

**An Roinn Oideachais agus Scileanna**

**Department of Education and Skills**

**Subject Inspection of Science and Chemistry  
REPORT**

**Coláiste Dún Iascaigh  
Cahir, County Tipperary  
Roll number: 76063D**

**Date of inspection: 6 February 2014**



**A N R O I N N | D E P A R T M E N T O F  
O I D E A C H A I S | E D U C A T I O N  
A G U S S C I L E A N N A | A N D S K I L L S**

**REPORT**  
**ON**  
**THE QUALITY OF LEARNING AND TEACHING IN SCIENCE AND CHEMISTRY**

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**INFORMATION ON THE INSPECTION**

<b>Dates of inspection</b>	4 and 6 February 2014
<b>Inspection activities undertaken</b> <ul style="list-style-type: none"><li>• Review of relevant documents</li><li>• Discussion with principal and teachers</li><li>• Interaction with students</li></ul>	<ul style="list-style-type: none"><li>• Observation of teaching and learning during nine class periods</li><li>• Examination of students' work</li><li>• Feedback to principal and teachers</li></ul>

**MAIN FINDINGS**

- The standard of teaching and learning ranged from good to very good in lessons observed.
- Some very good teaching and learning strategies observed included the very effective use of information and communication technology (ICT), assessment for learning and the deployment of student work stations.
- The science department analyses students' results in the certificate examinations and has set general targets for improvement. This is very good practice. It is suggested that the targets for improvement be made more specific.
- Implementation of a range of strategies has resulted in a year-on-year increase in the numbers of students taking higher level Science for the Junior Certificate and in their achievement at that level.
- Whole-school support for the sciences is very good.

**MAIN RECOMMENDATIONS**

- In one lesson, very good use of the investigative approach to Science was observed. It is recommended that this commendable approach is used to a greater extent in all lessons.
  - It is important that the school reviews the effectiveness of putting specifically streamed class groups in place as such an approach may lead to lower expectations among the student cohort.
  - The teaching of topics in Science in each year should be synchronised to facilitate a more cohesive approach to the teaching and learning of Science.
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## **INTRODUCTION**

Coláiste Dún Iascaigh is the community college in Cahir, providing post-primary education for all students in the surrounding area of south Tipperary. The Junior Certificate, Transition Year (TY), Leaving Certificate, Leaving Certificate Vocational Programme (LCVP) and Post Leaving Certificate courses are offered to the students.

## **TEACHING AND LEARNING**

- The standard of teaching and learning ranged from good to very good. Preparation for lessons observed was very good. Intended learning outcomes were shared with students at the outset of lessons. Students' understanding of their learning was strengthened in lessons where these were revisited during the recapitulation stage.
- Lessons were structured well, with whole-class discussion interspersed with short student activities. This enhanced students' interest and participation.
- Some very good strategies were observed in lessons. These included effective use of ICT to provide visual images and to outline the main points of the topic. A short video clip was used in one instance and an animation in another to engender interest and enhance students' learning.
- In some instances everyday life applications and examples were used to make the subject tangible and concrete.
- In one lesson assessment-for-learning strategies were very effectively used, with students reviewing what they learned about a particular aspect of the topic and then teaching it to their peers. This is very good.
- In lessons where students conducted experimental work, it was clear their skills were well developed. They worked in small groups and communicated well with each other. In one instance students had clearly defined roles and this worked well in enhancing collaboration.
- In a minority of lessons work stations were set up to help students revise. This is very good.
- In one lesson very good use of the investigative approach to Science was observed. It is recommended that this approach is used to a greater extent across the department.
- In some lessons opportunities were exploited well to enhance students' literacy skills.
- Questioning was well used to ascertain student learning and develop lesson content.
- A very good teacher student rapport pertained in lessons observed in the laboratories and demonstration room, which provide a positive and visually stimulating learning environment.
- Overall students demonstrated a good or very good level of learning.
- A good range of extracurricular and co-curricular activities enhance students' interest and learning in the sciences.
- The science department analyses students' results in the certificate examinations and has set general targets for improvement. This is very good. It is suggested that the targets for improvement be made more specific.

## **SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT**

- Whole-school support for the sciences is very good. Science is a core subject in junior cycle. TY students study modules in Biology, Chemistry, Physics and Agricultural Science and all students are offered these subjects for Leaving Certificate.
- Recommendations in previous reports in relation to the choice of level taken for certificate examinations, the introduction of mixed ability classes and use of a range of strategies for students with special educational needs have been implemented. These actions and the use of other agreed teaching and learning strategies have resulted in a year-on-year increase in the numbers of students taking higher level Science for the Junior Certificate and in their achievement at that level.
- However, a small class group of students deemed to require additional support has been put in place in each of second year and third year. It is important that the school reviews the effectiveness of putting these class groups in place as such an approach may lead to lower expectations among the student cohort.
- The provision of learning support in Science by a subject specialist is a very good. While acknowledging that informal communication occurs between the mainstream teacher and the teacher providing support, nevertheless the teaching of topics should be synchronised to a greater extent to more easily facilitate the consolidation of learning in the learning support classes.
- It is recognised that in some instances common assessments take place at Christmas. The further synchronisation of topics would allow common assessments to take place at Christmas for all students.
- The uptake of Biology and Agricultural Science is very good for Leaving Certificate. The uptake of Chemistry and Physics is low. The science department is in the process of implementing some strategies to increase uptake of the physical sciences. This is positive. It is recommended that the impact of these strategies be monitored.
- The school is very well resourced for teaching the sciences, with four well-equipped laboratories, a demonstration room and a high level of ICT. These rooms are located along a separate corridor which has facilitated the generation of a 'science space' where scientific posters and information, and students' work can be displayed. This is excellent.
- A high level of cognisance is taken of safety. A flame-proof cabinet is used to store the flammable chemicals in one preparation area. It is recommended that the flammable chemicals in the other area be stored in this press also.
- It is recommended that the health and safety statement be reviewed in line with the guidelines produced by the Department of Education and Skills and the Health and Safety Authority.

## **PLANNING AND PREPARATION**

- Collaboration within the science department is good, as is its co-ordination. One example of collaboration which supports enhanced teaching and learning is the development of an electronic drop box through which teachers are encouraged to share resources.

- Outline yearly plans have been devised for Science. Topics are linked to the learning outcomes in the syllabus. When plans are developed for the new science specification for junior cycle, timeframes and resources should also be included.
  - The science teachers have taken a proactive approach to developing students' literacy and numeracy skills. To assist them in this, they have agreed strategies to enhance literacy and numeracy skill development.
  - Particularly noteworthy is the opportunity provided to chemistry students in TY to study aspects of Chemistry not on the certificate syllabuses, as is the good emphasis on developing students' practical skills.
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The draft findings and recommendations arising out of this evaluation were discussed with the principal and subject teachers at the conclusion 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.