Subject Inspection of Science and Chemistry
REPORT

Coláiste Chiaráin,
Croom, County Limerick
Roll number: 71840V

Date of inspection: 15 October 2010
REPORT ON THE QUALITY OF LEARNING AND TEACHING IN SCIENCE AND CHEMISTRY

SUBJECT INSPECTION REPORT

This report has been written following a subject inspection in Coláiste Chiaráin, Croom. It presents the findings of an evaluation of the quality of teaching and learning in Science and Chemistry, and makes recommendations for the further development of the teaching of these subjects in the school. The evaluation was conducted over one day during which the inspector visited classrooms and observed teaching and learning. The inspector interacted with students and teachers, and examined the students’ work. The inspector reviewed school planning documentation and teachers’ written preparation. Following the evaluation visit, the inspector provided oral feedback on the outcomes of the evaluation to the deputy principal. The board of management of the school was given an opportunity to comment in writing on the findings and recommendations of the report, and the response of the board will be found in the appendix of this report.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

Coláiste Chiaráin is a co-educational post-primary school that operates under the auspices of County Limerick Vocational Education Committee. The school benefits from the supports it receives under the Department’s Delivering Equality of Opportunity in Schools (DEIS) programme. Students who attend this school are drawn from a wide geographic area and very many students travel to school by bus each day. The school provides the full range of programmes that are available at junior cycle and at senior cycle. A particular feature of this school is the emphasis it places on the use of information and communication technology (ICT).

The time allocation for Science and for Chemistry meets with the syllabus guidelines. Science is a core subject in junior cycle, and it also features as part of the school’s Transition Year programme. The uptake of higher level in junior cycle Science is satisfactory. The school offers Agricultural Science, Chemistry, Physics and Biology in senior cycle. The way in which the option blocks are created in senior cycle is based on the students’ choices and this is good practice.

Teaching and learning in Science and in Chemistry takes place in two science laboratories and in a number of classrooms. A significant portion of the school comprises temporary modular accommodation. Given the number of students in the school who study a science subject, and the number of science subjects offered by the school, there is significant pressure on the timetable to enable all of the students to have access to a laboratory for their studies. It is a credit to the level of co-operation among the science teachers that arrangements for access to the laboratories work well. The school’s management has engaged with the Department in relation to providing a new permanent structure. When completed this new school should alleviate the pressures relating to laboratory access. The science laboratories and the classrooms that were viewed were in satisfactory condition and fully fit for purpose.
There is very good provision of ICT resources in the school. Each room that was visited was equipped with a data projector and each teacher had the use of a laptop computer. Where experimental work was observed the necessary resources were available and they were sufficient for the work to be completed.

There is good support by the school for the science teachers’ continuing professional development. The teachers are members of their subject association and they engage in ongoing professional development by, for example, attending courses and undertaking further study. In addition, the science teachers support the students’ participation in a wide range of science-related extracurricular activities such as Scifest, Science Week, Faulkes Telescopes Universe Challenge, educational talks, and visits to third-level institutions. The work done by the science teachers in supporting the students to participate in such events is commended.

PLANNING AND PREPARATION

There are appropriate structures in place in the school to support subject planning. The role of subject co-ordinator is rotated among the science teachers and this gives each of the teachers the opportunity to develop their skills in co-ordinating the work of the department.

The subject planning documentation that was viewed during the inspection was of good quality. It is commendable that the science teachers have placed all of the support and planning materials for their lessons on the internet and that these documents are freely available to the students.

Each of the lessons that was observed was well planned. The preparation for the lessons was of a high standard and as a result all of the lessons ran smoothly. The teachers all displayed a high level of subject matter expertise and they demonstrated this by expertly dealing with the lesson content and with the questions that were posed by students.

TEACHING AND LEARNING

Classroom management was very good in every lesson. Discipline among the students was very good and their behaviour was of the highest standard. There was a very positive atmosphere during every lesson and it was evident that the students and their teachers enjoyed good relationships. These relationships were based on a sense of mutual respect and understanding. The students were all addressed by name. They were courteous and respectful towards each other and towards their teachers. In all lessons observed, teachers affirmed students in their work and encouraged them in their contributions.

