

An Roinn Oideachais agus Scileanna

Department of Education and Skills

**Subject Inspection of Science
REPORT**

**Coláiste Phádraig
Roselawn, Lucan, Co. Dublin
Roll number: 60264A**

Date of inspection: 13 December 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**

INFORMATION ON THE INSPECTION

Date(s) of inspection	12 & 13 December 2011
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 ten class periods• Examination of students' work• Feedback to principal and teachers

MAIN FINDINGS

- The overall quality of teaching and learning was good and features of good practice were observed in all lessons.
- Good use was made of teaching resources, including the information and communication technology (ICT) facilities, to enliven lessons and engage students in learning.
- Overall assessment of students' progress is good; however, assessment of individual students' progress could be enhanced through a greater use of directed questions, peer assessment and self-assessment techniques.
- There is very good whole-school support for the provision of science subjects.
- The school has very good facilities for the teaching and learning of science.
- Good practice is evident in the regular meetings of the science department, the collaborative approach taken to subject planning and the current focus of subject planning on the development of a scheme of work which integrates theory and practical activities.

MAIN RECOMMENDATIONS

- It is recommended that greater attention be given to the assessment of individual student's progress during lessons and the subsequent pacing of lessons.
 - In order to share and develop expertise, teaching methodologies should be tabled for discussion and exploration at science department meetings.
 - The science department should develop a strategy for developing students' independent report-writing skills.
 - The policy of excluding students from taking part in practical work for certain types of misbehaviour in the laboratory should be reviewed in order to ensure that it is in line with the schools' code of behaviour.
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INTRODUCTION

Coláiste Phádraig is a boys-only voluntary secondary school. The school serves a suburban catchment area and the current enrolment is 712 students. Science is a core subject in junior cycle and in the school's optional Transition Year. Physics, Chemistry, and Biology are provided as optional subjects in senior cycle.

TEACHING AND LEARNING

- The overall quality of teaching and learning was good and features of good practice were observed in all lessons. Where teaching and learning was very good, students were actively engaged in the learning process and able to develop the investigative skills of working as a scientist in a lively and interactive manner.
- Good practice was evident in the advance preparation of teaching resources such as handouts and worksheets. In some cases, very good use was made of the data projector, to support learning. For example, video clips or PowerPoint presentations were used to engage students.
- Learning was reinforced by the creation of links to science in the everyday world and by linking the lesson topic to related topics from other parts of the syllabus.
- Lessons were well managed. Students were attentive and cooperative and lessons were conducted in a positive and supportive atmosphere.
- Good use was made of question and answer sessions to generate discussion and build on students' prior knowledge.
- Overall assessment of students' progress is good. However, in some cases, overuse of global questioning resulted in chorus answering where individual students' progress could not be assessed. Hence it is recommended that greater use be made of directed questioning, or other techniques such as peer and self assessment, to assess individual student's progress.
- Classes are of mixed ability and, in general, care was taken to suit the lesson pace to the progress of the class group. However, the pace and structure of some lessons could have been organised more effectively.
- A variety of approaches are used for students' reporting on practical activities. Dictation of such reports was observed in one case and it is recommended that the science department develop a strategy for developing students' independent report-writing skills. Advice could be sought from the school's English department in this regard.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- There is very good whole-school support for the provision of science subjects in Coláiste Phádraig. Science is a core subject in junior cycle and three science subjects are provided in senior cycle.
- The school has very good facilities for the teaching and learning of science subjects. Five science laboratories have been newly built or refurbished in recent years and they are well stocked with the necessary equipment and materials.

- Very good ICT facilities are available for the teaching and learning of science subjects. Each laboratory has been equipped with an interactive whiteboard and data projector and staff have been provided with training in the use of these facilities during the current school year.
- Timetabling arrangements, such as the number of lessons per week and the distribution of lessons across the week, are appropriate. Pairs of science classes are timetabled concurrently and divided into three smaller class groups for practical activities during double lessons. Thus, while most students have the same teacher for all their science lessons, some students will have two teachers for science during the week.
- The school is supportive of the continuing professional development of teachers and provides them with financial assistance to join their subject associations.
- The school and teaching staff are committed to promoting science through the provision of extracurricular activities, for example through participation in the Young Scientist and Technology exhibition.

PLANNING AND PREPARATION

- Good practice is evident in the regular meetings of the science department, the collaborative approach of teachers to subject planning and the commitment to sharing responsibility for coordinating the work of the science department.
- The current focus of subject planning on the development of a scheme of work which integrates theory and practical activities is good practice as it provides for a more coordinated approach to the teaching of the class groups who have two teachers for science each week.
- Good practice was also evident in the use of common assessments and the sharing of teaching resources among the science teachers. Good use is being made of a shared electronic folder on the school's intranet in this regard. The use of an e-learning software package to communicate with students will provide further opportunities to develop and share resources.
- At present, teaching methodologies are dealt with very briefly in the science plan. In order to share and develop expertise across the subject department, it is recommended that this section of the science plan be developed further. For example, teaching methodologies could be placed on the agenda for all science department meetings and the outcome of discussions on teaching approaches could be documented in the science plan.
- The science department has developed some subject-specific materials regarding health and safety in science, such as laboratory rules. However, these materials would benefit from the inclusion of agreed guidelines for emergency situations involving either students or staff. The policy of excluding students from taking part in practical work for four weeks, for misbehaviour in the laboratory deemed to be unsafe by the relevant teacher should also be reviewed in order to ensure that it is in line with school policy regarding similar incursions of the schools' code of behaviour.

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 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.

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Appendix

SCHOOL RESPONSE TO THE REPORT

Submitted by the Board of Management

Area 1: Observations on the content of the inspection report.

Science department agrees that the use of the Internet facility within the school has been of great benefit to the teachers and enabled better teaching and learning.

The Science department agreed that the facilities for the teaching of science are very good and regular work is carried out by teachers to maintain these facilities as well as stocking of apparatus and materials.

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

Experiment workbooks will be utilised as part of science homework which will aid in developing students independent report writing skills.

Formal discussion and documentation of teaching methodologies to be included at subject department meetings and implemented in classroom strategies.

The science department has expanded its use of the local internet facilities with a continued input of material.

The policy of excluding students from taking part in practical classes would be reviewed.

It was agreed to make a stronger linkup between science practical and theory classes.