An Roinn Oideachais agus Scileanna

Department of Education and Skills

Subject Inspection in Science & Physics

REPORT

School name	St Attracta's Community School
School address	Tubbercurry Co. Sligo
Roll number	91512Q

Date of Inspection: 10-11-2016

Date of issue of report: 23-01-2017

AN ROINN OIDEACHAIS AGUS SCILEANNA | DEPARTMENT OF EDUCATION AND SKILLS

WHAT IS A 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 & Physics under the following headings:

1. Learning, teaching 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.

Subject Inspection

INSPECTION ACTIVITIES DURING THIS INSPECTION

Date of inspection	10-11-2016
Inspection activities undertaken • Review of relevant documents • Discussion with principal and key staff • Interaction with students	• Observation of teaching and learning during four class periods • Examination of students' work • Feedback to principal and relevant staff

SCHOOL CONTEXT

St Attracta's Community School operates under the shared trusteeship of the Marist Sisters, the Catholic Bishop of Achonry and the Mayo, Sligo and Leitrim Education and Training Board. It is a co-educational school which caters for 607 students. The school provides an optional transition year (TY) programme and the Leaving Certificate Vocational Programme in addition to the Junior Certificate and Leaving Certificate.

SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS:

FINDINGS

- Overall, the quality of teaching was good.
- Teachers had prepared well, though there was scope for selecting teaching methodologies that enhance learning by increasing student activity during lessons.
- There was evidence of teachers providing both written and oral formative feedback to students in order to progress their learning and homework is assigned and monitored regularly.
- Science is a core subject at junior cycle and the uptake of Physics at senior cycle is very good.
- The school has four well-resourced laboratories where almost all science lessons take place.
- The science teachers work very effectively with each other and departmental planning includes the good practices of producing common schemes of work, recording the continuing professional development (CPD) undertaken by teachers and an analysis of certificate examination results.

RECOMMENDATIONS

- The science department should increase the emphasis on investigation and enquiry-based learning as well as the use of more student-centred learning methodologies so that passive learning is minimised.
- Questioning strategies employed by teachers should be better structured so that they can be used to check on students' learning.
- The schemes of work should be extended to include specific teaching and learning methodologies and assessment modes linked to the learning intentions.

DETAILED FINDINGS AND RECOMMENDATIONS

1. TEACHING AND LEARNING

- The quality of teaching in Science and Physics during the evaluation was good overall. In some lessons, there was need for greater use of student-centred teaching methodologies.
- The quality of student learning, based on the lessons observed, ranged from satisfactory to good.
- Teachers have the required professional qualifications and have engaged in a range of CPD activities. They demonstrated competence and proficiency in the skills and knowledge of their subject areas.
- Teachers had prepared well for their lessons. Good use was made of information and communications technology (ICT) and resources. Prior learning was assessed at the start of all lessons through a variety of methods. Learning intentions were shared with students in some lessons, however this practice should be implemented by all teachers. The learning intentions should also be used to refresh on the main points of all lessons.
- A range of learning and teaching methodologies was employed during the lessons observed. Amongst the good practices were clear teacher-instructions, student performance of experimental work, individual student tasks, pair work and some emphasis on enquiry-based learning. In some lessons, students were passive in their learning for periods of time. Teacher–centred methodologies, such as teacher demonstration, should be minimised as they impact on the delivery of enquiry-based learning. All lessons should have a balance between teacher instruction and student activity.
- Classroom management was good and student behaviour was exemplary throughout the evaluation. The laboratories and classrooms in which the lessons occurred had a mixture of charts, posters and samples of students' work on the walls. Interactions among students and teachers were respectful and positive and there was an emphasis on health and safety. These factors lead to an environment that was conducive to learning.
- Good differentiation strategies were observed in lessons in order to ensure students of varying abilities were suitably challenged. In the main, students were engaged when the lessons were more student-centred and the majority showed a good level of understanding of concepts and facts.
- Questioning was the main form of in-class assessment observed. Questioning in one lesson was very good. However, there was an over-reliance on chorus responses, a small number of students tended to dominate the responses or the teachers did not wait long enough for responses in other lessons. There is a need for the science department to review questioning practices and incorporate more assessment for learning strategies to gain essential insights into students' progress.
- Homework is assigned, monitored and corrected regularly and some evidence of teachers' comments was seen in samples of students' work. All teachers should ensure that students write up their practical work in their own words rather than transcribing from a template.
- There was attention given to the development of students' literacy through the use of keywords and the explanation of difficult terminology. An importance was placed on units as a way of addressing numeracy skills. The science department should undertake a review of the effectiveness of any classroom strategies it currently uses to support literacy and numeracy as part of the school self-evaluation process.

2. SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Whole-school support for the sciences is very good. Science is a core subject in the junior cycle. At senior cycle students can choose to study Agricultural Science, Biology, Chemistry and Physics. The uptake of Physics in the school is very good and is regularly above national average.
- The time allocation for Science and Physics is in line with syllabus guidelines. TY science is also adequately provided for in terms of time allocation. Teachers are deployed according to their specialisms at senior cycle.
- The school has four well-resourced science laboratories and three dedicated storage rooms. Almost all science lessons take place in these laboratories. ICT facilities are good and the laboratories have appropriate health and safety equipment and chemicals are stored correctly. The teachers also carry out risk assessments of the laboratories annually.
- Senior management supports teachers' CPD in a range of areas and teachers recognise that CPD and collaboration are intrinsic to their work. Students are encouraged to partake in a range of science related extra-curricular and co-curricular activities such as the national science exhibitions, Science week, availing of guest speakers and educational visits.
- Common assessments for Junior Certificate Science occurs in the summer of first year and again in second year. The science department provides a percentage score for students' attainment in practical work during the year as part of this process. This is good practice.

3. PLANNING AND PREPARATION

- The quality of planning and preparation is good. A co-ordinator is appointed and this position is rotated periodically. Teachers reported that informal meetings are held regularly. Formal meetings are held each term and minutes of these meetings are maintained. These minutes are forwarded to senior management and departmental plans are available to staff and management in a storage area within the staffroom. A record of the CPD that the teachers undertake each year is also listed.
- The science department conducts an analysis of certificate examination results. This analysis should include the context of the year group and it should be extended by setting measurable targets and agreeing time-bound action plans to improve student learning. The analysis should be discussed at department meetings and recorded in the minutes.
- Good quality common schemes of work have been developed. They include information regarding timeframes of topics and associated learning intentions, literacy and numeracy strategies and a teacher review section. These schemes should be extended to link specific teaching and learning methodologies and assessment modes to the learning intentions. This would provide the teachers with an opportunity to share practices and to increase the number of enquiry-based methodologies across the science department.

The draft findings and recommendations arising out of this evaluation were discussed with the principal, deputy principal and subject teachers at the conclusion of the evaluation. 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.

Appendix

SCHOOL RESPONSE TO THE REPORT

Submitted by the Board of Management

Part A Observations on the content of the inspection report

The Board of Management of St. Attracta's Community School welcomes this positive report on the recent Subject inspection in Science and Physics. The content of the report serves to affirm the hard work and dedication of the Science Department. The Board notes the recommendations and will continue to support and promote the teaching and learning of Science and Physics in the school through appropriate timetabling, staffing and resourcing.

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

The Science Department has discussed this report and will engage with the recommendations therein. These are prioritised for development at formal and informal Science Department meetings. The collaborative working approach of this Department will support and enhance the outcomes thus maintaining and developing the positive teaching and learning experience for all.

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 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 *very good* 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. Overall, learners have access to a basic level of provision. 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;

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