

An Roinn Oideachais agus Scileanna
Department of Education and Skills

Subject Inspection in Metalwork and Engineering

REPORT

Ainm na scoile / School name	Lucan Community College
Seoladh na scoile / School address	Esker Drive Lucan Co Dublin
Uimhir rolla / Roll number	70080T

Date of Inspection: 11-09-2019



**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 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.

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	10 and 11 September 2019
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 lessons• Examination of students' work• Feedback to principal and relevant staff

School context

Lucan Community College is a co-educational post-primary school with an enrolment of 920 students and operates under the aegis of Dublin and Dún Laoghaire Education and Training Board. The school offers the junior cycle, a compulsory Transition year (TY), the Leaving Certificate Applied (LCA), the Leaving Certificate Vocational Programme (LCVP) and the Leaving Certificate (Established).

SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS:

Findings

- The overall quality of teaching and learning observed was very good.
- A supportive student-centred learning environment was facilitated by teachers during the lessons observed.
- The quality of assessment was good, opportunities for students to engage in deeper assessment for learning practices should be investigated and furthered.
- Teacher-led demonstrations and questioning methodologies were of a high standard.
- Whole-school support for Metalwork and Engineering is of very high quality, two well-resourced specialist classrooms complemented with a digital learning lab are available to the subject department.
- The quality of individual lesson preparation was very good; aspects of subject department planning requiring further development.

Recommendations

- Teachers should investigate and implement increased opportunities for students to engage in assessment for learning techniques, in particular during prolonged periods of project work.
- The subject department should advance a systematic approach to documenting and reporting evidence based improvements and to update the TY Engineering plan.

DETAILED FINDINGS AND RECOMMENDATIONS

1. TEACHING, LEARNING, AND ASSESSMENT

- The overall quality of teaching and learning observed was very good. Students were afforded a wide range of learning opportunities and were self-motivated in tasks and activities. High levels of engagement and participation were noted, students made very good progress during lessons.
- Learners experienced a kind, student-centred environment, where their input through discussion, answering questions and independent project work was valued and informed lesson progression.
- All lessons demonstrated clear evidence of very thorough planning and preparation. Lessons were clearly structured with effective organisational routines well established.
- A review of prior learning was achieved through open and developmental questioning at various stages during lessons. Students articulated replies with confidence using very good technical vocabulary. In a small number of instances the question was reworded or passed to a peer to keep lesson flow and progression constant. Teachers also successfully used questioning to check for student learning during theoretical aspects of lessons.
- Teacher-led demonstrations were conducted competently. New knowledge was co-constructed incrementally with very effective student engagement. Following demonstrations, students were carefully chosen to model new learning and best practice to their peers with minimal guidance from the teacher.
- In class strategies to improve students' literacy and numeracy skills were evident during lessons. A review of written work showed students used graphical organisers and sketching very effectively to manage information and present solutions. The integrated approach of teaching and learning theoretical concepts through practical applications proved very successful.
- Resources were deployed skilfully to aid concept development and understanding. In one such instance during a junior cycle lesson, students investigated the properties of different materials. Students were encouraged to think as engineers, by estimating fail loads for each material, testing the materials by applying static loads and by analysing the results collaboratively in small groups. This is commendable practice.
- Teacher circulation during lessons was very good. This catered for reactive differentiation and scaffolding, supporting students to achieve to the best of their abilities. Students were frequently affirmed for their efforts, this contributed to a positive atmosphere. Oral feedback during student-led project work was a significant strength enabling students to improve their learning with immediate response.
- Homework is set regularly and monitored during lessons. Developmental feedback comments on student written work was evident in some copies, this good practice should be extended within the department.
- The quality of assessment was good and mainly teacher led. To further improve the quality of assessment during prolonged periods of project work, students should be enabled to engage techniques that check for learning as they progress their project. The subject department should implement effective methods to achieve this, and review as necessary.

- Uptake of higher level in both Metalwork and Engineering is very good. Student attainment at higher level is very good, this reflects the high expectations set by subject teachers during lessons.
- Recording and reporting of formative and summative assessments are very good and are evolving.

2. SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- The quality of provision and whole-school support is of very high quality.
- Timetabled provision for the subjects is very good, class periods are evenly distributed across the week. The provision of double lessons caters for deep engagement with design and project work.
- Two well-equipped specialist classrooms complemented by a digital learning lab in close proximity are available to the subject department. Poster displays and exemplars of students work create an interesting learning environment. The digital learning lab is used very effectively during project work for research, design and the production of working drawings.
- Access to the subjects is student-centred with option bands derived after completion of subject preferences. Formal information sharing procedures are in place to assist option subject selection. Engineering as a vocational specialism is currently offered in LCA.
- Safety signage is prominently displayed on machine tools, students diligently used personal protective equipment when operating equipment. The subject department conducts an annual risks-and-hazards check assessment. It is recommended that the subject department use the interactive risk assessments for post-primary schools as provided by the Health and Safety Authority going forward.
- Attendance records of teachers' involvement with continuing professional development is very good. The three fully qualified teacher department work collectively with high levels of collaboration evident, including resource sharing and timetabled team teaching.

3. PLANNING AND PREPARATION

- Planning and preparation for individual lessons was of a high quality, learning activities were designed to challenge and support all abilities within mixed ability groupings. Equipment setup and various resources were prepared in advance, enabling smooth transitions during lessons.
- Commendably, the subject department teachers have identified areas for improvement. The department uses a range of data sources to identify the focus, including certificate examination attainment analysis and student feedback. It is recommended that the subject department develop a more systematic approach to the documentation and reporting of these evidence based improvements.
- Subject department meetings are scheduled by management. Department meetings contain evidence of collaborative discussions on planning, team teaching, student learning and assessment modes.
- In TY a half year Engineering module is offered. A review of the current TY plan should be undertaken, to support its further development in the areas of teaching methodologies and assignment schedules.

The draft findings and recommendations arising out of this evaluation were discussed with the principal, the deputy principals and the 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 quality of 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

Area 1 Observations on the content of the inspection report

The Board of Management of Lucan Community College welcomes the Metalwork and Engineering Subject Inspection report. It acknowledges the positive findings in the report, in particular: the very high quality of teaching and learning observed; the kind, supportive student-centred learning environment; the reactive differentiation and scaffolding and high quality of assessment; the strength of teacher demonstrations and questioning techniques; the very thorough lesson preparation and planning, and the commendation of the Health and Safety procedures in the classroom.

The Board will continue to offer high quality whole-school support for these subjects and commends the development of a digital learning lab by the teachers in close proximity to the two specialist classrooms with the support of Dublin and Dun Laoghaire ETB. The Board also notes that the Metalwork and Engineering teachers engage in professional development opportunities, engage in high levels of collaboration and that the school support for timetabling of this subject is highly commendable.

The Board commends the Metalwork and Engineering Department and students for the ongoing excellent uptake of higher level in both subjects, the high expectations set by teachers and for the high standard of student attainment in state examinations.

Area 2 Follow-up actions planned or undertaken since the completion of the inspection activity to implement the findings and recommendations of the inspection.

The Metalwork and Engineering teams have begun to address the recommendations on the report in the following manner:

1. The team will investigate ways to engage students in deeper assessment for learning practices.
2. The team will review subject department planning (in particular documentation and reporting of evidence based improvements).
3. The team are trialling techniques to self-reflect on their learning as they progress a project.