

**An Roinn Oideachais agus Scileanna**

**Department of Education and Skills**

**Subject Inspection of Construction Studies and  
Materials Technology (Wood)  
REPORT**

**Ennistymon Vocational School  
County Clare  
Roll number: 70840Q**

**Date of inspection: 24 March 2010**



**AN ROINN | DEPARTMENT  
OIDEACHAIS | OF EDUCATION  
AGUS SCILEANNA | AND SKILLS**

**REPORT**  
**ON**  
**THE QUALITY OF LEARNING AND TEACHING IN CONSTRUCTION STUDIES**  
**AND MATERIALS TECHNOLOGY (WOOD)**

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**SUBJECT INSPECTION REPORT**

This report has been written following a subject inspection in Ennistymon Vocational School. It presents the findings of an evaluation of the quality of teaching and learning in Construction Studies (CS) and Materials Technology (Wood) (MTW) and makes recommendations for the further development of the teaching of these subjects in the school. The evaluation was conducted over one day during which the inspector visited classrooms and observed teaching and learning. The inspector interacted with students and teachers, examined students' work, and had discussions with the teacher. The inspector reviewed school planning documentation and the teacher's written preparation. Following the evaluation visit, the inspector provided oral feedback on the outcomes of the evaluation to the principal and the subject teacher. The board of management of the school was given an opportunity to comment on the findings and recommendations of the report; the board chose to accept the report without response.

**SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT**

CS and MTW form part of a well balanced curricular provision for the technologies in Ennistymon Vocational School. The other technologies in the curriculum of the school are Design and Communications Graphics and Engineering in senior cycle and Technical Graphics and Metalwork in junior cycle.

CS and MTW have a long tradition in the school and they are held in high regard. The continued popularity of CS and MTW among students, and the high level of uptake of the subjects, has led to expansion of subject provision and it is planned that a second teacher will shortly be involved in teaching CS and MTW. This is a welcome development. It is urged that teachers of the technologies should be provided with opportunities to teach each of the subjects for which they are qualified, as a means of enhancing collaborative subject-department planning and as a support for continuity of subject provision. The involvement of a second teacher in CS and MTW provides an opportunity for the role of subject co-ordinator to rotate, perhaps on an annual basis. This opportunity should be taken at the earliest appropriate time.

The school adopts an enlightened and positive approach to the provision of continuous professional development (CPD). Together with the whole staff, the teacher of CS and MTW is encouraged to engage in CPD through whole-school in-service sessions, through involvement in subject associations and through attendance at CPD specific to the technologies. All teachers of the technologies in the school have attended the series of CPD sessions provided through the Technology Subjects Support Service, t<sup>4</sup>.

The time allocated for the teaching of CS and MTW is ample to facilitate the completion of the respective syllabuses, while the division of the time into multiple-period lessons supports the efficient completion of practical work. In each of the three junior-cycle years, two double-period

lessons per week are provided for MTW. In senior cycle, CS is provided with six periods per week, arranged as two lessons of three periods each. This reflects good timetabling practice.

CS and MTW are taught in a dedicated woodwork room that is well maintained and provides a good learning environment for students. School management and the teacher of the subjects have been active in providing for the effective maintenance and modernisation of the room and facilities. Appropriate dust-extraction facilities are in place. Optimum use is made of the present space and available facilities to achieve effective teaching of the subjects. In response to the increasing demand for CS and MTW, planning for an extension to the school building includes the provision of a new woodwork room, wood preparation room and store. This is identified as a priority for school development which is indicative of the positive approach of the school as a whole to the support of the subjects.

CS and MTW are supported very well by the school in terms of the supply of resources such as tools, equipment and materials. A system is in place for the purchase of these resources as required by individual teachers. As the complement of teachers in the subject department expands, the possibility of providing an annual budget for consumable items and materials should be considered. This approach should be used to provide added incentive and encouragement for careful collaborative planning at subject-department level.

The provision for students to study MTW and CS in the school is very good. All students in junior cycle study MTW. This is consistent with the high regard for the subject within the school and the school's awareness of its own history and traditions, and its role in the community. All students undertake the TY programme which includes a CS module. CS is an optional subject in senior cycle. Uptake of this subject is very high, with the majority of students in fifth year and sixth year choosing to study it in the current cycle. The three post-primary schools in Ennistymon collaborate to an admirable extent in the design of subject-option bands and timetables that provide students with greater freedom in choice of subjects. As a result of this very good practice, a number of students from the Christian Brothers' Secondary School join the CS class in the school each year. However, school management reports that it may not be possible to continue this practice as class sizes in the school, already increased in junior cycle, grow larger at senior cycle, with consequent pressure on the available facilities.

