

An Roinn Oideachais agus Scileanna

Department of Education and Skills

**Subject Inspection of Science
REPORT**

**Piper's Hill College
Killashee, Naas, County Kildare
Roll number: 70710D**

Date of inspection: 26 September 2012



**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: 25 and 26 September 2012	
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 is good with features of very good practice evident in all lessons.
- Lessons were well planned and managed, and students' active engagement in learning was facilitated by the use of a variety of methodologies.
- A strong focus on key words and terms facilitated the development of students' literacy skills; but in some cases more attention was needed to ensure that students understood and could use new or unfamiliar language.
- An *Assessment for Learning* (AFL) approach to teaching was evident in the discussion of the intended learning outcomes at the start of lessons. However, in most cases, this collaborative approach to using learning outcomes was not used later in the lesson.
- The quality of whole-school support for Science is very good.
- The overall quality of planning and preparation is very good; the science department is very well organised and works in an open, reflective and collaborative manner.

MAIN RECOMMENDATIONS

- It is recommended that the science teachers review and share good practice with respect to ways of encouraging and enabling all students to contribute during lessons, and with respect to strategies to improve students' literacy skills.
 - It is recommended that learning be consolidated by a clear assessment, at the end of lessons, of whether or not the intended learning outcomes have been achieved.
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INTRODUCTION

Piper's Hill College is a co-educational post-primary school under the aegis of County Kildare Vocational Education Committee. The college moved to a new school building in 2009 and enrolment has increased over recent years to the current level of 755 students. The Transition Year (TY) programme is available as an option to senior cycle students.

TEACHING AND LEARNING

- The overall quality of teaching and learning is good with features of very good practice evident in all lessons.
- The lessons were well planned as shown in the consideration that had been given to the sequencing of learning activities and the preparation of relevant resources.
- Students' active engagement in learning was facilitated by the use of a variety of methodologies. A student-centred approach was evident in the manner in which new material was linked either to prior learning or to everyday experiences.
- Very good use was made of information and communication technology (ICT) resources to support learning. Other resources such as worksheets were also well used.
- Practical activities were very well organised and effective in developing students' laboratory skills.
- Lessons were very well managed in a positive and supportive atmosphere. Good systems have been established with respect to monitoring attendance, seating arrangements and the use of homework journals.
- Good use was made of questioning and discussion to establish prior learning, to introduce new material and to monitor progress. However, in some lessons, a significant number of students did not answer questions or provide any other input. It is recommended that the science teachers review and share good practice with respect to ways of encouraging and enabling all students to respond to questions or to contribute during lessons.
- Good attention was given to the development of students' literacy skills, particularly through a focus on key words and terms used in science. However, in some cases more attention was needed to ensure that students understood and could use the new or unfamiliar language. It is recommended that the science teachers review and share good practice with respect to strategies to improve students' literacy skills.
- Good use was made of an AfL approach to teaching through the sharing and discussion of the intended learning outcomes with students at the start of lessons. However, in most cases, this collaborative approach to using learning outcomes was not used later in the lesson. It is recommended that learning be consolidated by a clear assessment, towards the end of lessons, of whether or not the intended learning outcomes have been achieved.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- The quality of whole school support for Science is very good. Junior Certificate Science is a core subject and three science subjects are available for senior cycle students. The school has implemented a recommendation from a previous evaluation to make Science available to students following the Junior Certificate School Programme.

- The school has excellent facilities for the teaching of Science. The four laboratories are very well equipped and organised. The displays of students' work and other relevant materials make for a very attractive learning environment in the laboratories.
- The commitment of the school to innovation is evident in the school's participation in the Discover Sensors project, and in the introduction of electronic textbooks for first-year students.
- Very good attention has been given to the provision of relevant health and safety equipment and appropriate procedures.
- The timetabling arrangements for Science are appropriate.
- The school is very supportive of teachers' professional development. A range of in-service courses on relevant issues such as literacy and numeracy, and team teaching has been made available to all staff.
- Extracurricular opportunities to experience science are well provided for through initiatives such as the Green School initiative and participation in the Young Scientist Exhibition and the SciFest competition.

PLANNING AND PREPARATION

- The overall quality of planning and preparation is very good. The science department works in an open, reflective and collaborative manner.
- The science department is very well organised; teachers meet regularly both formally and informally to discuss and review issues of common concern, the role of coordinator is rotated among the team of teachers, and an electronic folder is available for the sharing of teaching resources.
- The subject plan is comprehensive and draws together useful information on policies and procedures relating to the provision of Science. For example, it gives very practical advice for supporting science students with special educational needs. Careful consideration also has been given to students' outcomes in state examinations and to the initial development of a literacy and numeracy strategy for science.
- The records of formal department meetings show effective action planning with respect to the issues discussed such as laboratory resources, and common assessments.
- Laboratory resources are very well organised; kits of equipment have been developed in order to facilitate the provision of practical activities for students.

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.

Appendix

SCHOOL RESPONSE TO THE REPORT

Submitted by the Board of Management

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

Reflecting on this report the general response and feeling of the science department is one of positive awareness. The feedback in this report will be used to inform all future actions of the science department at both the planning level and the teaching level.

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

In order to implement the findings and recommendations of the report the science department have undertaken inter alia the following measures:-

- In relation to a recommendation addressing the sharing of teaching methodologies at an intra departmental level – a notice board has been put on display in the resource room where all science teachers can submit and share models of practice that have created positive outcomes in the learning environment.
- A shared folder on the computer network has also been created to facilitate a further pooling of resources within the science department.
- Under the teaching and learning section of this report an area involving student participation in verbal questioning during lessons was highlighted. In addressing this recommendation it has been proposed that a random name generator will be utilized during lessons. This ensures involvement and engagement of all students including those who may not volunteer submissions normally during lessons.
- A further recommendation details that science teachers should review and share good practice with respect to strategies to improve students' literacy skills. To address this recommendation the science department have introduced a notice board in the resource area to facilitate the sharing of all good practice deemed to improve students' literacy skills. At science department meetings where time has been allocated, reference will be made to any good practice or methodology that has been submitted to the notice board for dissemination among teachers of science.

- The recommendation that learning be consolidated by a clear assessment, towards the end of lessons, of whether or not the intended learning outcomes have been achieved has also been addressed by the science department. It is agreed that documentation relating to learning outcomes and student self evaluation is present within the science department and more awareness and attention will be paid to its utilization to satisfy this specific recommendation.