Subject Inspection of Science and Chemistry
REPORT

Glenstal Abbey School
Murroe, County Limerick
Roll number: 64150F

Date of inspection: 13 May 2011
REPORT
ON
THE QUALITY OF LEARNING AND TEACHING IN SCIENCE AND CHEMISTRY

INFORMATION ON THE INSPECTION

<table>
<thead>
<tr>
<th>Dates of inspection</th>
<th>12 and 13 May 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 and teachers</td>
<td>• Feedback to principal and teachers</td>
</tr>
<tr>
<td>• Interaction with students</td>
<td></td>
</tr>
</tbody>
</table>

MAIN FINDINGS

- The standard of teaching and learning observed in lessons ranged from good to very good.
- A very good teacher-student rapport was evident in an atmosphere that was conducive to learning.
- The uptake of Science at higher level for Junior Certificate is very high and student performance in the certificate examinations in the sciences is very good.
- Whole-school support for the sciences is very good
- Overall attention to safety is satisfactory, but some issues regarding safety in laboratories should be addressed by school management
- The Transition Year (TY) science programme is in keeping with Transition Year philosophy and provides the opportunity for students to develop their scientific literacy and learn about scientific issues in everyday life.
- Individual teacher planning is of a high standard.

MAIN RECOMMENDATIONS

- Learning outcomes should be communicated to students at the outset of lessons, referred to during lessons and used to check understanding at the end of lessons.
- Increased use of the investigative approach to the teaching of Science is recommended.
- Subject department plans should be further developed and common assessments should be used across the year groups.
- The safety issues highlighted during the evaluation should be addressed.
INTRODUCTION
Glenstal Abbey School is a seven-day boarding school for boys, run by the Benedictine monks of Glenstal Abbey in County Limerick. Junior Certificate, Transition Year (TY) and Leaving Certificate are the curricular programmes offered. 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.

TEACHING AND LEARNING

- A good or very good standard of teaching and learning was observed in lessons. Planning for lessons was very good and this contributed to well-structured lessons. The pace was generally appropriate.

- Continuity was ensured by beginning lessons with a review of previous learning. Learning objectives were shared with the students at the outset. Where this took the form of learning outcomes, students had a clear understanding of the learning that would take place. It is recommended that all lessons are structured in this way and that the intended learning objectives should be revisited in a review stage.

- All lessons observed had a practical activity and these lessons were well organised and very well managed. Students’ practical skills were well developed and the students worked well together in small groups. Cognisance was taken of safety. However, care should be taken to ensure all students wear their safety goggles for the duration of the practical activity when necessary. Increased use of an enquiry-based approach to the teaching of Science is recommended.

- In some lessons information and communication technology (ICT) was used effectively to highlight salient points and provide appropriate visual images. Questioning was used effectively in all lessons to ascertain students’ learning and to develop lesson content. Use of higher-order questions was observed and teachers supported students as they developed their answers. This is good.

- There was some evidence of linking the topic with students’ everyday experiences thus making the subject tangible and interesting. Opportunities to enhance students’ literacy and numeracy were exploited in some instances. This is good practice.

- A very good teacher-student rapport was evident in the lessons visited and the relaxed atmosphere was conducive to learning. The interspersing of student activities with whole-class discussion, teacher explanation and questioning enhanced students’ engagement throughout lessons.

- The uptake of Science at higher level for Junior Certificate is very high and student performance in the certificate examinations in the sciences is very good.

- Learning in class was consolidated by written and learning homework. This is positive. The standard of students’ written work was good or very good. Students’ progress is monitored through regular tests. Common assessments should be used to ensure standardisation of learning across the year groups.
SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Whole-school support for the sciences is very good. All students study Science in mixed-ability classes. Biology, Chemistry and Physics are provided as optional subjects in senior cycle. Agricultural Science is offered on a privately arranged basis after school hours. The inclusion of science in all programmes is good as it facilitates the development of scientific literacy among all students. The uptake of the Leaving Certificate sciences is very good.

- Good timetabling facilitates the delivery of the sciences with an even spread of lessons across the week. Consideration should be given to the provision of a double lesson period for TY science in order to more easily facilitate practical work.

- Subject-option bands for senior cycle are created based on students’ initial subject choices. This is positive. Students are well supported when choosing their subjects. The subject sampling of subjects in TY is very good as it allows students to make informed choices for senior cycle.

- The laboratories are well organised, provide a visually stimulating learning environment and are well resourced. A high level of ICT in the laboratories supports teaching and learning. The work of the laboratory technician is acknowledged.

- Chemicals are stored appropriately in the storage and preparation area adjoining the physics and chemistry laboratories. However, the chemical store should be appropriately ventilated. The smaller biology laboratory is located at the other end of the school. As it has no adjoining chemical store, the chemicals are stored in the laboratory. This is not ideal. The school intends to get a flame-resistant press to store the flammable chemicals in this laboratory. It is recommended that the biology laboratory is not used for student practical work that requires gas or water with large class groups.

- Overall an appropriate level of safety equipment is present. Gas isolation switches should be installed in the biology and physics laboratories. The safety statement should be revised to align with recently devised guidelines.

- The provision of whole-staff professional development (CPD) is good. Science teachers have a very positive ongoing commitment to CPD. The school’s support for teachers’ membership of the Irish Science Teachers’ (ISTA) association is very positive.

- Students participate in a very good level of extracurricular and co-curricular activities in science. Activities such as the Chemistry Magic Show presented by TY students and the junior science newsletter project enhance students’ interest. These activities also support students’ holistic development and their independent learning skills.

PLANNING AND PREPARATION

- Collaboration among science teachers is good. Effective subject co-ordination facilitates the running of the department. Minutes of department meetings are retained. This is positive.

- A common programme of work for Science has been devised. Topics are listed on a yearly basis. Building on this good work and on the significant work done by the teachers on an individual basis, it is recommended that the programme should be written in the form of learning outcomes and that these learning outcomes should be linked to
timeframes, teaching and learning methodologies and the resources to be used. Overtime, the chemistry and biology programmes of work should further developed in this way.

- The TY programme provides a very good opportunity to students to study aspects of science not on the certificate syllabuses. Many of the themes are linked to everyday life and opportunities for independent learning such as research projects are facilitated. This is very positive.

- Individual teachers’ planning folders and resources are of a high standard. Detailed schemes of work outlining timeframes, in some instances with teaching methodologies, timeframes and resources linked to learning outcomes, have been developed by the individual teachers.

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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