Department of Education and Skills

Subject Inspection of Science, Biology and Agricultural Science
REPORT

St Mary’s Secondary School
Newport, County Tipperary
Roll number: 65400H

Date of inspection: 17 May 2011
REPORT
ON
THE QUALITY OF LEARNING AND TEACHING IN SCIENCE, BIOLOGY AND AGRICULTURAL SCIENCE

INFORMATION ON THE INSPECTION

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MAIN FINDINGS

- A good standard of teaching and learning was observed in most lessons with a minority of lessons at a satisfactory standard.
- Very good facilities and resources are available in the school.
- The uptake of Biology and Agricultural Science at senior cycle is good.
- Science is no longer a core subject for students at junior cycle, though the level of uptake to-date remains high.
- Expansion of information and communication technology (ICT) into all facilities is ongoing and will be completed before the next academic year.

MAIN RECOMMENDATIONS

- Learning objectives which were observed in some lessons should be stated at the outset of all lessons, be referred to during lessons and be used to check understanding at the end of lessons.
- The teaching team should reflect on classroom practice and gather, share and record effective approaches in the subject plan.
- The science team should review the role of practical work and, in so doing, identify the skills the students should attain in each year group in relation to the practical components of the syllabuses. These skills should centre on enabling students undertake practical tasks and complete write ups based on their own experience of the task.
INTRODUCTION

St Mary’s Secondary School is a co-educational post-primary school situated in the small village of Newport, County Tipperary. The enrolment at the time of the inspection was 434 with a good balance between males and females. An increase in enrolment is projected over the coming years. The school provides the Junior Certificate programme which is followed by an optional Transition Year (TY) programme. For Leaving Certificate, students choose either the established Leaving Certificate or the Leaving Certificate Vocational Programme (LCVP).

TEACHING AND LEARNING

- Students were engaged and participated well in almost all the lessons observed during the evaluation. The standard of teaching and learning was good with a small minority of satisfactory lessons observed. Linkages with prior learning were made with good integration of new material with previous work. In some lessons students were afforded some independent learning opportunities which were very effective and this approach should be fostered when appropriate.

- Some lessons began with the sharing of learning objectives with the students. In these instances students had a clear understanding of the learning that would take place. It is recommended that all lessons be structured in this way and that the intended learning objectives be revisited during a defined lesson summation.

- The topics for study were underpinned by key scientific concepts and a focus on important terminology. The development of the keyword approach in conjunction with the use of differentiation would help to support a literacy focus in the sciences.

- Information and communication technology (ICT) was used very effectively in an integrated manner in some of the lessons. This is good practice and is to be encouraged. The use and development of ICT within the sciences should be discussed by the science department and common approaches should be agreed.

- Oral questioning was the main form of assessment observed. The development of more higher-order questioning throughout all lessons with the use of probing techniques is recommended. Planned discussion and written material completion were also used to assess learning in some lessons. The further implementation of additional methodologies to aid in the assessment of learning should be explored.

- Some lessons observed had a practical activity and these lessons were well organised and very well managed. Students’ practical skills were observed to be developing well as they worked successfully in small groups. Cognisance was taken of safety. An enquiry-based approach was observed in some of these classes and this is to be encouraged.

- There was a good pace to the lessons observed. Most of the lessons had a variety of different activities including practical work and group discussion which aided student engagement in the learning. Where students appear passive in their learning, strategies to ensure their participation should be considered and implemented.

- To support students’ learning, further development of a print-rich environment is recommended. To support the further development of student understanding and literacy in these subjects, the materials used should reflect current content delivery and materials of student origin should be encouraged.
• There was a positive and supportive learning environment in the lessons observed. Attendance was recorded with discipline and classroom organisation effective. Teachers moved around the room during all lessons which aided student engagement. Good affirmation of students’ efforts was observed with the relationship between the teacher and the learners of a high quality.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

• Provision and resourcing for the sciences is appropriate. There is ongoing development of ICT in the sciences and in the school as a whole. Classes are arranged on a mixed-ability basis. The time allocation to the subjects is in line with syllabus recommendations. The science facilities are well equipped to provide a good quality learning environment for the subjects evaluated.

• Uptake levels for both Biology and Agricultural Science are currently good. The school has recently made a decision to remove Science as a core subject for Junior Certificate. Uptake levels initially are still good in Science. This new arrangement should be kept under review and the school should ensure that, during the decision-making process in first year, students are fully informed in relation to the accessibility of science subjects at senior cycle.

• The school has three laboratories, two science classrooms and two preparation areas. Timetabling and team collaboration should ensure that the laboratories are utilised first before additional room accommodation is assigned to the science team for the delivery of science subjects. Where possible science-subject delivery should occur in one of the designated science spaces in the school, with rotation used if clashes occur.

• The laboratories and the associated preparation areas are well organised. The materials and equipment for syllabus-recommended practical activities within the sciences are well organised. Chemicals are stored correctly. An appropriate level of safety equipment is present. The current safety statement should be revised to align with recently devised guidelines.

• Industrial visits, visiting speakers and attendance at the BT Young Scientist and Technology competition are some of the extracurricular and co-curricular activities organised in the sciences in the school. These activities and others help to support students’ holistic development and their independent learning skills and are to be encouraged.

PLANNING AND PREPARATION

• There is good collaboration among science teachers. Subject co-ordinators have been appointed which facilitates the running of the department. Minutes of department meetings are retained. This is positive.

• A common programme of work for each year of the science programmes has been devised. The development of the plans in terms of learning outcomes is recommended.

• To continue the development of the subjects in the school, the science teachers should reflect on their own practice in the classroom. Elements of good practice should then be shared by all members of the team and included in the subject plan.
As part of its planning, the science team should review the area of practical work. In particular, it should identify the skills the students should attain in each year group in relation to the practical components of the syllabuses. These skills should revolve around enabling students undertake practical tasks and complete the necessary write ups based on their own experience of the task.

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.

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