

An Roinn Oideachais agus Scileanna
Department of Education and Skills

Subject Inspection of Metalwork and Engineering

REPORT

Ainm na scoile / School name	Pobalscoil na Tríonóide
Seoladh na scoile / School address	Frogmore Youghal Co. Cork P36 Y763
Uimhir rolla / Roll number	91513S

Date of Inspection: 08-12-2016



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 Metalwork and Engineering 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.

Subject Inspection

INSPECTION ACTIVITIES DURING THIS INSPECTION

Date of inspection	08-12-2016
Inspection activities undertaken <ul style="list-style-type: none">• Review of relevant documents• Discussion with principal and key staff• Interaction with students	<ul style="list-style-type: none">• Observation of teaching and learning during five class periods• Examination of students' work• Feedback to principal and relevant staff

SCHOOL CONTEXT

Pobalscoil na Trionóide is an inter-denominational, co-educational community school located in Youghal, County Cork. The school has a current enrolment of 914 students. The school offers Junior Certificate, an optional Transition Year (TY) programme and the Leaving Certificate programme. Metalwork and Engineering are optional subjects in all programmes offered in the school.

SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS:

FINDINGS

- The quality of teaching was very good with good levels of learning observed in all lessons.
- Theory and practical elements of the syllabuses were taught effectively in an integrated and balanced manner.
- Students were given ample opportunity to work independently and collaboratively during well-structured and appropriate activities observed in lessons.
- Students' skill levels were good with some scope for improvement identified in relation to technique and form when completing general bench-work tasks.
- High quality learning environments have been created and these impact positively on students' experiences.
- Metalwork and Engineering are popular subjects which are well supported at whole-school level in relation to the time allocated to them and the physical resources made available.

RECOMMENDATIONS

- The subject department should focus on improving questioning techniques employed and ensure that good bench-work techniques and practices are reinforced and revisited regularly.
- Teaching and learning methodologies should be discussed in greater detail at subject department meetings with a view to embedding effective practices consistently across the subject department.
- The TY plan for Engineering should be reviewed to include, and accurately reflect, all aspects of the taught programme.

DETAILED FINDINGS AND RECOMMENDATIONS

1. TEACHING, LEARNING AND ASSESSMENT

- The overall quality of teaching was very good. Learning was good with a few specific areas for improvement identified during the course of the evaluation.
- All lessons were structured and sequenced appropriately. Key learning intentions were outlined at the beginning of all lessons and revisited appropriately during, and at the end, of lessons. Topics were developed incrementally and were pitched at a suitable level for all year groups and abilities.
- Teachers employed various methods to elicit student responses and contributions. These methods included teacher input, student activities, worksheet tasks and opportunities to practise skills.
- Teachers facilitated independent and collaborative work effectively. Opportunities for work of this nature had been well planned and they reinforced key learning. In some instances, these learning opportunities promoted problem-solving and encouraged skill development and refined students' technical skills. This was particularly evident during a group electronics task that incorporated the correct wiring and soldering of electronic components.
- Questioning was used sparingly. This resulted in teachers relying on individual conversations and discussions to ascertain students' levels of understanding. A more strategic approach to questioning should be employed in order to gain a greater insight into students' learning throughout lessons. The two strategies would complement each other and provide teachers with very good information enabling them to modify their teaching to match students' needs in a more efficient and dynamic manner.
- Theory and practical elements of the syllabuses were taught in an integrated manner. This approach reinforced students understanding and contextualised their learning effectively.
- Students' awareness, understanding and use of subject specific terminology were reinforced throughout the lessons observed. New terms were identified and explained clearly. Technical terms were incorporated into teachers' instructions appropriately and this helped students to internalise new and unfamiliar terms and to expand their functional vocabulary.
- Demonstration was used as an effective modelling strategy. Various techniques were employed including the effective use of the classroom visualiser during a soldering demonstration and a physical demonstration of facing and parallel-turning techniques.
- Successful strategies aimed at improving students' marking-out techniques have been developed. One strategy that was particularly effective was the use of card cut to the desired dimensions and marked by students. This helped students to practise their techniques and to improve their accuracy before marking and shaping their final artefacts.
- The two metalwork and engineering classrooms provide students with an excellent learning environment. This is achieved through very good use of year-group specific notice boards, demonstration areas that highlight key mechanisms and through the careful storage and arrangement of tools and equipment.
- Participation levels were high and students were engaged and motivated to achieve. When questioned by the inspector, students demonstrated good knowledge and understanding. Overall, student's skill levels were good with some scope for improvement in relation to general bench-work where attention should be given to improving some students' technique and form.

- Assessment of students' progress was monitored during all practical activities. Some developmental feedback was given to most students during practical tasks. This good practice should be further extended, and where appropriate, include students' written work and homework tasks.

2. SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Subject provision and whole school support is effective with some areas for improvement identified.
- Allocation of teaching time to the subjects is appropriate. There are two class groups studying the subjects in all year groups. This level of uptake indicates that the subjects are popular among the student cohort.
- Students are supported through the provision of an eight-week subject sampling period at the beginning of first year and a modular component in the school's TY programme. These initiatives help to ensure that students can make informed subject choices based upon their aptitudes, skills and experience of the subjects.
- Two members of the subject department are deployed to teach one of the TY class groups. Both teachers share the teaching responsibilities for this group and plan accordingly. This practice is not ideal and should be avoided, where possible.
- Members of the subject department attend continuing professional development (CPD) courses when available. Whole-school CPD is also provided and key initiatives including the recent input focusing on differentiation help to promote consistent practices across the curriculum. One member of the subject department is currently engaged in an instructional leadership programme and elements of this programme are beginning to be embedded in the subject area. This is an area for further development.

3. PLANNING AND PREPARATION

- Planning and preparation is of a good standard overall in Pobalscoil na Trionóide.
- Teachers' individual planning and preparation for lessons was of a high standard. Lesson tasks and activities were structured effectively and sequenced to reinforce and develop students' learning. Resources were prepared in advance in all instances and these resources enhanced students' experiences.
- The subject department meet periodically. These meetings have resulted in the development of a detailed subject plan that incorporates common schemes of work, assessment procedures, resources, topical worksheets and records of meetings held.
- To develop a greater level of pedagogical discussion at subject department meetings, the subject department should include teaching and learning on their subject department meeting agendas. Initially, the instructional leadership programme may direct these discussions enabling those involved to share their learning and to further embed effective practices.
- A curricular plan has been developed for the modular TY engineering programme. This plan should be reviewed to include and reflect all aspects of the taught programme. Particular emphasis should be put on the thematic approach to be adopted and the cross-curricular links with business subjects focusing specifically on the relationship between designing, costing, manufacturing and marketing craftwork in order to maximise a profit.

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 was given an opportunity to comment in writing on the findings and recommendations of the report; a response was not received from the board.

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 <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;