The lessons that were observed were predominantly teacher-led, where the students’ activities were focused on answering questions and note-taking. A number of lessons included student-directed activities and it was noticeable that these activities helped to reinforce the students’ learning and to provide additional motivation for their studies. Therefore, it is recommended that the science teachers expand the range of methodologies they use to avoid an over-reliance on note-taking and questioning.

ICT was used during almost all of the lessons that were observed. It was used, primarily by the teacher, as a means of presenting information in a visually appealing manner. Other features of
good practice that were observed across the lessons included the systematic reinforcement of key learning points and new terminology during the lesson, the use of pieces of scientific apparatus that the students could examine, demonstration of the physical phenomena that were being taught, and the linking of the topic being studied to the students’ everyday life.

Interaction between the inspector and students, and observation of the students during lessons, showed them to be enthusiastic about their learning. They were engaged and they showed themselves to be interested in the lesson topics.

**ASSESSMENT**

There are appropriate arrangements in place in the school to assess students’ progress regularly and to report on this to parents periodically.

Samples of students’ copybooks were viewed during the inspection. These showed that students had, relative to their year group and the time of year, completed a satisfactory amount of experimental work. Good practice was noted in a number of copybooks where the teacher had supplied guiding and affirming comments on the students’ work. Homework is a regular feature of the students’ learning and there was evidence in the copybooks, supported by comments from students, of it being set regularly and corrected.

The school undertakes an analysis of the students’ results in the certificate examinations and this has been used by the science teachers to target improvements in the level of uptake of Science at higher level in junior cycle. An analysis, by the inspector, of the students’ attainment in Science in the junior certificate examination indicated that students of lower ability tended to perform well. However, a retrospective analysis across a number of years showed that there may potentially have been scope for improvement in how students of higher ability performed. It was noted, however, that since 2009 there have been significant improvements in the attainment of students of higher ability. Therefore, to build on this progress, it is recommended that the science teachers use an analysis of the students’ results in the certificate examinations to prioritise the areas in which they can further improve students’ attainment. A formal system of monitoring the progress will be essential to any initiative that the science teachers introduce. This monitoring should take place frequently during the school year. It should involve the teachers using their existing arrangements for common assessments to pool the results of these assessments and to assess, using an analytical tool, the improvements that have taken place as a result of the initiatives.

**SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS**

The following are the main strengths identified in the evaluation:

- The science and chemistry staff is professional, dedicated and committed in its work.
- The quality of subject planning was good.
- There was a positive atmosphere in every lesson observed.
- Classroom management was good for all lessons inspected.
- Appropriate assessment practices were in place.
As a means of building on these strengths and to address areas for development, the following key recommendations are made:

- The science teachers should use an analysis of the students’ results in the certificate examinations to prioritise the areas in which they can further improve students’ attainment. They should monitor and assess the improvements resulting from their actions.
- The science teachers should expand the range of methodologies they use to avoid an over-reliance on note-taking and questioning.

Post-evaluation meetings were held at the conclusion of the evaluation when the draft findings and recommendations of the evaluation were presented and discussed with the deputy principal.

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Appendix

School Response to the Report

Submitted by the Board of Management
Area 1  Observations on the content of the inspection report

Coláiste Chiaráin enthusiastically supports the Subject Inspection process, as conducted by the Department of Education & Skills, as a key element of our commitment to excellence and ongoing improvement and evaluation. We are constantly striving to improve and enhance the quality of our education provision and we regard this process as being very helpful in meeting this goal.

The report on the quality of teaching and learning of Science and Chemistry in Coláiste Chiaráin is broadly reflective of how seriously we approach these particular subjects and furthermore illuminates our approach to the teaching of science across the curriculum.

While acknowledging the limitations of a one day inspection process, we consider the report to be detailed and comprehensive and a fair representation of the quality of teaching and learning in Coláiste Chiaráin. We are particularly pleased with the very positive affirmations contained therein, and is, both individually and collectively, a genuine endorsement of the work done by both the teaching staff and the management of the school.