An Roinn Oideachais agus Scileanna

Department of Education and Skills

Subject Inspection in Metalwork and Engineering

REPORT

Ainm na scoile / School name	St. Colman's Community College
Seoladh na scoile / School address	Youghal Road Midleton Co Cork
Uimhir rolla / Roll number	71050P

Date of Inspection: 06-11-2019

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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

Date of inspection	06-11-2019
Inspection activities undertaken • Review of relevant documents • Discussion with principal and key staff • Interaction with students	• Observation of teaching and learning during four lessons • Examination of students' work • Feedback to principal and relevant staff

School context

St. Colman's Community College is a co-educational post-primary school under the aegis of Cork Education and Training Board (Cork ETB). The school is part of the Delivering Equality of Opportunity in Schools (DEIS) action plan of the Department of Education and Skills. It has a current enrolment of 775 post-primary students.

SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS:

Findings

- In lessons observed, teaching, learning and assessment practices were good with a number of instances of very good practice noted.
- Students were active, highly engaged and motivated to learn in practical lessons, but their learning was more passive in the theory-based lesson observed.
- As part of their Metalwork and Engineering programmes, students experience a wide range of relevant processes that help to develop their skills.
- Students received good levels of formative feedback in practical lessons and responded very positively to teacher affirmation and guidance.
- Subject provision and whole school support for Metalwork and Engineering is very good.
- Effective subject planning and teacher preparation was observed with some scope for improvement identified in planning for the effective implementation of team teaching and the implementation of the new Engineering specification at junior cycle.

Recommendations

- Efforts should be made to plan for greater student engagement in theory-based lessons in order to maximise student learning.
- Team teaching practices should be planned and employed consistently to ensure that maximum benefits accrue for targeted students.
- The collaborative planning of units of learning for junior cycle Engineering should now form part of all subject department meetings.

DETAILED FINDINGS AND RECOMMENDATIONS

1. TEACHING, LEARNING, AND ASSESSMENT

- In lessons observed, teaching, learning and assessment practices were good, with a number of instances of very good practice observed.
- Engineering processes were taught in a structured manner that effectively facilitated sequential skill development. Teacher-led demonstrations were good. These demonstrations provided very good opportunities for teachers to gauge learning and to initiate discussion.
- Effective questioning was utilised in all lessons. There was some scope for development in relation to the use of collaborative learning methods during questioning, particularly when identifying students' prior knowledge at the beginning of lessons.
- Information and communication technology (ICT) was used to supplement students' creativity in a very positive manner. On occasion, relevant images were sourced and disseminated among students to elicit responses and to promote enquiry and design-based exploration. These approaches fostered innovation whilst supporting and scaffolding students' engagement with the design process.
- An integrated approach was adopted in practical lessons in order to reinforce theory. This was observed in a fifth-year lesson that focussed on machining processes. A similar approach to theory-based lessons should be pursued where appropriate through the use of practical models, tools and artefacts.
- Students exhibited high levels of motivation, engagement and enjoyment during their practical learning activities. More extensive use of active and engaging methodologies in non-practical lessons would have benefitted students' learning experiences. Efforts should be made to plan and incorporate suitable methodologies to promote greater levels of student engagement in these situations.
- Students' practical skills were generally good and sometimes very good. These skills were demonstrated across a wide variety of practical activities and processes. This multi-faceted approach created very positive practical lessons where students' experiences were varied and wide-ranging. This was particularly apparent in a junior cycle lesson where multiple projects and processes were incorporated into the students' learning experiences providing students of varying abilities with opportunities to succeed at a level appropriate to them.
- Students received good levels of encouragement and constructive feedback based upon their project work. This approach worked well in helping students to identify the process that they needed to practise further in order to develop and hone their skills.
- Student interactions were positive and a good teacher-student rapport was evident throughout the inspection. Where teachers affirmed students' efforts, students responded very positively.
- Teachers are facilitated and encouraged to attend continuing professional development (CPD) courses to maintain and extend their subject-specific knowledge. This good practice should be extended to include pedagogical CPD where possible in order to support the creation of more active learning in theory lessons.

2. SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Subject provision and whole school support for Metalwork and Engineering is very good overall.
- Metalwork and Engineering are offered to both junior and senior cycle students respectively. Transition Year (TY) students are also provided with the opportunity to experience Engineering during a short modular-based programme.

- The subjects are very well resourced. School management has supported the ongoing maintenance and modernisation of the Metalwork and Engineering facilities to help provide students with the best possible learning experiences in the subject area. The recent procurement of vacuum forming facilities, 3D printing and mechatronics resources will have a positive effect on students' perceptions and experience of engineering as a modern and innovative discipline.
- Timetabling is appropriate for all year groups. Where examination-year classes are scheduled for single periods, team teaching supports are provided. This is a significant support for students and requires extensive planning to maximise its impact.
- Good efforts have been made to ensure effective safety practices are understood and undertaken by students. Safety zones are clearly outlined around machinery, personal protective equipment is readily available, and worn where necessary, and machine spindles are guarded appropriately. These approaches help to model good practice and embed good personal safety habits among students.

3. PLANNING AND PREPARATION

- Effective planning and preparation was evident with some scope identified in the area of planning for supports for students, particularly in the area of team teaching and the implementation of the new Engineering specification at junior cycle.
- In one lesson observed, both teachers identified clear roles and responsibilities in advance of the lesson. In another lesson observed, the supporting teacher should have taken a more proactive role in supporting students' progress. To maximise the benefits accrued from team teaching, the subject department should research the various models and incorporate the most appropriate model to their particular context. The impact of the team-teaching model adopted should be reviewed periodically.
- Subject department planning systems have been embedded and have resulted in a team dynamic and a collaborative approach to planning. This collaborative approach should now focus on developing appropriate units of learning for Engineering at junior cycle.
- Considerable efforts have been made to compile electronic teaching resources. A comprehensive library of resources is easily accessible on the subject department's shared network drive. This network drive facilitates easy access to resources and the incorporation of these resources into lessons effectively.
- The subject plan includes records of subject department meetings. To support ongoing teaching and learning, planning for junior cycle Engineering should now be included on all future agendas. This will help to further embed the development of units of learning for the new Engineering specification.
- Content-based schemes of work have been developed for all year groups from second to sixth year. Within these plans, there are good examples of how theory and practical content is integrated for students.
- Subject plans have identified clear links with the school's school self-evaluation and DEIS goals. This coherent approach is notable and should be reinforced in practice at every opportunity.
- Teachers individual planning and preparation for lessons was good overall. Preparation was particularly good in a lesson observed where a prototype model was prepared in advance to support students' creativity, their approaches to design and problem-solving skills.

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 *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. 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

The Board of Management of St Colman's Community College welcomes the very positive findings of the subject inspection in Metalwork and Engineering.

The report endorses the work of the metalwork/engineering department in the school, noting that "students exhibited high levels of motivation, engagement and enjoyment during their practical learning activates". The report also affirms the subject department planning systems that have resulted in a "team dynamic and a collaborative approach to planning". The report also commended the subject provision and whole school support for Metalwork and Engineering.

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 recommendations of the Inspectorate will inform future planning in the Metalwork and Engineering department:

- Active learning methodologies are to be incorporated in theory-based lessons to maximize student engagement and learning.
- The Metalwork and Engineering Departments will identify targets and plan more focused strategies for team teaching. These targets and strategies will be reviewed and evaluated regularly as part of the subject planning for the department.
- The collaborative planning of units of learning for the New Junior Cycle Engineering will form part of subject department planning meetings.

The B0M is committed to continuing to provide the very best education for the students in St. Colman's.