

An Roinn Oideachais agus Scileanna

Department of Education and Skills

**Subject Inspection of Science and Physics
REPORT**

**St Louis High School
Charleville Road, Rathmines, Dublin 6
Roll number: 60890C**

Date of inspection: 14 and 15 May 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 AND PHYSICS

INFORMATION ON THE INSPECTION

Dates of inspection	14, 15 May 2013
Inspection activities undertaken <ul style="list-style-type: none">• Review of relevant documents• Discussion with principal, deputy principal and teachers• Interaction with students	<ul style="list-style-type: none">• Observation of teaching and learning during nine class periods• Examination of students' work• Feedback to principal, deputy principal and teachers

MAIN FINDINGS

- Teachers were very well prepared for lessons and resources and equipment were sourced in advance.
- Lessons were well structured; learning outcomes were shared with students and revisited at the conclusion of lessons, though this was not consistent across all lessons observed.
- In the majority of lessons, students were actively engaged in their learning.
- The positive classroom atmosphere and good rapport supported high levels of student interest and motivation.
- Innovative use of various methodologies and information and communication technology (ICT) advanced and supported student learning and understanding.
- A wide range of assessment strategies, including good questioning strategies, were used to evaluate students' progress in the majority of lessons.

MAIN RECOMMENDATIONS

- Strategies should be developed to engage students more actively in some lessons and the pace of delivery should support this process.
 - Subject planning, schemes of work and Transition Year (TY) planning require further development and review.
 - Assessment for learning (AfL) strategies should be more fully integrated into students' learning experiences, and in particular, the practice of providing formative written feedback to students should be expanded.
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INTRODUCTION

St Louis High School is a voluntary secondary school with a current enrolment of 635 girls. The school offers a range of programmes including the Leaving Certificate Vocational Programme (LCVP) and an optional TY programme. Science is offered as a core subject at junior cycle and Physics, Chemistry and Biology are options at senior cycle. Science modules form part of the extensive TY programme.

TEACHING AND LEARNING

- The positive classroom atmosphere and good rapport, supported high levels of student interest and motivation. Classroom interactions were respectful and students were affirmed and encouraged for their efforts and contributions.
- Innovative use of various methodologies including ICT advanced and supported student learning and understanding in almost all lessons. The utilisation of applets as an aid to the understanding of more difficult concepts in physics would have further supported learning.
- In the main, intended learning outcomes were clear, differentiated as necessary, shared with students and revisited at the conclusion of lessons. This good practice should be extended. Teachers were well prepared and resources, materials and equipment were sourced in advance.
- In a minority of lessons, the pace of learning was such that opportunities to check students' level of understanding were not developed and the balance between teacher instruction and active student engagement was not effective. Therefore, it is recommended that focused strategies and supports be employed to remedy this situation. The setting of a student research task as part of a prior homework assignment may help to inform discussion and debate when new topics are introduced.
- Differentiation was in evidence for the most part to cater for the range of students' abilities and in these lessons teaching methods were appropriate for students' abilities, needs and interests. This should improve in some lessons.
- Classroom and laboratory space, as an effective learning environment were well utilised in some lessons. This will require further pre-planning. The whiteboard was used to highlight key words and concepts and as an aid to problem solving in many cases. In this way, students' literacy and numeracy skills were developed and supported. Good focus and attention was placed on subject-specific language. This is praiseworthy as it supports scientific literacy development.
- Almost all teachers demonstrated a high level of competence, expertise and skill in the management, organisation and delivery of lessons. Teachers had high expectations of students commensurate with their abilities and learning styles.
- Investigative practical activities and group work formed a key focus of many student activities. In a small minority of lessons, the size of groups should be smaller and students should be afforded the opportunity to carry out investigations themselves. In Physics, for example, this can be organised on a rota basis.
- A wide range of assessment strategies were used to evaluate students' progress. The overall quality of students' laboratory notebooks and copybooks is good. AfL strategies should be more fully integrated into students' learning experiences. This is supported in some cases by teachers' positive annotation of students' work and oral feedback to students. This approach should be extended to place a renewed focus on formative written feedback to students as a means of directing their future learning. The clear focus on homework assignments and correction was a key assessment feature of all lessons. Examination results are analysed and student academic achievement is monitored.

- There was effective use of appropriate and challenging questioning in all lessons observed. Best practice was demonstrated when questions were directed at individual students. A good depth of knowledge and understanding was demonstrated by students.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- The provision for and uptake of science subjects in the school are very good.
- Students are very well supported in making an informed subject choice for Leaving Certificate. It is praiseworthy that students are encouraged to take at least one science subject at senior cycle. The annual careers day which is organised by the guidance department supports this process.
- There is very good provision for students requiring learning support.
- Time provision for all science subjects is generally in line with syllabus recommendations. However, the timetabling of a double period for second-year science would further support student practical investigative work.
- The three science laboratories and preparation areas are very well organised and maintained. Currently access to the laboratories for double periods is very good. School management should plan for increased laboratory provision to cater for the future needs of science education in the school. Health and safety practices are very good overall and appropriate policies are in place. The storage of chemicals using the recommended colour coding system is necessary.
- Students are encouraged to partake in a number of co-curricular and extra-curricular activities including Sci-Fest, the BT Young Scientists' Competition and Science Week events. Recent student successes are praiseworthy and promote the profile of Science in the school.
- Laboratory ICT facilities are good and include data-projectors, computers and internet access. Teachers share resources online and on the school's intranet.
- In-service and relevant continuing professional development (CPD) courses are supported for all science teachers. Teachers who are new to the science department are very well supported by colleagues and school management. Whole staff CPD has supported literacy and numeracy, AfL strategies, differentiated learning and Junior Cycle reform. It is important that all teachers have their subjects registered with the Teaching Council.

PLANNING AND PREPARATION

- The science plans are well developed, are reviewed each year and are shared on the school's IT system. The future development of the plan should include a section on long-term targets for the development of Science and Physics, including examination results analysis, subject evaluation and health and safety. The scheme of work for Science is well developed. The scheme of work for Physics should avoid listing chapter numbers from a textbook and should use the syllabus learning outcomes as its basis. Further development should include linking each learning outcome to its assessment strategy and to resources utilised and teaching methods employed.
- The content and focus of the TY plan for Science is very good overall. The future focus of TY planning should be on skills development and on building evaluation strategies into all modules.

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 Management welcomes the positive report on the excellence of teaching and learning in Science and Physics in St Louis High School, in particular, the main findings and recommendations.

The Board notes the proximity of the inspection to the start date of the state examinations.

The Board is supportive of the evidence of best practice as demonstrated by the Science Department and highlighted in the inspection 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.

Strategies are in place to engage all students actively in lessons.

The pace of lessons will be pitched to suit all students particularly around examination times.

The Transition Year and Physics plans will be updated as recommended in the report.

The Science Department will use comment based and grade based assessment as part of the AfL strategy.

The colour coding system for the storage of chemicals has been completed.