Practice with regard to determining the level at which students sit the certificate examinations in MTW and CS is good. Both subjects are taught in a mixed-ability setting. The decision regarding the level at which to sit the examination is made by the student concerned on an individual basis, under the advice and guidance of the teacher, and in consultation with the parents. Students are encouraged to sit the certificate examinations at the appropriate level consistent with their individual ability. The choice of level is made at an appropriate time for the individual student, usually late in third year or sixth year.

The arrangements for forming option bands in senior cycle follow recognised good practice. In preparation for fifth year, students select the subjects that they wish to study from the full list of optional subjects. The option bands are then formulated to facilitate the students' preferences to the greatest possible extent. Students then make their final choices from the option bands. Students are well supported in making the most suitable subject choices in a number of ways as follows. The TY programme provides direct experience of each of the optional subjects, including CS. Guidance on careers and options for further study forms part of the guidance programme. The guidance counsellor advises each student. This advice takes account of indicators such as differential aptitude test results and is provided in consultation with parents. Documentation,

including the TY programme booklet, is circulated to the student's parents to provide information regarding the subjects available.

## **PLANNING AND PREPARATION**

There is a good level of collaborative planning for the technologies in the school, mainly at an informal level, but also at termly planning meetings, when the teachers of the technologies meet and evaluate progress in planning for the subjects they teach. Thus, planning for CS and MTW is enhanced by collaboration between the teacher of these subjects and the teachers of the other technologies. This is an indicator of good planning practice.

Subject documentation includes detailed and appropriate schemes of work for both subjects, providing a good starting point for more detailed subject-department planning, for which an increased level of formality would be of benefit. As planning for CS and MTW develops further, increased emphasis should be placed on aspects such as the most successful teaching methods and strategies for teaching the subjects, on the most effective teaching approaches to support the educational needs of all students, and on assessment procedures, including implementation of effective assessment for learning (AfL) approaches. Information regarding AfL is available at [www.ncca.ie](http://www.ncca.ie).

It is clear that the extensive experience and subject skills of the teacher can be a valuable source of information when further developing the subject plan. The planning materials on the School Development Planning Initiative website at [www.sdpi.ie](http://www.sdpi.ie) are also a valuable support for subject-department planning. Regular monitoring, self-review and evaluation of subject-department planning, from the viewpoint of achievement of planned aims and objectives, should also be addressed in a systematic and consistent way, from year to year, as part of the planning cycle.

The work being done with the students in MTW and CS follows the carefully planned programme of work, contained in the subject-department plan, which is consistent with the respective subject syllabuses. The lessons observed in the course of the inspection had been carefully planned and prepared. Planning took account of the additional educational needs of students and this was shown by the enlightened differentiation of student project work. In a first-year lesson, during which students worked on the realisation of a small table, the construction of the table was simplified to take account of individual students' ability. In such circumstances, thought should be given to the further improvement of the use of differentiation by facilitating design consideration by the students prior to realisation.

Planning for MTW and CS has commendable cross-curricular elements involving the sciences as well as the other technologies. This planning has led to subject collaboration regarding a number of initiatives under the Green-Schools programme, including the construction of window boxes and bird boxes, while students have also been involved in the construction of wooden equipment for use in practical science experiments in junior cycle.

Planning for resources, including teaching resources, tools, equipment and class materials, their selection, acquisition and use is, in general, of a high standard. Information and communication technology (ICT) facilities are available to CS and MTW classes in the school's computer room and in the Design and Communication Graphics room. These facilities should be more widely used to introduce MTW students to the use of the *SolidWorks* computer-aided design software in first year, perhaps as part of their introduction to design. As these students develop their design skills through junior cycle, and progress, if they so choose, through Transition Year (TY) to the

study of CS in senior cycle, they should be provided with opportunities to make appropriate use of *SolidWorks* in line with their developing skills in using the software.

ICT is used to prepare teaching materials including working drawings for use in practical woodwork lessons. Further opportunities should be sought to use ICT in teaching, making use of the data projector and laptop computer and exploring the range of digital materials available.

The health and safety statement in the school is current and includes appropriate reference to the woodwork room. The statement is regularly reviewed. There is an appropriately high level of awareness of issues of health and safety in the subject department. This awareness has ensured responsiveness to issues as they have arisen and has led to good practice being followed with regard to risk analysis and anticipation and control of hazards.

