Subject Inspection of Science and Chemistry
REPORT

Kilrush Community College
County Clare
Roll number: 91448K

Date of inspection: 23 September 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 Kilrush Community School. 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. The board of management of the school was given an opportunity to comment on the findings and recommendations of the report; the board chose to accept the report without response.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

Kilrush Community School is a co-educational post-primary school located in the town of Kilrush, Co Clare. The school serves students from diverse backgrounds. The diversity of the students’ backgrounds means that there is a wide range of learning needs among the student body. The school benefits from supports provided by the Department of Education and Skills under the DEIS (Delivering Equality of Opportunity in Schools) programme.

A previous inspection in Science took place in this school on 07 December 2004. It is commendable that the recommendations resulting from that inspection have all been addressed in a progressive, considered and professional manner.

Overall, there is very good whole-school support for the study of science subjects in this school. The time allocated for Science and for Chemistry completely meets the requirements of the respective syllabuses. Science is a core subject at junior cycle and all classes are of mixed ability. The option blocks at senior cycle are created based on the students’ choices and this is good practice because it supports student-centred education.

The uptake of Science at the higher level in junior cycle is good. Given the school’s context and the range of the students’ abilities, the level of uptake of the higher level is indicative of the students being challenged to achieve to the best of their abilities. Additionally, the uptake of Chemistry at senior cycle is also good and this suggests that the students hold positive attitudes to the subject following their experiences at junior cycle. Within the school’s context, the overall attainment of students in Science and in Chemistry is also good. Especially, students who take higher-level Junior Certificate Science and Leaving Certificate Chemistry at both levels show very positive trends in attainment.
There is good provision of information and communication technology (ICT) equipment for the sciences. The science laboratories, while being of slightly older construction, are clean, bright and in generally good repair. The school is committed to ensuring that facilities of the highest possible quality are available to students and that any minor repairs or improvements are undertaken whenever needed.

The school provides good support for the teachers’ continuing professional development. For their part, the science teachers engage enthusiastically in professional development courses and with the subject association.

It is commendable that the science teachers support students in participating in a wide range of science-related extracurricular activities. Among these activities are the Young Scientist exhibition, Science Week, and science quizzes. Students’ participation in such events helps to deepen their appreciation of the sciences and helps to foster their interest in and motivation to study science subjects.

PLANNING AND PREPARATION

The quality of subject planning in Science and in Chemistry is very good. An examination of the subject plans showed a number of particularly noteworthy points: a common year plan, good procedures in place in relation to supporting students with special educational needs, good reference to cross-curricular planning, and reference to assessment strategies. In certain sections of the planning documentation there was a description of the reasons why certain actions were taken. These descriptions show that the science teachers are considered and reflective in their professional work and that self-evaluation is a natural part of their planning process.

The planning structures that operate in the school are wholly appropriate and effective. Underpinning the teachers’ planning work is the spirit of co-operation they demonstrate in their daily work. This is exemplified by the manner in which they rotate access to the laboratories, that they rotate the role of subject co-ordinator and that they meet frequently both formally and informally.

The quality of preparation for the lessons that were observed was of a very high standard. All of the requisite materials were to hand and had been prepared in advance. As a consequence, all of the lessons ran smoothly and made maximum use of the available time.

TEACHING AND LEARNING

High-quality teaching was observed across the lessons that were visited. All of the teachers displayed a high level of subject-matter expertise and dealt expertly with all questions that the students posed. A range of teaching methodologies was employed during lessons. Examples of these methodologies included good use of questioning where students’ answers were probed and deeper explanations were sought, pair work where students had the opportunity to discuss their ideas with a fellow student, frequent reinforcement of what had been learned, effective use of ICT, and experimental work where students’ observation skills were emphasised. The experimental work that was observed was completed safely and it was evident that the students
were accustomed to good laboratory practice. In all of the lessons where group or pair activities were undertaken the students worked well together and they showed familiarity with working as part of a group.

There was very good classroom management during the lessons observed. The lessons all had a definite structure and established classroom practices that helped to set and maintain a positive learning environment were clearly in evidence. Learning activities were well managed and where necessary the teacher circulated among the students and provided help and guidance at an individual level.

The atmosphere in each lesson was very positive. It was based on mutual respect between the students and their teachers. The teachers dealt with the students sensitively and they addressed all of the students by their first name. All of the students’ efforts and replies were affirmed by their teachers and the students were encouraged to participate in all lesson activities.

It was evident from observing the students at work, from their questions and from their replies to questions posed by the teacher and by the inspector that their levels of knowledge and understanding in the topics that were being studied ranged from good to very good. Throughout each lesson the students were attentive and engaged by the lesson activities. In addition, they showed good practical skills when undertaking experimental work.

**ASSESSMENT**

There are appropriate procedures in place in this school to regularly assess students’ progress in the sciences and to report on it periodically to parents. Currently, the principal undertakes an analysis of students’ results in the certificate examinations and compares this analysis with the national norms. By analysing the students’ results and comparing them with the national norms the science staff should identify and set goals to help improve students’ attainment. This recommendation was discussed with the science teachers during the inspection and it met with a favourable response. When monitoring the progress in achieving the targets set by the teachers it would be helpful if, during the school year, students’ results in class examinations were collated across the class groups and used to identify the improvements in students’ learning. The teachers indicated that this was worthy of consideration. The existing subject plan contains a detailed year plan and this would be most helpful in allowing the teachers to plan common assessments and thus enable them to collate their results and monitor if the goals they have set and the actions they have taken are being successful.

A sample of students’ work was viewed during the inspection. This sample showed that homework is a regular feature of the students’ learning. It is given frequently, corrected and monitored by the teachers. Good practice was noted where the teachers included guided and affirming comments to support the students in improving the quality of their work. This practice is supportive of the principles of assessment for learning. It was noted from the planning documentation that students correct a number of assessments themselves and this is to be encouraged as it serves to inform students’ exam craft and to aid their learning.
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 level of whole-school support and provision for the sciences is very good.
- A very high quality of lesson planning and preparation was observed during the inspection.
- High-quality teaching was observed across the lessons inspected.
- The quality of students’ learning ranged from good to very good.

As a means of building on these strengths and to address areas for development, the following key recommendation is made:

- The science staff should compare students’ results in the certificate examinations with the national norms and identify goals and actions that would help to further improve students’ learning and attainment. Monitoring the achievement of the goals should be undertaken using an analysis of students’ results in common class-based and school-based examinations.

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

Published, December 2010