An Roinn Oideachais agus Scileanna

Department of Education and Skills

Subject Inspection of Science and Chemistry
REPORT

Loreto Abbey Secondary School
Dalkey, County Dublin
Roll number: 60130C

Date of inspection: 10 December 2013

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	9 and 10 December 2013
Inspection activities undertaken • Review of relevant documents • Discussion with principal and teachers • Interaction with students	• Observation of teaching and learning during eight class periods • Examination of students' work • Feedback to principal and teachers

MAIN FINDINGS

- The teaching and learning in the lessons observed was of a very high quality overall.
- Students were actively engaged in their learning, and their practical and investigative skills were well developed through very good opportunities for practical work.
- Very good use of assessment for learning (AfL) was evident.
- The rapport between teachers and students was very good with a positive and supportive learning environment being facilitated at all times.
- There is excellent provision and whole school support for Science and Chemistry.
- Excellent subject planning is being undertaken in a collaborative and collegial manner with common integrated subject plans and a strategic plan for 2013-2015 in place.

MAIN RECOMMENDATIONS

- The common integrated schemes of work could be further extended to include a clearly defined weekly timeframe, literacy and numeracy strategies and explicit cross curricular links.
- The strategic plan should be implemented as planned using a 'SMART' approach.
- The assessment policies for Science and Chemistry should be reviewed and further developed to include provision of opportunities for comment only marking and the inclusion of a percentage for students' laboratory notebooks in their overall assessment grade.

INTRODUCTION

Loreto Abbey Secondary School is a fee paying secondary school for girls with a current enrolment of 620 students. It offers the Junior Certificate, the established Leaving Certificate, an optional Transition Year (TY) programme and the Leaving Certificate Vocational Programme (LCVP).

TEACHING AND LEARNING

- The quality of teaching and learning ranged from good to very good in all the lessons observed and overall, was of a very high standard.
- All lessons were very well planned and prepared, with all the necessary resources being available. Consideration was given to the sequence and variety of the learning activities leading to very good pacing of learning. Learning activities were very effectively, competently and safely managed.
- Very good incorporation of AfL was evident in almost all lessons. This included sharing of learning outcomes with the students, very good use of questioning to develop students' critical thinking and assess their understanding and effective summarisation of lesson content. A good balance of lower and higher-order questions supported differentiation of lesson content. In some instances, greater clarity could have been given to students as to what they would be learning and what they would be able to do by the end of the lesson.
- There was good linking with prior learning which facilitated continuity between lessons and very good contextualisation of the lesson topics. In all lessons, students' understanding was further developed through linking the lesson content to examples from everyday life, some of which were excellent.
- Active learning opportunities were provided in all lessons through collaborative pair or group work. The students were interested, enthusiastic and contributed well to class discussion and questioning. A greater variety of creative opportunities and student-led activities would also be beneficial.
- Very well organised 'hands on' practical work was seen in many lessons with good structured learning. Supported by clear instructions students were confident in their practical work, working well together in a collaborative and safe manner. They were actively engaged in their own learning, drawing conclusions from experimental work in an investigative manner and some very good learning through discovery was observed. Students' practical and investigative skills were well developed and in particular, senior cycle students were confident and competent in undertaking their practical work.
- Teaching resources including the whiteboard, teacher-generated worksheets, textbooks and information and communication technology (ICT) were used effectively to communicate lesson content. Lessons worked well when the textbook was used to refer to rather than being relied on for content. More creative use of ICT through, for example, the use of relevant short video clips and the provision of visual images should be explored and incorporated into lessons.
- The rapport between teachers and students was very good with a positive and supportive learning environment being facilitated at all times.

- A very good focus on developing students' literacy skills was evident in all lessons, primarily through effective use of subject-specific terminology. Opportunities and strategies to develop students' numeracy skills could be further identified and exploited.
- Homework is given regularly, monitored and corrected. Student laboratory notebooks and copybooks contained very good written work and attention to detail, and supported the skills of note taking and note making. There was varying practice regarding the provision of formative developmental comment on written work. This practice should be extended with the subject department agreeing a common approach to written formative feedback on significant pieces of work.
- Common examinations are used for each year group which ensures standardisation of learning across year groups. Attainment in certificate examinations is very good.
- To further encourage student ownership and responsibility for their learning, opportunities and strategies for self and peer assessment of learning should be further explored and provided.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- There is very good whole-school provision and support for the science subjects. Science is a core subject in Junior Cycle. All three science subjects are offered in senior cycle and the uptake of Chemistry is good.
- Timetabling arrangements are very good and include the provision of double periods for practical work for all year groups.
- School management is very supportive of teachers' continuing professional development and a comprehensive range of whole school in-service addressing areas such as AfL and ICT in the classroom, has been provided.
- The science and chemistry laboratories are well resourced and organised. They have good ICT facilities and appropriate health and safety equipment. Chemicals are colour coded, stored and segregated appropriately. The employment of a laboratory assistant to assist in the preparation for practical work is a highly valuable support.
- There is very good provision of resources with a generous budget available. A post of responsibility has been allocated to overseeing and managing the laboratories and their supplies.
- A very good range of co-curricular and extracurricular opportunities are provided including an in-school science week.

PLANNING AND PREPARATION

- Excellent subject planning is being undertaken which is very well co-ordinated. A motivated committed team of science teachers work effectively and collaboratively. Formal minuted meetings are held frequently with ongoing regular informal communications.
- Very good work has resulted in the development of subject plans and common integrated schemes of work for Science and Chemistry. The schemes of work could now be extended and enhanced by a clearly defined weekly timeframe, literacy and numeracy strategies and explicit reference to cross curricular links.

- An excellent strategic plan 2013-2015 has been developed which incorporates agreed action targets. This action plan should be implemented as planned utilising a 'SMART' approach. The TY chemistry module would benefit from a more formal approach to its evaluation by students, for example, through the use of a written questionnaire.
- An analysis of the state examination results is undertaken including trends from year to year which is very good practice.
- The assessment policy in the subject plans should be reviewed to further develop some aspects including provision of comment only marking and the inclusion of a percentage for students' laboratory notebooks in their overall assessment grade.

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 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 wishes to thank the Inspectorate for their advice and affirmation of the high quality of teaching in Science and Chemistry. We acknowledge the commitment and dedication of the Science Department and congratulate them on their work

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 schemes of work will be extended as recommended, the strategic plan implemented and assessment policies reviewed as suggested.