

An Roinn Oideachais agus Scileanna

Department of Education and Skills

**Subject Inspection of Science and Physics
REPORT**

**Saint Joseph's College, Garbally
Ballinasloe, County Galway
Roll number: 62880J**

Date of inspection: 1 December 2015



**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 PHYSICS

INFORMATION ON THE INSPECTION

Dates of inspection	30 November and 1 December 2015
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 eleven class periods• Examination of students' work• Feedback to principal and teachers

MAIN FINDINGS

- The quality of learning and teaching was good overall.
- Teachers were generally well prepared for their lessons and a range of methodologies, including some use of enquiry-based learning was observed.
- Very good student-teacher rapport was evident in all lessons, students were affirmed for their efforts and evidence of written formative feedback was seen in samples of students' work.
- Science is a core subject in the junior cycle and the uptake of Physics is very good.
- The school has three well-resourced science laboratories but a significant number of science lessons take place outside these specialist rooms.
- The science department's planning is good and it includes good record-keeping as well as an analysis of certificate examination results.

MAIN RECOMMENDATIONS

- The science teachers should increase the emphasis on investigation and enquiry in the range of teaching and learning methodologies used.
 - Teachers should ensure that methodologies are differentiated carefully to ensure that they cater for students of all abilities.
 - Consideration should be given to ensuring that science lessons are timetabled to ensure better contact time across the week.
 - The science department's schemes of work should be extended to include specific teaching and learning methodologies and assessment modes, which are linked to student learning outcomes.
-

INTRODUCTION

Saint Joseph's College is a voluntary secondary school with an enrolment of 512 boys. It operates under the trusteeship of the Catholic Bishop of Clonfert. The school offers students the Junior Certificate and the established Leaving Certificate as well as an optional Transition Year (TY) programme and the Leaving Certificate Vocational Programme (LCVP).

TEACHING AND LEARNING

- The quality of learning and teaching in Science and Physics was good overall. There was scope for development in a small number of lessons where teacher-centred methodologies dominated. It is important that lessons have an appropriate balance between student activity and teacher instruction.
- Lessons were generally well prepared and teachers and students had access to a good range of equipment and resources including information and communications technology (ICT). Prior learning was assessed at the start of every lesson and the learning intentions were shared with students in the majority of lessons. All teachers should ensure they provide statements of learning intentions which remain accessible throughout the lesson to help focus students' attention. The students should then be encouraged to use these intentions to self-assess their own learning.
- A range of methodologies was employed during the lessons. Good practices such as clear teacher-instructions, student performance of experimental work, pair work, group work, individual student tasks, and the use of mind maps were observed. There was an over-reliance on note-taking in some lessons and this practice should be minimised or avoided as students were passive for periods of time. Enquiry-based methodologies were also used in some lessons. The science department should increase the emphasis on investigation and enquiry learning in lessons.
- Classroom management was very good overall. Students were affirmed for their efforts and a good rapport between students and teachers was observed. The laboratories were print-rich. Teachers and students were mindful of following good health and safety procedures during practical activities.
- All classes are of mixed ability and some differentiation strategies were used in lessons. However, the science department should ensure that all methodologies are differentiated carefully to ensure that they cater for students of all abilities and maximise students' engagement in learning.
- Questioning was good overall. Good practice occurred when targeted, higher-order questions were well distributed across the student cohort and when students were given sufficient time to formulate a response. In some cases, teachers were observed to over-scaffold or answer their own questions and these practices should be avoided.
- Homework is assigned, monitored and corrected regularly, and an examination of samples of the students' work indicated that teachers provide useful written formative feedback. Teachers should vary the type of homework given and avoid an over-reliance on written tasks and revision exercises. All teachers should also ensure that students write up their practical work in their own words rather than transcribing from a template.
- The science department should undertake a review of the effectiveness of any classroom strategies it currently uses to support literacy and numeracy as part of the school self-evaluation (SSE) process.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Whole-school support for the sciences is good. Science is a core subject in the junior cycle and is compulsory in TY. Students can choose Agricultural Science, Biology, Chemistry and Physics from an open choice of science subjects at senior cycle. The uptake of Physics in the school has been well above the national average in the last few years.
- The time allocation for Science and Physics is in line with syllabus guidelines. However, in a small number of instances class groups have more than one science lesson during the day. Management should ensure that science lessons are spread out across the week to allow students to have more contact days with the subject.
- The school has three science laboratories and management and teachers ensure that these laboratories are well-resourced. ICT facilities are good and the laboratories have appropriate first-aid facilities and safety equipment, and chemicals are stored correctly. Due to the high uptake of science subjects, a significant number of science lessons do not take place in these specialist rooms. Teachers should maximise student access to the laboratories to ensure that as many lessons as possible take place in these rooms. Senior management should also consider converting the demonstration room into an additional laboratory to assist teachers in achieving better access for practical work.
- The school is supportive of teachers' continuing professional development and teachers are actively involved in the Irish Science Teachers' Association. Students are encouraged to participate in extra-curricular events including the BT Young Scientist and Technology Exhibition and SciFest.
- Common assessments take place at Christmas and summer. All science teachers should consider providing students' overall results in these examinations with a percentage for their attainment in practical work during the term.

PLANNING AND PREPARATION

- The quality of planning and preparation is good overall. A co-ordinator is appointed and this position is rotated periodically. The science teachers should agree on assigned duties for the co-ordinator role and review these when necessary. Formal meetings are held each term and minutes of these meetings are maintained.
 - The science department conducts an analysis of certificate examination results. This analysis should include the context of the year group and it should be extended by setting measurable targets and agreeing time-bound action plans to improve student learning. The analysis should be discussed at department meetings and recorded in the minutes.
 - Common schemes of work are in place which include timeframes, learning outcomes, and a teacher review section. These schemes should now be extended to link specific teaching and learning methodologies and assessment modes to the learning outcomes. This would provide the teachers with an opportunity to share practices and to increase the number of enquiry-based methodologies across the science department. A consistent format to the schemes should then be agreed for all science subjects.
-

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.

Published February 2016

Appendix

SCHOOL RESPONSE TO THE REPORT

Submitted by the Board of Management

Part A Observations on the content of the inspection report

Part B Follow-up actions planned or undertaken since the completion of the inspection activity to implement the findings and recommendations of the inspection.

The Board of Management accepts the findings and the recommendations of the report issued on the 19th January 2016. The Board will work towards implementing the recommendations of the report.