

An Roinn Oideachais agus Scileanna
Department of Education and Skills

Subject Inspection in Science

REPORT

School name	Bridgetown College
School address	Bridgetown Co Wexford
Roll number	71610E

Date of Inspection: 15-02-2019



An Roinn Oideachais
agus Scileanna
Department of
Education and Skills

SUBJECT INSPECTION

Subject Inspections report on the quality of work in individual curriculum areas within a school. They affirm good practice and make recommendations, where appropriate, to aid the further development of the subject in the school.

HOW TO READ THIS REPORT

During this inspection, the inspector evaluated learning and teaching in Science under the following headings:

1. Teaching, learning and assessment
2. Subject provision and whole-school support
3. Planning and preparation

Inspectors describe the quality of each of these areas using the Inspectorate's quality continuum which is shown on the final page of this report. The quality continuum provides examples of the language used by inspectors when evaluating and describing the quality of the school's provision in each area.

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.

CHILD PROTECTION

During the inspection visit, the following checks in relation to the school's child protection procedures were conducted:

1. The name of the DLP and the Child Safeguarding Statement are prominently displayed near the main entrance to the school.
2. The Child Safeguarding Statement has been ratified by the board and includes an annual review and a risk assessment.
3. All teachers visited reported that they have read the Child Safeguarding Statement and that they are aware of their responsibilities as mandated persons.

The school met the requirements in relation to each of the checks above.

SUBJECT INSPECTION

INSPECTION ACTIVITIES

Dates of inspection	14&15-02-2019
Inspection activities undertaken <ul style="list-style-type: none">• Review of relevant documents• Discussion with principal, deputy principal and science teachers• Interaction with students	<ul style="list-style-type: none">• Observation of teaching and learning during six lessons, including three double lessons• Examination of students' work• Feedback to principal and science teachers

School context

Bridgetown College is a co-educational post-primary school in County Wexford with 575 students under patronage of Waterford and Wexford Education and Training Board. The school participates in the Delivering Equality of Opportunity in Schools (DEIS) action plan for inclusion. It provides the Junior Cycle programme, the Junior Certificate School Programme, the established Leaving Certificate, the Leaving Certificate Vocational Programme, the Leaving Certificate Applied (LCA) and an optional Transition Year (TY) programme.

SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS:

Findings

- The quality of teaching observed was good overall, ranging from very good to satisfactory.
- The quality of learning was good, students were actively and productively acquiring a range of skills as well as knowledge and understanding, and they were interested in their lessons.
- Lessons were very well designed and relevant to each curriculum, with highly effective inquiry-based learning and skills-based activities integrated into the structure of lessons.
- Effective assessment practices were implemented during lessons and some good practice was noted in the correction of students' written work, but this was not consistent.
- Provision and whole-school support for Science is very good.
- Subject planning is well structured and detailed, and the subject department is reflective and committed to progressive approaches in the teaching of Science.

Recommendations

- Teachers should ensure that students have opportunities to record the key learning during lessons and that they use the new scientific terminology to do this.
- Teachers should develop the range of differentiated curricular and co-curricular tasks and challenges that could be used to deepen the learning for the highly-capable student.
- Teachers should extend their practice in the formative assessment of students' longer pieces of writing, including experiment reports and research investigations.
- Collectively, and through the leadership of the department coordinator, teachers should extend their practices in collaboratively reviewing themed aspects of the subject plan.

DETAILED FINDINGS AND RECOMMENDATIONS

1. TEACHING, LEARNING, AND ASSESSMENT

- The six lessons observed included Junior Cycle Science, TY Science and LCA Science. The quality of teaching and learning was good; some very good practice was observed and overall the range was from very good to satisfactory.
- In lesson planning and delivery, teachers very effectively promoted skills and knowledge, and the approach was highly appropriate to each curriculum. In Junior Cycle, the skills of 'managing information and thinking' and 'being creative' were particularly well developed. In TY, the emphasis on problem-solving and self-directed learning yielded good learner independence. In LCA, the approach focused on the process of Science and its application.
- Students experienced very good lesson structure, and this typically included a sequence of very well-managed inquiry-based learning activities. Students were directly involved in observing scientific phenomena or discussing evidence from secondary sources, interspersed with phases of instruction led by their teachers. The sequencing of and progression in the learning activities enabled students to reach a good understanding of the scientific concepts.
- Best practice was observed when, during practical work, students carefully and capably used scientific terminology in explaining their observations. At times, this expectation needed to be set so that students understand how to attain this standard.
- Student voice was very well promoted overall. Through well-integrated teacher questioning and the many tasks in which students worked collaboratively, learners had good opportunity to voice their understanding, doing so commendably. They made very good contributions to group tasks and to plenary sessions with their teacher. In a few instances, the learners were not as vocal and the use of a think-pair-share activity, as observed in many lessons, would have furthered the student voice.
- At times, good learning could have been captured in writing or recorded by students at the point of learning; often students would not get to consolidate the learning into written sentences until the completion of homework. It is recommended that all teachers purposefully include recording or consolidating phases in lessons so that students learn to spontaneously make note of the key points, and this becomes embedded in practice.
- Differentiation was evident, and students were challenged and supported by their teacher in making observations and drawing conclusions according to their ability. Often, teachers circulated productively to achieve this. Overall, from lesson observations and the review of copybooks, opportunities to deepen learning for the highly-capable student were not extensive. Some teachers have developed a mini library of interesting relevant science texts for reading and research. Extending this and the range of purposeful challenges that deepen learning for the able learner is recommended.
- Effective assessment practices were implemented during lessons and some good practice was noted in the correction of students' written work, but this was not consistent. The development of formative assessment of students' longer pieces of writing, including experiment reports and research investigations, is recommended.
- Students, in all groups, were motivated and interested in their lessons. They appreciated the relevance of the learning to life and the contribution of scientists to scientific discovery. Students maintained very good focus throughout lessons, concentrating on their teacher's instruction and on the assigned tasks. They were productive in their work and collaborated very well. They demonstrated very high levels of respect and courtesy.

2. SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Senior management makes very good provision for the Sciences. Science is provided in the school's Junior Cycle, TY and LCA programmes and all four sciences, Agricultural Science, Biology, Chemistry and Physics are provided in Leaving Certificate. Extra-curricular opportunities are strongly supported. Progression in the fields of Science is promoted through the DEIS action plan and includes careers events and guest speakers.
- The number of timetabled weekly lessons for the subjects is optimal. The organisation of the timetable is very good, and all double lessons and most of the single lessons take place in a designated laboratory. Class grouping is purposefully mixed ability and this is good practice.
- The school has three laboratories, all fitted with a teacher's computer and data projection facilities. Mostly, the learning environment has been very well enhanced with displays, and excellently so in one laboratory, providing a highly stimulating learning environment. Some older posters in one setting ought to be replaced with a more modern range. A good range of teaching and learning aids including plants and scientific models are in regular use. In the context of DEIS, it is suggested that teachers include regular displays and posters relating to progression routes and career options in their subjects.
- Student work is widely displayed and this greatly enhances the learning environment. It is suggested that teachers also display evaluative judgements and their formative feedback on these pieces so that other students develop an understanding of what good and very good pieces of written work and research look like.
- Ongoing teacher professional development is very good and is supported by management and teachers. Teachers maintain regular attendance at training events, availing of many opportunities for development.

3. PLANNING AND PREPARATION

- Subject planning is well structured and detailed. Good curricular plans are developed for Junior Cycle, TY and LCA Science. Commendably, all plans focus on skills development as well as content, and on attaining the specific aims and rationale of each curricular programme.
- The subject department is reflective and committed to progressive approaches in the teaching of Science. Strong motivation for meeting curricular requirements are evident, including the implementation of curricular change in the new Junior Cycle Science specification.
- Teachers' collaborative practices are good. Teachers share resources and approaches to teaching and learning and they are actively extending the range and accessibility of these in the new Science curriculum.
- There is some scope to extend teachers' practices in collectively reviewing themed aspects of provision and teaching and learning. Through the leadership of the coordinator, areas such as the TY module, continuity in *Nature of Science* investigations from first year to third year, the embedding of key skills and differentiation practices could be fruitfully discussed.

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 INSPECTORATE'S QUALITY CONTINUUM

Inspectors describe the quality of provision in the school using the Inspectorate's quality continuum which is shown below. The quality continuum provides examples of the language used by inspectors when evaluating and describing the of quality the school's provision of each area.

Level	Description	Example of descriptive terms
Very Good	Very good applies where the quality of the areas evaluated is of a very high standard. The very few areas for improvement that exist do not significantly impact on the overall quality of provision. For some schools in this category the quality of what is evaluated is outstanding and provides an example for other schools of exceptionally high standards of provision.	Very good; of a very high quality; very effective practice; highly commendable; very successful; few areas for improvement; notable; of a very high standard. Excellent; outstanding; exceptionally high standard, with very significant strengths; exemplary
Good	Good applies where the strengths in the areas evaluated clearly outweigh the areas in need of improvement. The areas requiring improvement impact on the quality of pupils' learning. The school needs to build on its strengths and take action to address the areas identified as requiring improvement in order to achieve a <i>very good</i> standard.	Good; good quality; valuable; effective practice; competent; useful; commendable; good standard; some areas for improvement
Satisfactory	Satisfactory applies where the quality of provision is adequate. The strengths in what is being evaluated just outweigh the shortcomings. While the shortcomings do not have a significant negative impact they constrain the quality of the learning experiences and should be addressed in order to achieve a better standard.	Satisfactory; adequate; appropriate provision although some possibilities for improvement exist; acceptable level of quality; improvement needed in some areas
Fair	Fair applies where, although there are some strengths in the areas evaluated, deficiencies or shortcomings that outweigh those strengths also exist. The school will have to address certain deficiencies without delay in order to ensure that provision is satisfactory or better.	Fair; evident weaknesses that are impacting on pupils' learning; less than satisfactory; experiencing difficulty; must improve in specified areas; action required to improve
Weak	Weak applies where there are serious deficiencies in the areas evaluated. Immediate and coordinated whole-school action is required to address the areas of concern. In some cases, the intervention of other agencies may be required to support improvements.	Weak; unsatisfactory; insufficient; ineffective; poor; requiring significant change, development or improvement; experiencing significant difficulties;

Appendix

SCHOOL RESPONSE TO THE REPORT

Submitted by the Board of Management

Part A Observations on the content of the inspection report

WWETB and the Board of Management of Bridgetown College are pleased that the inspection report confirms that students are actively and productively acquiring a range of skills and knowledge and that lessons are well planned.

The fact that “students, in all groups, were motivated and interested in their lessons” and that “they appreciated the relevance of the learning to life and the contribution of scientists to scientific discovery” is, in the view of the board, evidence of their teachers’ commitment to supporting and motivating students in their care.

Part B Follow-up actions planned or undertaken since the completion of the inspection activity to implement the findings and recommendations of the inspection.

Teachers in the Science Department will continue to have high expectations of students and to support a learning environment that aims to see all students achieving their potential.

To this end, teachers of science will hone their skills in relation to differentiation and formative assessment and they will do so through CPD and collaboration at subject department level. Their efforts will be supported by WWETB’s Director of Education, WWETB IT Support Services and school management.