An Roinn Oideachais agus Scileanna

Department of Education and Skills

Subject Inspection of Science and Chemistry
REPORT

Presentation Secondary School
Tralee, County Kerry
Roll number: 61450C

Date of inspection: 7 May 2014

AN ROINN OIDEACHAIS AGUS SCILEANNA | DEPARTMENT OF EDUCATION AND SKILLS

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

INFORMATION ON THE INSPECTION

Dates of inspection	May 6 and 7 2014
Inspection activities undertaken • Review of relevant documents • Discussion with principal, deputy principal and teachers • Interaction with students	• Observation of teaching and learning during eight class periods • Examination of students' work • Feedback to principal, deputy principal and teachers

MAIN FINDINGS

- The standard of teaching and learning was good or very good, with some examples of excellent practice.
- Students' abilities to work together were enhanced through the effective use of pair work or group work in many lessons.
- Timetable provision for the sciences and the good level of facilities and resources are very supportive of subject delivery.
- Science planning documentation includes strategies to be used when explicitly teaching literacy and numeracy skills in the context of the sciences.

MAIN RECOMMENDATIONS

- In a minority of lessons, an investigative approach to learning Science and Chemistry was very effectively employed to engage students and stimulate the development of problem-solving and critical thinking skills. This approach should be used to a greater extent.
- Programmes of work should be grounded in learning outcomes and should be expanded to identify specific resources, modes of assessment and teaching methodologies to support the teaching of the each topic.

INTRODUCTION

Presentation Secondary School is a voluntary secondary school for girls located in Tralee, County Kerry. Junior Certificate, an optional Transition Year (TY) programme, the established Leaving Certificate and the Leaving Certificate Vocational Programme (LCVP) are offered to students. Current enrolment is 665 students.

TEACHING AND LEARNING

- The standard of teaching and learning was good or very good, and some examples of excellent practice, which were characterised by a very good teacher–student dynamic and nice touches of humour.
- Lessons were well structured and the pace was good. Intended learning outcomes were shared with students in almost all lessons. This approach was most effective where students and the teacher discussed whether and to what extent these learning outcomes had been achieved.
- A range of teaching approaches was used effectively to facilitate student learning. These included questioning, group work and the use of information and communication technology (ICT), including video clips.
- Questioning in class was very good, and teachers were adept at spreading lower-order and higher-order questions across the class, while taking good cognisance of students' particular capabilities and interests.
- In a minority of lessons, an investigative approach to learning Science and Chemistry was very effectively employed to engage students and stimulate the development of problem-solving and critical thinking skills. This approach should be used to a greater extent.
- Students' abilities to work together were enhanced through the effective use of pair work or group work in many lessons.
- The practical work of students should become less dependent on teacher direction as they move through the school. When carrying out practical work, students should work in groups of not more than two, to ensure active participation and to facilitate the development of independent learning skills as well as the skill of working together.
- In many lessons, science content was made tangible and interesting, by the very effective use of examples from everyday life, and by the application of the science concept to real life situations.
- A range of effective approaches were used to revise and consolidate previous learning.
- In lessons observed, there was a natural, unforced atmosphere which focused strongly on learning while always being enjoyable for students.
- There was evidence of teacher annotation of students' work in a minority of instances and some monitoring by students themselves. The desirable practice of teacher annotation, with comments on areas where students need to improve, should be extended. Involving students in assessment of their own work should be considered.
- Assessing students' practical work and their laboratory notebooks as a component of the end-of-term examinations has been instigated this year. This is good practice.

- Development of students' literacy skills was integrated into learning of lesson content, with examples of some excellent strategies observed. Students' should be strongly encouraged to write up their practical work in their own words.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- The provision for the teaching and learning of the sciences is very good. Although time provision for Science in first year is low in order to facilitate subject sampling, this is remediated in the second and third years of junior cycle. In all other years the time provided for the subject is good.
- Many classes have a good spread of lessons across the week. Where uneven distribution of classes occurs or lesson periods are split across break time, management should ensure that it does not happen in succeeding years for those class groups.
- Science is a core subject in first year and in TY. The uptake of Science for Junior Certificate is very high. Biology, Chemistry and Physics are offered as optional subjects for Leaving Certificate. The uptake of both Biology and Chemistry is very good. Strategies should be put in place to encourage further uptake of Physics.
- Resources and facilities for the sciences are at a very good level. Resources are well organised and chemicals are stored according to best practice. Health and safety equipment is appropriate and the school is currently updating its health and safety statement.
- In line with the recommendation made during a previous inspection, the science demonstration room is generally timetabled for science classes before being allocated to other subjects. This is the appropriate allocation of the science demonstration room.
- The very effective work of the laboratory technician provides valuable support for the teaching and learning of the sciences.
- Summative assessment takes the form of formal whole-school tests and regular class tests. Common assessments are used in the sciences, where possible. This is commended as it supports standardisation across year groups. Consideration should also be given to the use of alternative approaches to assessment such as oral and portfolio assessment.
- A high level of extracurricular and co-curricular activities supports students' learning of and interest in the sciences.
- It is clear that the effective teaching and learning observed the science and chemistry lessons is supported by teachers' involvement in science-related and whole-school continuing professional development.

PLANNING AND PREPARATION

- Comprehensive science folders have been developed. Outline programmes of work have been agreed for each year group of junior cycle Science and Leaving Certificate Chemistry. Programmes of work should preferably be grounded in learning outcomes and should be expanded to identify specific resources, modes of assessment and teaching methodologies to support the teaching of the each topic. This work could commence immediately in Chemistry and in the case of Science, with the implementation of the new subject specification.

- There is evidence in Science that, in keeping with TY philosophy, students are provided with the opportunity to learn about scientific issues outside the remit of the certificate examination syllabuses. Such work includes students' use of the investigative approach when designing and making a chair from a range of materials. This is very good practice.
- The science planning documentation includes the identification of opportunities to enhance students' literacy and numeracy skills and the strategies to be used when explicitly teaching these skills in the context of science. This is very good.
- Preparation for all lessons was of a high standard, with a range of appropriate resources readily available.
- It is clear from the records of subject department meetings that collaborative decision-making follows discussion on science-related issues. This co-operation and the management of the department are facilitated by the effective work of the science co-ordinators. Teachers also support each other through sharing of resources.

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 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

The Board of Management of Presentation Secondary School Tralee is very pleased with this very positive Subject Inspection of Science & Chemistry report. The Board welcomes the inspectors' recognition of the 'very good' and indeed 'excellent' teaching and learning practices evident from their class observation.

The Board commends the professionalism of the Science and Chemistry teachers and is very pleased to see recognition of their dedicated teaching, their commitment to Continuous Professional Development and the very effective team work in planning and preparation at Department level, in this report.
The Board is also very happy to note the inspectors' satisfaction with the school's timetable provision for Science & Chemistry as well as with the facilities provided to support the teaching and learning of these subjects.

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

The Science Department has studied the report in depth at Department meetings and is fully committed to implementing the recommendations. The Department will continue to carry out the process of self-evaluation to ensure that the recommendations are successfully integrated into their work.

School Management will be mindful of the Inspector's recommendations in planning next year's curriculum and timetable provision.