the aspects of Chemistry not addressed in the Leaving Certificate syllabus.
- Very good planning and preparation was evident for all lessons and practical work, with relevant resources ready in advance and consideration given to the sequence and variety of learning activities. The sharing of teaching resources has been facilitated effectively through a shared electronic folder on the school's intranet.

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.