

An Roinn Oideachais agus Scileanna

Department of Education and Skills

**Subject Inspection of Science and Chemistry
REPORT**

**Saint Joseph's Secondary School
Ballybunion, County Kerry
Roll number: 61220I**

Date of inspection: 3 May 2016



**AN ROINN | DEPARTMENT OF
OIDEACHAIS | EDUCATION
AGUS SCILEANNA | AND SKILLS**

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

INFORMATION ON THE INSPECTION

Date of inspection	3 May 2016
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 four class periods• Examination of students' work• Feedback to principal and teachers

MAIN FINDINGS

- The quality of teaching and learning ranged from very good in some lessons to instances where the need for some improvement was advised.
- Very good teacher-student rapport was observed in all lessons.
- For the most part, it was clear that a good level of learning was taking place in the lessons observed.
- Science is in a strong position in the school and well supported by management.
- Teachers' willingness to try different modes of teaching, and subsequently evaluate the success of these practices, is commended.

MAIN RECOMMENDATIONS

- Teachers should plan for greater, student self-directed and discovery learning in their delivery of the curriculum.
 - Differentiation should be used to a greater extent to facilitate all students in their learning.
 - In the context of syllabus reform, it is recommended that the department put teaching and learning on the agenda of science meetings, with a view to formalising the sharing of effective practices and to discussing how the development of key skills and the nature of science strand will be integrated into the teaching of the other science strands.
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INTRODUCTION

St Joseph's Secondary School is co-educational, serving Ballybunion and the surrounding rural hinterland. It operates under the auspices of CEIST and the diocese of Kerry. It has a current enrolment of 248 post-primary and nine Post-Leaving Certificate Programme (PLC) students. The school offers the following programmes to its post-primary students; Junior Certificate, Transition Year (TY), established Leaving Certificate and the Leaving Certificate Vocational Programme (LCVP).

TEACHING AND LEARNING

- The quality of teaching and learning ranged from very good in some lessons to instances where the need for some improvement was advised.
- Where teaching and learning was very good, learning intentions were shared at the outset and the learning intentions were used as a basis for evaluating learning. In these lessons, the structure was coherent and there was logical progression from one section of the lesson to the next. This approach to lesson design should be used in all lessons.
- In some lessons, a *think, pair, share* strategy or questioning was used to ascertain students' prior knowledge, thus setting the scene for new learning. This is very good practice.
- Clear communication of content, helpful questioning, effective use of information and communication technology (ICT) and teacher support assisted students in their learning.
- When a lesson is focussed on revision, there is a need for all students to be actively engaged in their learning. The following strategies could be considered, for example; students could answer questions related to different topics or different aspects of a topic, which are set at different stations; alternatively, students could devise questions and answers in pairs or small groups which they would subsequently pose to their peers; students could also ask their peers to explain why an idea or concept is true.
- While there was some evidence of the application of the investigative approach, it is recommended that teachers plan for greater student self-directed and discovery learning in their delivery of the curriculum.
- Very good teacher-student rapport was observed in all lessons and classroom management was very good overall.
- It is noteworthy that in one class group, the teacher supported students of different ability and class levels. Building on this good practice, it is recommended that modes of differentiation are used to a greater extent when teaching the sciences, particularly when students are at different levels within the class group. For example, strategies such as student creation of mind maps or peer assessment of written work could be used.
- As students progress through the school, they should increasingly engage in note making rather than note taking. This process could be undertaken in pairs or as individuals.
- Good links with everyday life made the learning interesting and relevant and there was appropriate focus on examinations.
- For the most part, it was clear that a good level of learning was taking place in the lessons observed.

- Assessment includes topic tests and a percentage of marks are given for students' practical notebooks. This is good practice.
- Overall, students' written work was at a good standard. There was some evidence of monitoring and annotation of students' work. Increased strategic use of formative commentary is recommended in order to assist students' improvement.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Science is in a strong position in St Joseph's Secondary School and well supported by school management. Currently, Science is a core subject for first and second year of Junior Certificate and for Transition Year (TY). Science is currently part of an option block in third year. Agricultural Science, Biology, Chemistry and Physics are provided as optional subjects for Leaving Certificate and the uptake of these subjects is good or very good.
- It is good to note that the numbers opting for Physics and Chemistry have been steadily increasing. The commitment of teachers to co-teaching fifth-year and sixth-year chemistry and fifth-year and sixth-year physics is acknowledged.
- Time allocation is in line with the syllabus requirements. Almost all classes have a good spread of science lessons across the week. Care should be taken to avoid the timetabling of double-lessons across break or lunchtime, which happens in a very small number of instances.
- All classes are timetabled for at least one double-lesson each week. This is good practice given the practical orientation of the science programme.
- There is a good level of scientific resources and equipment, including information and communication technology, available to support teaching and learning in the sciences. The school has one well-resourced laboratory, with appropriate storage and preparation areas adjoining.
- The focus on health and safety procedures in the science department is good. Overall, chemicals are segregated according to best practice guidelines. The science department has agreed to make the few minor adjustments that are necessary.

PLANNING AND PREPARATION

- The science personnel in the school adopt a professional collaborative approach to their work. One example of this good level of collaboration is evidenced by the recently initiated change in teaching practices in junior cycle, whereby subject specialists have begun to teach different class groups their own specialism. The use of this approach was subsequently evaluated. This willingness to try different modes of teaching and subsequently evaluate the success of these practices is commended.
- Minutes of department meetings also provide evidence of the good level of collaboration that exists among science department members. Building on this good practice, and in the context of syllabus reform, it is recommended that the department put teaching and learning on the agenda of science meetings, with a view to formalising the sharing of effective practices and to discussing how the development of key skills and the nature of science strand will be integrated into the teaching of the other science strands.

- TY is optional and all students study Science throughout the year. This is good practice as students are provided with the opportunity to further develop their scientific literacy. The TY science plan is in keeping with TY philosophy as students sample aspects of the four science subjects that are offered in senior cycle, in addition to studying aspects of science that are not in the examination syllabuses. Increased inclusion of such aspects of Science is suggested. The TY science programme also has a practical focus and students are asked to research and present a project on a science subject of their choice. This is very good.
 - A well-organised subject folder has been compiled. Subject plans for Junior Science and each of the Leaving Certificate sciences have been devised.
 - The level of planning for lessons was very good.
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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 was given an opportunity to comment in writing on the findings and recommendations of the report; a response was not received from the board.