Subject Inspection of Science and Physics
REPORT

Jesus and Mary College
Goatstown Road, Dublin 14
Roll number: 60891E

Date of inspection: 18 May 2011
REPORT ON THE QUALITY OF LEARNING AND TEACHING IN SCIENCE AND PHYSICS

INFORMATION ON THE INSPECTION

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MAIN FINDINGS

- Lessons generally were well managed and structured, though this was not consistent across all lessons observed.
- An investigative approach to learning was in evidence and student learning was enhanced through the very good atmosphere and affirmative environment in all lessons.
- Concepts were explained with clarity and learning was reinforced by making it relevant to students’ everyday experiences.
- Assessment practices including the use of questioning are progressive. The introduction of assessment for learning (AfL) strategies has had a positive impact on student learning. Further reinforcement of AfL is needed.
- Planning for Science and Physics is well advanced with comprehensive and collaborative plans and schemes of work developed. Some development of these plans is necessary.

MAIN RECOMMENDATIONS

- Student input to lessons should be enhanced by setting advance research tasks and by limiting the size of class groups.
- Appropriate methodologies, including use of information and communication technology (ICT) should be used more extensively to support student learning.
- Physical and human resources should be better utilised to allow for subject specialist teaching in Transition Year (TY) and to allow for the creation of small groups for the completion of practical activities.
- Subject planning should be developed by setting long-term targets for the development of Science.
INTRODUCTION
Jesus and Mary College is a voluntary secondary school with a current enrolment of 372 students. The TY programme was optional at the time of the inspection. The college intends to make TY a compulsory programme from the next academic year. The board of management of the school was given an opportunity to comment on the findings and recommendations of the evaluation; the board chose to accept the report without response.

TEACHING AND LEARNING
- The majority of lessons were well structured. In some cases lesson objectives were shared with students at the outset, a good practice that should be extended.
- Student learning was enhanced through the very good atmosphere and affirmative environment evident in all lessons. Concepts were explained with clarity and students were actively engaged in the learning process. Short concise teacher inputs ensured that learning progressed seamlessly and was purposeful. Literacy and numeracy skills were supported through focusing on key words and through the development of problem-solving and analytical skills.
- Methodologies frequently involved students in activity-based learning. Examples of good practice included the use of the board to highlight and explain key words and the exemplary use of ICT in the form of animation and applets, to explain key concepts. This good practice should be extended. Practical demonstrations were used effectively and appropriately to reinforce learning.
- While students were afforded the opportunity to work in groups in some lessons, the number of students in these groups should be reviewed in order to ensure that each student actively participates in the assigned tasks.
- There was effective use of appropriate and challenging questioning in all lessons observed. Students responded confidently to questions on their work.
- In some practical lessons, a teacher-led approach was apparent. When planning practical tasks, teachers should ensure that all students will be sufficiently challenged and that each task includes innovative new learning experiences.
- Assessment was integrated into student learning through appropriate questioning and through classroom assignments. The introduction of AfL has had a positive impact on student learning. There was evidence to confirm that class testing is a regular feature of assessment.
- Practical notebooks examined were generally of a good standard with effective teacher annotation and comment. In an effort to further improve the quality of students’ written practical records, practical assessment should form part of future school examinations.
- Academic student achievement is good. The proportion of students receiving a high grade in Science and Physics and the uptake of higher level at both higher and ordinary level is also good.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT
- Science is provided as an optional subject at junior cycle and is mandatory in TY. Physics, Chemistry and Biology are offered at senior cycle. Students are well supported in making an informed subject choice.
- The formation of a class group in Physics is not possible each year. In the current year there is a class group of ten physics students in fifth year with no sixth year group.
- Time allocation to Science at junior cycle and to the range of science subjects at senior cycle is satisfactory. Lesson periods are well distributed across the week.
• Physical and human resources should be better utilised to allow for subject specialist teaching in TY and to allow for the creation of small groups for the completion of practical activities.
• It is praiseworthy that the development of project work and research skills is an integral part of TY. Students are encouraged to partake in a number of co-curricular and extra-curricular activities including the BT Young Scientists’ Competition and Sci-Fest.
• All classes sit formal examinations at Christmas and summer. Third and sixth-year classes sit pre-examinations in February. Portfolio assessment is successfully used to assess TY students.
• A parent-teacher meeting is held annually for each year group. Reports are sent to parents on four occasions during the year.
• The two science laboratories are well-maintained and well-utilised. Physical laboratory resources should be enhanced to ensure that students can gain valuable ‘hands-on’ experience while carrying out group work.
• ICT facilities have been enhanced since the previous science inspection in 2005. There are interactive whiteboards, internet access and shared electronic resources in all laboratories.
• The school’s health and safety policy should be updated and reviewed annually in line with best practice. Chemicals are not stored in line with best practice currently and this should be addressed in accordance with recommended guidelines.
• In-service and relevant continuing professional development (CPD) courses are supported for all science teachers as evidenced in school planning documentation. New teachers are well supported through a good induction programme.

PLANNING AND PREPARATION

• Planning for Science and Physics is well advanced. Collaborative plans and schemes of work have been developed.
• Subject planning should be developed by setting long-term targets for the development of Science. Agreed schemes of work should be re-designed to include information on methodologies, teaching strategies and resources.
• Formal, minuted science department planning meetings are convened on three occasions each year. Science teachers also meet informally on an ongoing basis to collaborate on many aspects of science provision.
• The voluntary role of coordinator of Science is carried out very effectively. However, the rotation of this responsibility annually should help support capacity building in the science department.
• There was very effective individual teacher planning in evidence in advance of lessons observed. Lesson resources, which included worksheets, practical apparatus and ICT equipment were set up and were ready to use.

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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