

An Roinn Oideachais agus Scileanna
Department of Education and Skills

**Subject Inspection of Science, Biology and Agricultural
Science
REPORT**

**The Abbey School
Tipperary Town, County Tipperary
Roll number: 65490L**

Date of inspection: 16 October 2012



**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, BIOLOGY AND
AGRICULTURAL SCIENCE**

INFORMATION ON THE INSPECTION

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| Date of inspection | 16 October 2012 |
| 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 seven class periods• Examination of students' work• Feedback to principal and teachers |

MAIN FINDINGS

- The quality of teaching and learning was good in the majority of lessons observed. Examples of very good practice and practice with scope for improvement were also observed.
- There was a positive learning environment with good affirmation of student effort.
- Where information and communication technology (ICT) was used, it was integrated well into lesson delivery.
- First-year science is allocated only three lessons weekly, which is below what is recommended in the curriculum.
- There was clear evidence of planning and preparation for the lessons observed.

MAIN RECOMMENDATIONS

- To help focus the students in their learning, the teacher should share the learning objectives with them at the start of each lesson.
 - The science team should audit the existing resources available to the sciences with the purpose of devising a strategy, in consultation with management, to improve them over time.
 - The area of practical work should be evaluated by the team with the aim of developing a more enquiry-based approach to student activities and practical work.
 - The team should endeavour to create all planning documents using the ICT facilities and, in doing so, adopt a more integrated approach showing clear linkages between topic lists, timeframes, learning outcomes, methodologies, assessment and resources.
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INTRODUCTION

The Abbey School is a boys' secondary school which currently provides post-primary education to 434 students. It offers Junior Certificate and an optional Transition Year (TY) programme. At senior cycle, students can choose between the Leaving Certificate, the Leaving Certificate Vocational Programme (LCVP) and the Leaving Certificate Applied Programme (LCA).

TEACHING AND LEARNING

- The quality of teaching and learning observed varied. In the main, it was good with some very good practice also observed. However, there was also scope for improvement in some instances. Where practice was very good, it was clear that effective routines had been established. There was a clear statement of the learning objectives for the lesson, with a defined lesson summation which referenced the initial learning objectives. This aided consolidation of learning for the student. Such an approach is recommended.
- In all lessons observed, material being delivered was linked to prior learning. Where most successful, this was achieved through questioning and good quality discussion. Subject-specific language was used during the lessons. In some instances, new words were put on the board for students to visualise, which is positive. The further development of the keyword concept should be considered. Students should record such words in their notes, with an area of the laboratory used to display current words for each year group. To reinforce new words and concepts further, it would be important that students be encouraged and be given every opportunity to use subject-specific language during lessons.
- A range of methodologies was observed. In lessons where there was a variety, where students were more active in their learning and where there was a balance between teacher and student inputs, student engagement was at its optimum. Where ICT was used, it was to support lesson delivery and stimulate student interest in topics. In some lessons, students were also given an opportunity for independent learning. This was achieved through well-prepared activities, group work and practical investigations. It was most successful and beneficial for student learning when there was a clear explanation of the task which allowed the student to work at his own pace and not totally directed by the teacher. Such an approach allowed students to explore and enquire for themselves, thus developing skills in these important scientific areas, which was very positive.
- Teachers circulated around the room well during the lessons observed. Classroom management was good with a positive teacher-student rapport evident. Overall, the pace of lesson delivery and time management in the lessons was effective.
- Questioning was a feature of all lessons observed, with both lower-order and higher-order questioning noted. Some probing techniques were also used on occasion to good effect. These could be utilised more to ascertain learning. In addition, the use of chorus answering should be avoided as it will not ascertain individual student learning in the classroom.
- The correction and assignment of homework occurred in all lessons. In some instances, the good practice of students recording information in relation to homework in their journals was noted.
- Students are encouraged to write up their practical activities based on their own experiences, which is good practice. The on-going monitoring of this work by the teachers should ensure that the students' skill in writing investigations improves overtime

and that students make the required corrections and additions to their work, to ensure learning is correct. A consistent approach to the area of student investigative recording should be explored by the team.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Junior Science is part of the core curriculum and a large percentage of senior students choose to study Biology and/or Agricultural Science for their Leaving Certificate. Positively, student choice dictates the way the option bands at senior cycle are created yearly, with current bands allowing students to study each subject if they wish.
- First-year students have three lessons of science weekly. Second and third-year students have four lessons in the form of one double and two single lessons. The curriculum recommends that students have four lessons in each year of junior cycle to include one double lesson. Management, in consultation with the science department, should review this situation and endeavour to achieve the recommended timeframe. Senior Biology and Agricultural Science are allocated the recommended five lessons weekly, which include double lessons to facilitate the practical elements of each curriculum.
- The school has two laboratories, located in different parts of the school, each with an associated preparation area. There was some evidence that the resources present in the science department have been organised by topic, which aids the delivery of practical activities. There is a definite need to audit the existing resources and to devise a strategy, in consultation with management, to add to and develop them over time.
- Assessment practices in the school involve class tests on completion of a unit of work, with four main assessment points yearly for each year group. Pre-examinations are also held yearly. Teachers keep records of all assessment outcomes, which is good practice.
- Teachers encourage students to partake in a range of science-related activities which is very positive. Activities include participation in science week, quizzes, science-related visits and attendance at the Young Scientist competition.
- The science team has availed of some professional development activities in recent years. Regular participation in such activities should be encouraged.

PLANNING AND PREPARATION

- Management facilitates the planning process by the provision of time for science department meetings each term. The minutes of these meetings are recorded. In addition, it is acknowledged that many informal meetings take place on a regular basis.
- A subject convenor has been appointed to co-ordinate the science department and this position is rotated among the team, which is positive.
- Significant work has occurred in the development of the current plans. The team should endeavour to create all planning documents using the ICT facilities and, in doing so, move to a more integrated approach showing linkages between topic lists, timeframes, learning outcomes, methodologies and resources.
- There was good individual teacher planning and preparation in evidence in the lessons observed. A range of resources was available and used including worksheets, practical and ICT equipment.

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.

Appendix

SCHOOL RESPONSE TO THE REPORT

Submitted by the Board of Management

Area 1 Observations on the content of the inspection report

The Board discussed in detail the findings of the Report and is happy to accept the findings and observations made.

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 Board will take on board the recommendations of the inspection and will seek to implement them. First Year students will, from September 2013, have four periods in First Year Science.