Subject Inspection of Science and Biology

REPORT

Athlone Community College
Retreat Road, Athlone, Co. Westmeath
Roll number: 71410T

Date of inspection: 1 March 2012
REPORT
ON
THE QUALITY OF LEARNING AND TEACHING IN SCIENCE AND BIOLOGY

INFORMATION ON THE INSPECTION

<table>
<thead>
<tr>
<th>Date(s) of inspection</th>
<th>29 February &amp; 1 March 2012</th>
</tr>
</thead>
</table>
| **Inspection activities undertaken** | **Examination of students’ laboratory notebooks and copybooks**
• Discussion with principal | • Observation of teaching and learning in thirteen class periods |
• Discussions with science and biology teachers | • Feedback to science and biology teachers and principal |
• Review of teachers’ notes, plans and records |   |
• Interaction with students |   |

MAIN FINDINGS

- A consistently high standard of teaching was noted in all lessons observed.
- A wide variety of teaching methods was utilised by teachers, leading to stimulating learning experiences for students.
- Teachers’ use of information and communication technology (ICT) was especially effective when carried out in conjunction with other methodologies.
- Practical work was efficiently managed and good attention was given to health and safety issues.
- The sciences are a significant element of the curriculum in Athlone Community College and are well supported in terms of timetabling, staffing and resources.
- An effective and well-led science department is in place and a high level of collegiality is evident amongst teachers.

MAIN RECOMMENDATIONS

- It is recommended that teachers agree a common standard for the provision of developmental feedback to students on their written work and their laboratory reports.
- It is recommended that the practice of sharing learning outcomes with students at the beginning of the lessons and revisiting them at the close of lessons becomes standard practice across the science department.
- It is recommended that the science department plans for improvement on the basis of identifying its strengths and areas for development. Desired outcomes can then be documented and concrete steps agreed and implemented to work towards improvement.
INTRODUCTION

Athlone Community College is a co-educational school operating under the auspices of County Westmeath Vocational Education Committee. It has a current enrolment of 870 students, drawn from a wide range of socio-economic and cultural backgrounds. Science is a core subject in junior cycle and Biology, Chemistry, Agricultural Science and Physics are offered as optional subjects in senior cycle. The sciences are included on curriculum of the school’s optional Transition Year (TY) programme.

TEACHING AND LEARNING

- A consistently high standard of teaching was noted in all lessons observed. A positive and supportive learning atmosphere prevailed, underpinned by good classroom management and teachers worked hard to provide quality learning opportunities for students.

- A student-centred approach to teaching was apparent and students were well motivated. Students engaged very well in the learning process and contributed significantly in all lessons.

- The good quality of students’ learning was evident from their participation in lessons, the questions they answered and asked, the high level of interaction between teachers and students, the quality of students’ class work as observed during the inspection and their engagement with the inspector.

- A wide variety of teaching methods was utilised by teachers, leading to stimulating learning experiences for students. The balance between whole-class teaching, group and pair work and the provision of individual attention was appropriate to the needs of students and to the material being taught. Students were encouraged to be actively involved in their learning.

- Teachers made good use of ICT as a presentation tool and to illustrate concepts. This was especially effective when done in conjunction with other methodologies, for example when using the blackboard to extend and refine information already presented. Most teachers demonstrated an awareness of students’ literacy development as evidenced by the emphasis placed on relevant key words and terminology.

- Students were frequently affirmed for their work in class and this contributed to the positive atmosphere. Written work was less evenly affirmed and the best examples of students’ written work were seen where good quality feedback was given. It is recommended that teachers agree a common standard for the provision of developmental feedback to students on their written work and their laboratory reports.

- Lessons were well structured in most cases. Best practice was seen where the learning outcomes were shared with students at the beginning of the lesson, and revisited and students’ progress evaluated at the close of the lesson. It is recommended that such practice become standard across the science department.

- Practical work was efficiently managed and good attention was given to health and safety issues. Students were well briefed in advance of carrying out their investigations and were given the opportunity to discuss and rationalise their results afterwards.
• Differentiation was achieved and students’ progress was assessed by means of good quality questioning and the provision of individual attention, as noted during all lessons observed. It is commendable that students’ progress was assessed by additional means, including the completion of differentiated worksheets and peer questioning, in some lessons.

• Homework was given or corrected in all lessons observed.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

• The sciences are a significant element of the curriculum in Athlone Community College and are well supported in terms of timetabling, staffing and resources.

• Teachers are working hard to make best use of the limited laboratory facilities available. Great flexibility is evident in the manner in which access for all students to a laboratory for practical work is managed.

• It is commendable that school management and the science teachers support students’ participation in a variety of extracurricular and co-curricular activities.

• An appropriate system of formal and informal assessment and of issuing reports to parents is in place. The manner in which teachers have agreed and are incrementally implementing common assessments is commended.

• Teachers are well qualified and experienced and are appropriately deployed. They have a wide range of expertise which is used to support students’ learning. Continuing professional development, including membership of the Irish Science Teachers Association, is well supported by school management and availed of by teachers.

PLANNING AND PREPARATION

• An effective and well-led science department is in place and a high level of collegiality is evident amongst teachers.

• Comprehensive science and biology folders have been prepared which describe the relevant courses in terms of detailed scheduled learning outcomes, with appropriate references to syllabus documents, mandatory practical work and assessment procedures.

• An analysis of recent certificate examination outcomes has been completed. The science department is encouraged to use this analysis, and other relevant evidence, to identify its strengths. Desired improvements can then be documented and concrete steps agreed and implemented to work towards these.

• The members of the science department demonstrated a professional approach to teaching and to planning their work. All lessons observed were well planned and well prepared.

• Good record keeping was evident by individual teachers and sufficient information is recorded to support advice given to students and their parents regarding subject levels and choices.
The draft findings and recommendations arising out of this evaluation were discussed with the principal and the 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.