An Roinn Oideachais agus Scileanna

Department of Education and Skills

Subject Inspection of Science and Physics
REPORT

Rockford Manor Secondary School
Stradbrook Road, Blackrock, County Dublin
Roll number: 60081P

Date of inspection: 3 October 2011
REPORT
ON
THE QUALITY OF LEARNING AND TEACHING IN SCIENCE AND PHYSICS

INFORMATION ON THE INSPECTION

<table>
<thead>
<tr>
<th>Date(s) of inspection</th>
<th>3 October 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inspection activities undertaken</strong></td>
<td><strong>• Observation of teaching and learning during five class periods</strong></td>
</tr>
<tr>
<td>• Review of relevant documents</td>
<td>• Examination of students’ work</td>
</tr>
<tr>
<td>• Discussion with principal, deputy principal and teachers</td>
<td>• Feedback to principal, deputy principal and teachers</td>
</tr>
<tr>
<td>• Interaction with students</td>
<td></td>
</tr>
</tbody>
</table>

MAIN FINDINGS

- The majority of lessons were well structured and learning outcomes were shared with students though this was not consistent across all lessons observed.
- The positive learning environment, teacher mobility and student-centred approach to learning enhanced student motivation and participation.
- Teaching methods, including differentiation, classroom management and the use of information and communication technology (ICT) were appropriate to students’ abilities, needs and interests.
- Assessment for learning (AfL) strategies had a positive impact on student learning.
- Planning for Science is excellent overall and many recommendations from a prior inspection in Science have been implemented. Comprehensive, collaborative and self-reflective plans and schemes of work have been drawn up, though some development is necessary.

MAIN RECOMMENDATIONS

- The use of worksheets with appropriate sized groups would further enhance active student learning.
- Support for first-year science students should be enhanced by doubling time provision and by increasing awareness regarding subject choice and implications for senior cycle.
- The agreed schemes of work should be further developed to include methodologies, assessment strategies and resources for each section of the course.
INTRODUCTION

Rockford Manor Secondary School is a voluntary secondary school with an enrolment of 308 female students, and serves a largely urban catchment area. All first-year students study Science, the subject becoming an option in second year. The school is considering offering Science as a core subject. Science modules are offered as part of the optional Transition Year (TY) programme.

TEACHING AND LEARNING

- The majority of lessons were well structured. In most cases lesson objectives were shared with students at the outset, a good practice that should be extended.
- Very good links were established with prior learning at the outset of lessons. This approach supported continuity, integration of new material and seamless lesson development.
- Classroom management was very good overall. Classroom organisation facilitated learning. The size of work groups should be limited to a maximum of three students so that active learning is maximised.
- Student learning was enhanced through the excellent rapport, very good atmosphere, high expectations and affirmation of student effort evident in all lessons. The student-centred approach to learning enhanced student motivation and participation.
- Teaching methods, including co-operative learning, differentiation, and the use of ICT were appropriate to students’ abilities, needs and interests. The use of worksheets would further enhance active student learning.
- The board was well utilised for recording key words, concepts and diagrams. Teachers made exemplary use of ICT in many lessons. Projected photographs and instructions for practical investigations formed the backdrop for many lessons.
- The links established with students’ experiences and with historical aspects of the subject were very good. Students’ level of understanding of concepts and facts were consolidated as a result.
- The physical appearance of the classroom environment supported the student learning experience. Teachers ensured that equipment was ready and students helped with ensuring the laboratory was ready for the incoming group.
- Differentiation practices in the classroom worked well in ensuring good levels of student participation in all activities. The school should develop and build on inclusion strategies, including the delivery of the scientific literacy programme with all students. The focus on target setting and on subject specific terminology also supported weaker students and helped ensure that basic key skills including; problem-solving and analytical skills were developed.
- There was effective use of appropriate and challenging questioning in all lessons observed. Students responded confidently to questions on their work.
- AfL strategies were very well employed in the majority of lessons. The positive comments and annotation of students’ copybooks, class tests and practical notebooks are having a positive impact on student learning. The inclusion of practical assessment in school examinations is a positive development. Examination results are analysed and academic student achievement is monitored. It is praiseworthy that this data informs teaching and learning and supports the school’s AfL strategies. Assessment was integrated into student learning through appropriate questions posed and through classroom assignments. There was evidence to confirm that class testing is a regular feature of assessment.
**SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT**

- Science is provided as a core subject in first year only, thereafter it becomes an option for Junior Certificate. Time allocation to Science in first year is insufficient and should be doubled to meet syllabus recommendations.
- There are two biology class groups in fifth and sixth year. Chemistry is offered in sixth year and Consumer Science is included as an elective part of the Leaving Certificate Applied (LCA) programme. Practical modules in Physics, Chemistry and Biology form part of the optional TY programme.
- The school’s two laboratories, chemical storage and preparation area are well organised. Laboratory access for double periods is good overall.
- Teachers are aware of students’ individual needs and there is good dissemination of information regarding students with special educational needs.
- ICT facilities in the laboratories have been enhanced since a previous science inspection in 2005. The school is currently installing internet access to classrooms and laboratories. Teachers’ concerns regarding health and safety in one laboratory are being addressed by school management. The school’s health and safety policy and that of the science department are up to date.
- The commitment of teachers to encouraging students to partake in a range of science-related co-curricular and extra-curricular activities is good.
- Formal examinations take place at Christmas and summer for first, second and fifth year students. Third and sixth-year students are assessed in November and sit pre-examinations in February. A parent-teacher meeting is held annually for each year group and reports are sent to parents on two occasions during the year.
- Relevant continuing professional development (CPD) courses and membership of a professional association are supported by senior management for all science teachers.

**PLANNING AND PREPARATION**

- Planning for Science is excellent overall and many recommendations from a prior inspection in Science have been addressed in the plan and subsequently have been implemented. Comprehensive, collaborate and self-reflective plans and schemes of work have been drawn up.
- Long-term planning focuses on key identified areas for development which include differentiation, AfL and scientific literacy. This is praiseworthy.
- Comprehensive and collaborate plans and schemes of work have been developed. The agreed schemes of work should be further developed to include methodologies, assessment strategies and resources for each section of the course.
- TY planning is very good overall. Consideration should be given to adopting Department guidelines on TY subject planning in Science and the inclusion of Transition Units.
- Science department planning meetings are regularly convened by the co-ordinator and minutes reveal the wide range of relevant topics discussed.
- There was very effective individual teacher planning in evidence in advance of lessons observed. Lesson resources including worksheets, practical and ICT equipment were set up and ready to use.

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.

Published April 2012