Subject Inspection of Metalwork and Engineering
REPORT

Avondale Community College
Rathdrum, County Wicklow
Roll number: 70810H

Date of inspection: 7 April 2011
REPORT
ON
THE QUALITY OF LEARNING AND TEACHING IN METALWORK AND ENGINEERING

INFORMATION ON THE INSPECTION

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MAIN FINDINGS

- The lessons observed in Metalwork and Engineering were of a good standard with students demonstrating a significant level of skill development and safety awareness.

- The subject department receives considerable support from management in relation to the provision of materials and equipment, participation in continuing professional development courses and the regular scheduling of subject planning meetings.

- The school’s specialist facilities for Metalwork and Engineering provide students and teachers with an excellent working environment.

- Student uptake and attainment in certificate examinations is good, particularly at junior cycle.

- Collaboration at subject department level has enabled alternative models of delivery such as co-operative teaching to be utilised to provide additional supports for some senior cycle groups.

MAIN RECOMMENDATIONS

- The current provision of developmental feedback should be increased, particularly in relation to students’ written work.

- The subject department should identify and implement subject specific literacy and numeracy interventions in line with the school’s DEIS action plan.

- The current TY plan should be fully reviewed and developed to maximise the benefits of the Engineering and Technology module for students.

- Senior management should review the time allocated to Metalwork in the context of addressing the broader whole-school issue of compliance with the minimum twenty-eight hours tuition time required under circular M29/95.
INTRODUCTION
Avondale Community College participates in the Delivering Equality of Opportunity in Schools (DEIS) action plan. Metalwork is offered as an optional subject in junior cycle. Engineering is offered as a core subject in the school’s optional Transition Year (TY) and as an optional subject in fifth and sixth year. The school serves both an urban and rural student population and has a current enrolment of 457 students. The board of management was given an opportunity to comment in writing on the findings and recommendations of the inspection; a response was not received from the board.

TEACHING AND LEARNING

- The standard of teaching and learning in the Metalwork and Engineering lessons observed was good. Students exhibited significant learning particularly in relation to skill development and safety awareness.

- Lessons were very well organised and teachers structured learning activities appropriately.

- The main teaching methodology employed during the lessons observed was teacher demonstration to individuals and groups of students. The demonstrations were well planned and provided students with clear direction and helped the students to model best practice effectively.

- Student participation in the lessons was facilitated by structured independent learning activities and the incorporation of a wide variety of active learning methods including shaping, machining and assembling components.

- Questioning was used effectively to gauge students’ understanding. However opportunities to use questioning to further engage students and to link the practical and theoretical components of the syllabuses were occasionally missed.

- While the development of students’ literacy and numeracy skills is identified as a priority in the school’s DEIS action plan, examples of subject specific interventions were limited in the lessons observed. The subject department should now focus on this area for development and implement strategies appropriate to the subjects.

- The classroom environment is a model of best practice and considerable efforts have been made to develop and maintain this valuable teaching resource.

- Students displayed a considerable work ethic throughout the lessons observed. In many instances this resulted in the manufacture of good quality artefacts.

- Affirmation was used to very good effect in order to praise individual student’s efforts. These interventions helped to develop a positive learning environment and a respectful rapport between teachers and students.

- Students’ practical skills were well developed and there was a significant focus on accuracy, surface finish and assembly throughout the lessons observed.

- Teachers administered very high levels of individual and group feedback based upon students’ progress. This model should be further developed to include additional feedback aimed at improving students’ written work and their theoretical knowledge.

- Student uptake of higher level is appropriate. Attainment in certificate examinations at both levels is good and this is particularly the case at junior cycle.
SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Metalwork and Engineering form constituent parts of all programmes offered in the school.
- Currently students are not provided with the minimum twenty-eight hours tuition time in compliance with circular M29/95. As a result of this deficit, Metalwork and Engineering lessons are thirty-five minutes in duration. This has no detrimental effect on students of engineering as they receive six class periods per week. However, the four class periods allocated to Metalwork class groups result in a shortfall of approximately twenty minutes per week when compared with national norms. Senior management should review this situation as a priority.
- Co-operative teaching strategies are employed with a senior cycle class group. The subject department’s openness to alternative modes of delivery is commended. Co-operative teaching strategies should now be further developed and perhaps include elements of peer observation and reflection.
- Uptake of Metalwork and Engineering is good with more than a third of students choosing the subjects. Unfortunately, uptake of the subjects among girls is an area of concern with few girls choosing to study either subject as part of their Junior Certificate or Leaving Certificate programmes. The subject department should examine the causes of this trend and initiate plans to redress the balance.
- A number of useful initiatives have been developed to help inform students and their parents about optional subjects. These initiatives include open days and open evenings for parents. Optional subject bands are developed based upon students’ preferences and these bands have tended to vary from year to year. It was reported that satisfaction rates are high and that there is some degree of flexibility in relation to students changing their minds during the initial stages of the relevant programme.
- Teachers are facilitated and encouraged to attend continuing professional development (CPD) courses and have also accessed school based CPD. The emphasis on safety courses particularly fire safety and defibrillator training is commended.

PLANNING AND PREPARATION

- Meetings of the Metalwork and Engineering subject department are facilitated by senior management. Minutes of these meetings show that an emphasis has been placed upon practicalities such as material procurement and ongoing repairs and maintenance of machinery and equipment. The subject co-ordinator should ensure that pedagogical issues are placed on each agenda to further embed meaningful subject planning. The subject department’s role in developing students’ literacy and numeracy skills and the identification and implementation of innovative teaching and learning strategies appropriate to TY should be prioritised at future subject planning meetings.
- The subject plan outlines the delivery of the programmes within a content based framework. Plans should be further developed over a specified timescale to incorporate desired learning outcomes, modes of assessment and required resources. This goal will help to further inform subject planning meetings.
- The TY plan currently lacks detail and in its present form does not adequately reflect the principles of the programme. To address this, the subject department should develop a
new plan that strives to expose Engineering students to the subject in an innovative manner.

- Teachers individual planning was of a high standard. Resources and teaching aids were prepared in advance and all lessons were delivered in line with the overall subject plan.

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.

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