

An Roinn Oideachais agus Scileanna

Department of Education and Skills

**Subject Inspection of Science and Biology
REPORT**

**St. Brendan's Community School
Birr, Co. Offaly
Roll number: 91491L**

Date of inspection: 23 March 2011



**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

INFORMATION ON THE INSPECTION

Date(s) of inspection	22 & 23 March 2011
Inspection activities undertaken <ul style="list-style-type: none">• Discussion with principal• Discussions with science and biology teachers• Review of teachers' notes, plans and records• Interaction with students	<ul style="list-style-type: none">• Examination of students' laboratory notebooks and copybooks• Observation of teaching and learning in twelve class periods• Feedback to science and biology teachers and principal

MAIN FINDINGS

- A consistently good standard of teaching was observed in the classes visited.
- Rapport between teachers and students was good and a high level of teacher-student interaction was evident.
- Available information and communication technology (ICT) equipment was well used. However, it is important to ensure that teachers do not become over dependent on this.
- Some students' laboratory notebooks were of a high standard but, overall, quality was uneven.
- A high level of co-operation and collegiality is evident among the members of the science department.
- Detailed common schedules for the delivery of all courses have been prepared and are being implemented.

MAIN RECOMMENDATIONS

- It is recommended that sharing learning outcomes with students at the beginning and reviewing them at the end of lessons be adopted as standard across the science department.
 - It is recommended that teachers monitor students' written work and provide supportive feedback, to an agreed common standard.
 - It is recommended that improved access by members of the science department to the school's central server be facilitated.
 - It is recommended that the Transition Year (TY) plan for the sciences be reviewed and further developed.
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INTRODUCTION

St. Brendan's Community School has an enrolment of 865 students. Science is a core subject in junior cycle. Biology, Chemistry and Physics are on the curriculum of the school's optional TY programme and, in addition to Agricultural Science, are optional Leaving Certificate subjects. 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.

TEACHING AND LEARNING

- All lessons observed were well prepared and purposeful and an appropriate level of progress was made. A consistently good standard of teaching was apparent and there was evidence of effective learning by students. Methodologies were appropriate to the lessons' context and were student centred and active.
- Available ICT equipment was well used. However, it is important to ensure that teachers do not become over dependent on this and that they retain the flexibility, for example, to use the classroom board to summarise students' input to lessons and draw diagrams. In addition, students should be encouraged to take notes during slide presentations. This was noted during one lesson.
- Examples of very good use of questioning were observed. Lower order questions were used to test students' recall and, in one lesson, to support brainstorming, where prior knowledge levels were established in advance of the presentation of a new topic. Higher order questioning was used to challenge students to think at a deeper level and to test understanding and application of theory. Questions, in most instances, were directed to named students who generally answered accurately and with confidence.
- Teaching was accurate, focussed and frequently supported by the use of a range of relevant visual and tactile stimuli and resources to enhance teaching and reinforce learning. New material was well linked to students' everyday experiences.
- There was evidence of the use of differentiation, for example by questioning of students, circulation of teachers to monitor and support students in class, and by teacher intervention during practical work.
- Learning outcomes were shared with students at the beginning and reviewed at the end of some lessons. It is recommended that this procedure be adopted as standard across the science department.
- Students engaged very well in the learning process. Rapport between teachers and students was good and lessons were characterised by a high level of teacher-student interaction. Students' input was sought and valued during lessons.
- Some students' laboratory notebooks were of a high standard but, overall, quality was uneven and progressive development of report-writing skills was not apparent. It is recommended that teachers monitor students' written work and provide supportive feedback, to a common standard.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Science is a core subject for junior cycle students. The time allocated, over the three years of the Junior Certificate course, meets syllabus recommendations. The uptake of Biology

in senior cycle is very strong and the time allocated is in keeping with syllabus guidelines.

- The laboratories, although old and limiting, are well stocked and well organised. Best use is being made of them and all students have, at a minimum, weekly access. Attention to health and safety issues is thorough and an appropriate range of safety equipment is available. It is suggested that, in order to raise awareness and enhance provision, small safety notices are displayed throughout the laboratories.
- Teachers are appropriately qualified and deployed. They have a wide range of expertise which is well used to support students' learning. Continuing professional development is well supported by school management and availed of by teachers.
- An appropriate system of formal and informal assessment of students' progress is in place. Progress reports are issued twice each year. Formal parent-teacher meetings are held once each year for every year group and additional contact with parents is as required.
- A data projector and broadband access is available in two of the three laboratories and in the demonstration room. It is recommended that ICT infrastructure be enhanced, as resources permit, by the provision of a data projector in the third laboratory and through improved access to the school's central server, from all locations, to facilitate sharing of teaching and other resources.
- Students' participation in extracurricular activities, for example the *Green Schools* programme, is supported and, from time to time, visiting speakers are invited to address students on relevant topics.

PLANNING AND PREPARATION

- A high level of co-operation and collegiality is evident among the members of the science department and the post of subject co-ordinator is rotated every two years. It is notable that records of department meetings provide evidence of discussion of pedagogical issues, in addition to planning and ongoing administrative issues.
- Detailed, common schedules for the delivery of all courses have been prepared and are being implemented, with the result that common assessments are used at almost all possible opportunities. Although planning documents have been adapted over time, it is important that changes are recorded and dated, in order that the most recent versions are readily identifiable and that changes can be tracked.
- It is recommended that the science department members make use of an annual detailed analysis of state examination outcomes to set targets for improvement, on an ongoing basis.
- The TY plan for the sciences comprises a list of topics in Biology, Chemistry and Physics. It is recommended that this TY plan be reviewed and that clearly defined objectives be developed. Arrangements for monitoring and assessing achievement, in relation to stated learning outcomes included in the course content, should then be detailed.
- Record keeping by individual teachers is good and sufficient information is recorded to provide a profile of each student and to support the provision of advice to students.

The draft findings and recommendations arising out of this evaluation were discussed with the principal and subject teachers at the conclusion of the evaluation.

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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 accepts the inspection report as fair and accurate and is pleased that good practice of the Science Department is identified and acknowledged.

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 of the inspection report have been adopted by the Science Department and incorporated into its development plan.