

**An Roinn Oideachais agus Scileanna**  
**Department of Education and Skills**

**Subject Inspection of Science and Biology**  
**REPORT**

**Maria Immaculata Community College**  
**Dunmanway, County Cork**  
**Roll number: 76086P**

**Date of inspection: 13 March 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 BIOLOGY**

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**INFORMATION ON THE INSPECTION**

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

**MAIN FINDINGS**

- The quality of teaching and learning overall was of a high standard in the lessons observed.
- There was a positive learning environment with good affirmation of student effort.
- The development of students' scientific literacy skills was supported in all lessons.
- The science facilities are very well organised, presented and maintained.
- Planning for the lessons observed was very comprehensive.

**MAIN RECOMMENDATIONS**

- The science team should develop a more inquiry-based approach that will challenge the students.
  - The plans for Transition Year should be further developed.
  - The subject plan should include a section on the area of practical work.
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## **INTRODUCTION**

Maria Immaculata Community College is a co-educational school which currently provides post-primary education to 495 students from an urban and wide rural catchment. The school offers the Junior Certificate, the Junior Certificate School Programme (JCSP), an optional Transition Year (TY) programme, the Leaving Certificate, the Leaving Certificate Vocational Programme (LCVP) and the Leaving Certificate Applied Programme (LCA).

## **TEACHING AND LEARNING**

- The quality of teaching and learning overall was of a high standard in the lessons observed. All of the lessons had a clear focus which was shared with students at the start of lessons through the stating of the intended learning outcomes. This was supported, in some lessons, by the use of specific boards or designated areas of the main board which allowed the learners visualise the intended outcomes. The most effective use of this approach was evident when sufficient time was given at the end of lessons to assess the progress achieved with respect to the intended learning outcomes. Such an approach should be adopted generally.
- Lessons were very well managed and conducted at an appropriate pace. Teachers circulated around the room well during the lessons observed. Classroom procedures have been well established and the students were attentive, engaged, and cooperative throughout.
- A range of methodologies was observed including teacher delivery, student practical activities and some co-operative learning tasks. Teachers provided clear delivery of the content and instructions in relation to tasks, which resulted in all student activities being well organised and controlled. There is an opportunity for teachers to allow students work more independently when completing tasks. This would allow teachers to: observe student progress and give feedback in relation to the task; differentiate the task when required and also provide opportunities to develop a more inquiry-based approach that will challenge the students in relation to the work they are completing.
- The practical activities provided the students with the opportunity to develop their skills and understanding of the topic under investigation. Students were able to set up and clean up after their practical activities. They worked well in their pairs or small groups. To further aid and focus the learning experience of the students and ensure that all members of the group are engaged, the inclusion of an additional tasks for example some type of worksheet could be considered.
- In some lessons, where practical work was observed, students were encouraged to write-up based on their own experience, which is good practice. The quality of the written work varied. The team should review the area of student investigative recording. Ongoing monitoring of student work should aid the development of, and improvement in, the students' skill in the recording of investigations. The team should also consider extending the awarding of marks for students' practical written records, as part of their overall grade in all school-based examinations.
- There was good use of subject-specific language by the teachers. Students had, and were using, word-banks of scientific key terms. Word searches were used, in some lessons, to good effect to highlight and explain these key terms. In order to further aid student understanding and learning, there is a need to consider how these word-banks link and integrate with notes, texts and other materials provided.
- Various areas of the course were well integrated and good links with prior learning were established in many of the lessons. This allowed the learners to make valuable connections in their understanding.

- A range of resources was used in the lessons observed including the board, a variety of print materials, ICT and materials required for practical activities. These were integrated well into lessons and contributed to student understanding and positive student engagement.
- Some assessment-for-learning practices were observed, including the use of ‘traffic lights’ to indicate understanding. Questioning featured in all lessons. In the main, questions were directed to named students. Opportunities for additional higher order questioning in lessons should be considered. Greater use should be made of ‘wait time’ and more probing strategies during questioning.
- The correction and assignment of homework occurred in lessons, with students recording information in relation to homework in their journals.

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

- Junior Science is part of the core curriculum, with Biology the most popular science subject at senior cycle. Physics and Chemistry are also available to students to study for their Leaving Certificate.
- An appropriate number of classes are allocated to the subjects evaluated, with double periods provided to facilitate practical activities.
- The school has three fully equipped laboratories, with associated preparation/storage areas. The science facilities are very well organised, presented and maintained. There is good student access to the laboratories, with teachers rotating access when required.
- The school has a safety statement. This statement should be reviewed annually.
- Assessment practices in the school involve class tests, with two main assessment points yearly for each year group. Pre-examinations are also held yearly. Teachers keep records of all assessment outcomes, which is good practice.
- Students are involved in a range of science-related activities, which is very positive. Activities include participation in science week, quizzes, science-related visits, fieldtrips and participation in, and attendance at, the BT Young Scientist competition.
- Science teachers are encouraged to be members of their subject associations and have availed of a range of professional development activities. The school encourages and provides opportunities for teachers to attend relevant professional development programmes.

#### **PLANNING AND PREPARATION**

- Management facilitates the planning process. The science department has two formal yearly meetings, including a review meeting at the end of the school year. The minutes of these meetings are recorded. It is acknowledged that many informal meetings take place on a regular basis. The team, along with school management, could consider having some additional formal meeting time, during the school year.
- A subject convenor has been appointed to co-ordinate the science department and this position is rotated among the team, which is positive.
- Comprehensive plans were presented. Linkages between the topics and learning outcomes, methodologies, resources, homework and, more recently, literacy and numeracy are in evidence. Work on cross-curricular links is also in progress. An evaluation of the outcomes of state examinations is also done which should inform future planning and classroom practice. It is recommended that the plans for Transition Year be further developed and that they document in more detail the learning outcomes for the students.

- The current planning documents should include a section on the area of practical work. This could document recording, assessment strategies and the expected level of attainment in skills in relation to practical work for each year group.
  - There was good individual teacher planning for the lessons observed.
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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.

# **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 Maria Immaculata Community College wishes to thank the Inspectorate for their affirmation of the high quality of teaching in Science and Biology and advice. The Board acknowledges the commitment and dedication of the Science Department and congratulate the team on their work, and look forward to receiving an outline on how the recommendations are being implemented.

### **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 recommendations are being prioritised in the development of Science and Biology plan for the next three years. A review of Transition Year plan for Biology is currently underway.