

An Roinn Oideachais agus Scileanna

Department of Education and Skills

**Subject Inspection of Science
REPORT**

**St Muredach's College
Ballina, County Mayo
Roll number: 64510J**

Date of inspection: 4 December 2013



**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 of inspection	4 December 2013
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 six class periods• Examination of students' work• Feedback to principal and teachers

MAIN FINDINGS

- The quality of teaching in the science lessons observed was good overall.
- Teachers were well prepared, information and communication technology (ICT) was used effectively and, where applicable learning outcomes were presented to students at the outset of lessons.
- In the lessons observed, classroom management was very good and a positive rapport between students and teachers was evident.
- The school has three well-resourced science laboratories and time-table provision for Science is broadly in line with syllabus guidelines.
- Science is a core subject at junior cycle and four science subjects are offered to students at senior cycle.
- As part of the subject department's planning, the analysis of Certificate examination results conducted is very good; however, there is scope to develop more detailed schemes of work.

MAIN RECOMMENDATIONS

- The science department should increase the emphasis on investigation and enquiry-based learning as well as the use of more student-centred learning methodologies.
- While some formative written feedback was seen in samples of students' work, all teachers should provide such feedback and this should include guidance for students on how to improve the quality of their work.
- Consideration should be given, where possible, to increasing the number of class contact hours available to Science during the first year of the junior cycle.

INTRODUCTION

St Muredach's College is an all-boys voluntary secondary school in Ballina operating under the trusteeship of the Catholic Bishop of Killala. It has a current enrolment of 419 students. In addition to the Junior Certificate and the Established Leaving Certificate the school also offers an optional Transition Year (TY) programme.

TEACHING AND LEARNING

- The quality of teaching in Science was found to be good overall. However the science department should increase the emphasis on investigation and enquiry-based learning.
- Lessons were well prepared, teacher explanation was clear and good use was made of ICT. The good practice of sharing learning outcomes with students was observed. The science department should now enable students to self-reflect on these outcomes in order to evaluate their own learning.
- Classroom management was of a very high standard and classrooms in which the lessons took place were print-rich and contained stimulating posters as well as the students' own work. Positive affirmation of students was a feature of all lessons. Students were respectful and this contributed to the positive student-teacher rapport.
- Students' experienced a range of methodologies in lessons including teacher instruction, group work, pair work, individual assignments, practical activities and demonstration. It is recommended that greater use of student-centred and assessment for learning methodologies be incorporated into lessons and that a better balance be found between teacher instruction and student participation so as to enhance enquiry-based learning.
- In the practical lessons visited, good health and safety procedures were evident. Students prepared and cleared up the equipment that they had used and they worked actively and collaboratively in small groups. These good practices are commended.
- In the majority of lessons, teachers used a good mixture of styles of questioning. Very good use of directed questions and some higher-order questioning was observed. Greater use of higher-order questioning and student-led discussion is recommended as a useful assessment for learning strategy.
- Differentiation strategies were evident during lessons. Teachers should, however, ensure that these strategies extend to students of all abilities.
- Homework was assigned early in all lessons. This is very good practice. Homework was corrected and monitored in lessons and some formative feedback was seen in the samples of students' work reviewed. It is recommended that all teachers provide more written formative feedback, particularly in relation to students' practical work, in order to guide them on how to improve the quality of their work.
- In most of the lessons observed, there was some attention given to the development of students' literacy through the explanation of new vocabulary. The science department should undertake a review of the effectiveness of the classroom strategies it currently uses to support literacy.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- There is good support at a whole-school level for the science subjects. Science is a core subject at junior cycle where students study it in mixed ability classes. A very good range of science subjects is offered to students among optional subjects provided at senior cycle. Science is also compulsory during the TY programme.
- Time-table provision for Science is broadly in line with syllabus guidelines. However, management should keep under review the practice of only providing one single and one double period per week in first year and consider increasing this to two single periods and one double period in order to increase contact time for the subject to three days weekly. Similar provision would be desirable for TY Science as it is currently offered for one double lesson only per week.
- The school has three well equipped science laboratories. Students have very good access to the laboratories for practical work. As a result of good levels of collaboration amongst the science teachers and with senior management almost all science lessons occur in these laboratories.
- The teachers are members of the Irish Science Teachers' Association (ISTA) and have engaged with continuing professional development. Students are encouraged to partake in a range of extra-curricular activities including SciFest and the BT Young Scientist and Technology Exhibition.
- The school has an assessment policy and common assessments take place twice yearly. The science department assigns up to ten percent of the marks awarded to practical work undertaken by students throughout the course of the year. This is good practice.
- A safety statement has been devised and is reviewed annually. Chemicals were stored appropriately and all laboratories had first aid equipment.

PLANNING AND PREPARATION

- A subject co-ordinator, who is responsible for co-ordinating the work of the subject department, fulfils this role on a voluntary basis. This role is rotated annually among the teachers. This is good practice.
 - Science department meetings are held each term and minutes of these meetings are recorded along with records of any professional development undertaken by the science teachers. In addition, informal meetings take place on a regular basis. These play an important role.
 - Current subject plans are a result of significant work and indicate good collaboration among the science team. The good work produced so far should be adapted into a more integrated scheme of work with clearer linkages between topic lists, timeframes, learning outcomes, methodologies, assessment and resources. These schemes should then be used as working documents. It is also recommended that a better balance of the three sciences be taught in first year than is currently the case.
 - The subject department undertakes an analysis of students' results in the Certificate examinations each year. This is used by the science teachers to discuss and guide future subject planning. This is commendable practice.
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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 on the findings and recommendations of the report; the board chose to accept the report without response.

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