

An Roinn Oideachais agus Scileanna

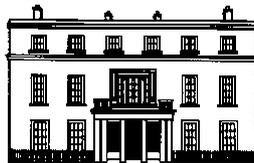
Department of Education and Skills

**Subject Inspection of Science and Physics
REPORT**

**Dominican College Wicklow
Wicklow**

Roll number: 61860V

Date of inspection: 15 November 2011



**A N R O I N N | D E P A R T M E N T O F
O I D E A C H A I S | E D U C A T I O N
A G U S S C I L E A N N A | A N D S K I L L S**

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

INFORMATION ON THE INSPECTION

Date(s) of inspection	15 November 2011
Inspection activities undertaken <ul style="list-style-type: none">• Review of relevant documents• Discussion with deputy principal and teachers• Interaction with students	<ul style="list-style-type: none">• Observation of teaching and learning during six class periods• Examination of students' work• Feedback to deputy principal and teachers

MAIN FINDINGS

- Affirmation of student effort, student motivation and high teacher expectations were key features of all lessons.
- Students were challenged to meet their potential through inclusive questioning strategies and through the appropriate integration of critical and analytical skills development into many lessons.
- Teaching methods were appropriate to students' needs, abilities and interests and many lessons were enhanced in by the integrated and focused use of information and communication technology (ICT).
- The quality of the science plans and schemes of work and the level of planning for Science subjects at junior cycle, senior cycle and in Transition Year (TY) are very good although some development of these plans is necessary.
- The profile of Science in the school is raised through student involvement in projects, competitions and Science Week activities.
- The various modes of assessment employed by teachers help to ensure that students' key skills are progressed and consolidated though some development of formative assessment strategies is necessary.

MAIN RECOMMENDATIONS

- The practice of sharing learning outcomes with students at the outset of lessons should be extended.
 - Teachers should develop assessment for learning (AfL) strategies through further focused annotation of practical notebooks, homework assignments, tests and class work in an effort to improve the quality and consistency of students' work and their level of comprehension.
 - Collaborative schemes of work should include key learning outcomes linked to the syllabus.
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INTRODUCTION

Dominican College Wicklow has a current enrolment of 461 students. Science is compulsory in first year and is an optional subject for Junior Certificate. Physics is offered at senior cycle. A science module forms part of the compulsory TY programme.

TEACHING AND LEARNING

- The majority of lessons were well structured and managed. Learning outcomes were shared with students in the majority of lessons. This practice should be extended.
- There was very good continuity with prior learning in all lessons. Revision of key ideas featured at the outset of lessons and students utilised key skills acquired particularly during practical activities.
- Lesson development was exemplary in many cases and appropriate use of teaching aids actively supported student learning. Teachers demonstrated a high level of competence and skill in the delivery of lessons and in the clarity by which essential science and physics concepts were explained to students.
- Teaching methods used were generally effective in maximising learning and encouraging student participation. Good links were established with applications of Science and Physics in everyday life.
- There was expert use of ICT in the form of photographs, video and applets to help explain key concepts and ideas. This good practice should be extended. Presentations were designed to be paused at appropriate intervals to facilitate teachers to check the extent of student learning. This is very good practice. It is recommended that students be facilitated to share their knowledge with the class in advance of information being presented to the group.
- Differentiated approaches ensured that each individual student received appropriate additional support as needed in the development of literacy and numeracy skills. Teacher expertise was very well utilised in supporting students' scientific literacy through focusing on the meaning of key terms and by using the board or slides to aid the process.
- There was effective use of appropriate and challenging questioning in all lessons observed. The majority of students responded confidently to questions on their work.
- In appropriate lessons, students worked in small groups to collaboratively plan, design and carry out their investigations. In all lessons learning activities were well managed and conducted in a safe environment.
- All lessons were conducted in a very positive and supportive learning environment. Students' enthusiasm and enjoyment of the subject were evident in many lessons.
- Students' numerical, analytical and practical skills were developed in Physics through focusing on practical demonstrations, mathematical concepts and problem solving.
- Short concise teacher inputs helped to ensure that learning progressed seamlessly. Seating arrangements in some cases should be reorganised to facilitate better teacher mobility.

- Assessment was integrated into student learning through appropriate questioning and through classroom and homework assignments. Some class assignments could be more appropriately assigned as homework exercises. Modes of assessment employed reflected the assessment objectives of the relevant syllabuses, school homework and assessment policies. However, teachers should develop AfL strategies through further focused annotation of practical notebooks, homework assignments, tests and class work in an effort to improve the quality and consistency of students' work and level of comprehension. Academic student achievement is very good overall.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Science is provided as a mandatory subject in first year only and students are then requested to choose Science from an option band if they wish to study it for Junior Certificate. The uptake of Science is good.
- Physics, Chemistry and Biology are offered at senior cycle and there is a good uptake of each subject. The uptake of Physics has increased over recent years. The science module in TY focuses on development of practical skills and applications of Science. This is good practice.
- Students receive good advice from the school guidance department and subject teachers in making an informed subject choice. In addition, aspects of senior science subjects are sampled in TY.
- Students are encouraged to partake in a number of co-curricular and extra-curricular activities including the BT Young Scientists' Competition. Involvement in these activities helps to raise the profile of Science in the school community.
- The two science laboratories are very well-maintained and utilised. Chemicals are appropriately stored, however school management should consider facilitating the installation of ventilation in the chemical store room when resources permit. Access to laboratories is good for practical activities and is agreed between science teachers. ICT facilities in the science laboratories are very good and science teachers operate the commendable practice of sharing resources. The level of collaboration between science teachers is praiseworthy.
- Science teachers are facilitated and encouraged to avail of continuing professional development (CPD) courses as evidenced in school planning documentation. New teachers are very well supported through a good mentoring programme.

PLANNING AND PREPARATION

- The quality of the science plans and schemes of work is very good and has progressed very well since a prior science inspection. Noteworthy aspects of science planning include a well thought out cross curricular approach, focus on literacy and numeracy and links to applications of Science. Collaborative schemes of work should include key learning outcomes linked to the syllabus. The TY science plan should be further developed by adopting the Department template for writing up a summary of the module.

- Formal, minuted science department planning meetings are convened and science teachers also meet informally on an ongoing basis to collaborate on many aspects of science provision. The role of coordinator of Science is undertaken in a voluntary capacity and these duties are carried out very effectively.
- Individual teacher planning for Science subjects at junior and senior cycle and in TY is praiseworthy. Teachers maintain good records of students' completion of homework, assessments and attendance.

The draft findings and recommendations arising out of this evaluation were discussed with the 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 inspection; the board chose to accept the report without response.

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