

**An Roinn Oideachais agus Scileanna**

**Department of Education and Skills**

**Subject Inspection of Science and Chemistry  
REPORT**

**Sancta Maria College  
Ballyroan, Dublin 16  
Roll number: 60341P**

**Date of inspection: 13 November 2014**



**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 CHEMISTRY**

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**INFORMATION ON THE INSPECTION**

<b>Dates of inspection</b>	12 and 13 November 2014
<b>Inspection activities undertaken</b> <ul style="list-style-type: none"><li>• Review of relevant documents</li><li>• Discussion with principal and teachers</li><li>• Interaction with students</li></ul>	<ul style="list-style-type: none"><li>• Observation of teaching and learning during five class periods</li><li>• Examination of students' work</li><li>• Feedback to principal and teachers</li></ul>

**MAIN FINDINGS**

- The quality of teaching and learning was good overall.
- A positive, supportive learning environment was facilitated in all lessons.
- Good differentiation through clear explanations and individual support was observed in all lessons.
- Very good whole school support is provided by management for science subjects with appropriate timetabled provision.
- Science is not a core subject at Junior Cycle and it is planned to address this through curriculum review.
- The current subject plan for Science is misleading as it contains several factual inaccuracies and there is scope for development in the schemes of work for both Science and Chemistry.

**MAIN RECOMMENDATIONS**

- The further development and integration of assessment for learning (AfL) strategies into teaching and learning should be prioritised and implemented by all science teachers.
  - The subject department should review and update the subject plan to address inaccuracies, to reflect current practice and to further develop the common schemes of work as an integrated framework.
  - The subject department should address areas for improvement and development including student attainment, and the current developments in junior cycle Science through the development of 'SMART' action plans.
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## **INTRODUCTION**

Sancta Maria is a voluntary girls' secondary school with a current enrolment of 520 students. The school offers the Junior Certificate, the Leaving Certificate Vocational Programme, the established Leaving Certificate and an optional Transition Year (TY) programme.

## **TEACHING AND LEARNING**

- The quality of teaching and learning observed was of a good quality overall. While some aspects of very good practice were evident, there was scope for improvement and development in some areas of teaching and learning.
- The lesson content and learning objectives were shared orally with students at the start of lessons. These are best framed as learning outcomes which identify what the students will know and be able to do by the end of the lesson. The very good practice of summarisation of learning together with the assessment of the level of achievement should be implemented in all lessons.
- Lessons were focused, purposeful and generally well sequenced. Clear instructions and explanations were given with very good instructions given during the practical lesson observed. There was appropriate continuity with prior learning in all lessons. The concepts taught were illustrated with some excellent examples from everyday life.
- Teaching strategies including pair work and group work were used, mostly in the practical lesson observed. An improved balance between teacher input and students' active participation and contribution should be facilitated through greater provision of opportunities for student-led activities.
- A range of resources was used to support teaching including worksheets, and textbooks. Information and communication technology was used to enhance student learning. However, in some instances, the use of an accompanying worksheet would have benefited students' learning. The provision of the PowerPoint presentations used in lessons to students is good practice and should be extended.
- Differentiation was good through clear explanations of the lesson topics and concepts, one to one support and monitoring of students' work. A positive, supportive learning environment was facilitated throughout with respectful interpersonal relations between students and teachers evident in the classroom.
- Opportunities for inquiry based learning should be further developed. In one instance, there was a missed opportunity to draw together the conclusions from the practical work completed. While this was deferred to the following lesson, the benefit of students sharing their findings would have supported inquiry based learning at the time of the experiment.
- Good attention was given to literacy in some lessons, with key words and subject specific terminology being highlighted. In one lesson, an effective focus on numeracy was incorporated to support student learning. The laboratories should be further developed as print rich environments.
- Teachers assessed students' knowledge and understanding mainly through the use of lower-order recall type questions, with some use of more challenging higher-order questions. Greater use of higher-order questions to develop students' analytic thinking and problem solving skills is recommended.

- Summative assessment is undertaken through end of topic tests, and examinations. The nature of the homework often relied on textbook exercises. This practice should be reviewed so more variety is incorporated into homework, for example, through students being asked to research a topic.
- The further development and integration of AfL strategies into teaching and learning should be prioritised and implemented by all teachers. These should include the agreed provision of written formative comment on significant assignments, strategies that support learning for understanding, and the development of students' self and peer assessment skills. Integration of differentiation strategies and the clarification of the success criteria through clearly identified learning outcomes should also be included.

#### **SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT**

- There is very good subject provision and whole school support for the science subjects, including provision of resources. The timetabled provision for Science and Chemistry is very good.
- As Science is not core at junior cycle, this creates a challenge for students who opt to take a science subject at senior cycle, without having studied Science at junior cycle. It is planned to address this as part of the planned school curriculum.
- School management is very supportive of teachers' continuing professional development, both at an individual and whole school level.
- Paralleling the National Science Week, an in-house Science week is organised by the teachers to promote the sciences which is good practice.

#### **PLANNING AND PREPARATION**

- The subject department has adopted an uncoordinated approach to subject planning contrary to recommendations in previous inspections. This has contributed to inaccuracies in and a lack of coherence between the subject plan for Science and the practice of the science teachers in several areas.
- It is recommended that a convenor be appointed on a rotating basis. This will enable effective organisation of the team and support the coherent development of science subjects as well as facilitating effective communication. There is good provision for formal meetings of the subject department and minutes are kept of meetings, though these would benefit from greater detail being provided. Teaching and learning should be placed as a standing item for the agenda of meetings.
- The subject department should review and update the subject plan for Science to address inaccuracies and to reflect current practice taking account of the whole-school systems, priorities, developments and agreed strategies.
- The common schemes of work for Science and Chemistry should be further developed as an integrated framework aligning learning outcomes with methodologies, resources, assessment strategies, literacy and numeracy strategies and explicit cross curricular links.
- School management provides an analysis of the examination results and how they compare with national norms to the subject department. The subject department should undertake a

detailed analysis of students' progress and certificate examination results to identify and address areas for improvement in teaching and learning.

- The strategic focus evident in the Science and Chemistry plans is limited. Strategic planning should be extended to address areas for improvement and development including student attainment, current developments in junior cycle Science and the planned extension to the school. It should be progressed through the development of 'SMART' action plans which address these areas.
- Building on cross-curricular links, the TY Chemistry plan should be reviewed and revised to bring it in line with the *Transition Year Guidelines*. The current provision for TY Chemistry should be reviewed with a view to its delivery within an integrated TY Science programme.
- Overall, lessons and practical work were well planned and well prepared.

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The draft findings and recommendations arising out of this evaluation were discussed with the principal, deputy principal, and the 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.

# **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 Sancta Maria College note and appreciate the many positive comments made in this report.

**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 Board wish it noted that the matter of the subject plan has now been addressed by the Science teachers, and the appointment of a subject convenor is being addressed by the board.