To further improve the good practice seen with regard to health and safety, recommendations are made as follows. The number of standard safety signboards should be increased. A larger font should be used on informational safety signboards displaying precautions and procedures for the safe use of machines. The rules for the use of the woodwork room should be prominently displayed. Safe operational areas should be marked on the floor around machinery such as the wood lathes. An information signboard should be displayed to indicate the reason for this demarcation and to bring the implications for movement in the vicinity of machines to the attention of students. The educational intent of these measures, aimed at further reinforcing students' awareness of issues of health and safety, should be borne in mind.

## **TEACHING AND LEARNING**

The quality of teaching and learning observed in the course of the inspection was at all times very high and often approached the highest standard. The pedagogical approach adopted was natural and lively and encouraged students to share their teacher's obvious passion for the subjects. Content was very relevant to the tasks being undertaken in the practical lessons observed in junior cycle and senior cycle. These lessons were coherently structured with well-paced, highly skilled teacher demonstrations appropriately interspersed with opportunities for the students to complete their work. Questioning was appropriately differentiated and was used very effectively, leading to regular inputs from students. The voice of the students formed a central part of the lessons.

The contributions of students were similarly used to great effect in a lesson in senior cycle which dealt with issues of architectural conservation and renovation. Carefully framed questioning by their teacher prompted students to display a level of knowledge and understanding that encouraged further involvement and curiosity for the topic. As the lesson developed and various constructional details, such as methods of fixing dry-lining, the re-use of slates and the repair and re-painting of barges, were dealt with, students sketched the details in their copybooks and appropriate short notes were dictated by their teacher. This note making provided very effective reinforcement of learning. It is suggested, in the context of further improvement of student learning, that approaches and procedures for support of student literacy and numeracy, such as the use of keyword lists and the focusing on calculation of dimensions, should be more clearly defined and consistently implemented in lessons.

The management of learning in the lessons observed was facilitated by the students' interest and curiosity, which were very effectively nurtured throughout. Correction of behaviour was achieved sensitively, almost imperceptibly, as required. The atmosphere in the classroom was at all times positive and was maintained by the occasional appropriate use of humour in a very natural way

by the teacher. Mutual respect between students and teacher, and among the students themselves, was to the fore in classroom interaction.

Subject-related materials displayed in the woodwork room included the students' own work on shelves and window boards, models of typical constructional details of walls and roofs on large boards hanging on the walls and a range of commercially produced posters. These displays provided visual stimulation, maintained an atmosphere appropriate to the subject and helped to ensure a very good learning environment.

Evidence of very effective learning was provided by the students' appropriate knowledge and understanding of MTW and CS. Students expressed their views with confidence in the course of lessons and displayed an awareness of underlying principles when questioned. Students were encouraged to relate their learning to their own lives and surroundings, which they did effectively.

## **ASSESSMENT**

Good formal assessment practice is followed. Students' project work is assessed on completion and the accumulated assessments are combined with examination outcomes at Christmas and in the summer term to arrive at the end-of-term results for inclusion in school reports. This approach to assessment is consistent with that of the respective syllabuses of the subjects. It is suggested that details of the assessment procedures in MTW and CS should be included in the subject-department plan and that the students' attention should be drawn regularly to the likely impact of their individual continuous assessments on their eventual result at Christmas or in summer examinations. It is suggested that adopting a common mode of continuous assessment in each of the technologies would help to raise students' awareness further. The assessment of project work should in all cases include consideration of each of the elements of the project including the development of design ideas, sketching and drawing, in addition to the realisation of the artefact.

Informal assessment is an integral part of each lesson and the practice observed was to provide regular affirmation of the students' achievement. There is a commendable awareness in the school of the value of encouraging students to reflect on their learning. This awareness has influenced assessment practice in MTW and CS. One of the lessons observed concluded with a discussion of the various aspects to be considered when deciding on the quality of a finished project. This exercise was undertaken in the context of the students' projects as they neared completion. The opportunity this presented for peer assessment was used effectively. Students in this way are also encouraged to assess their own work as a further development of reflective learning. This is consistent with good AfL practice.

Homework in MTW and CS is set and monitored in line with the school's homework policy. Records of attendance, homework completion and assessments are entered in the teacher's diary and inform discussion at parent-teacher meetings. Other channels of communication with parents include notes in the students' journals and school reports.

## **SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS**

The following are the main strengths identified in the evaluation:

- Support for CS and MTW is very good with regard to the supply of resources such as tools, equipment and materials.
- Provision for students to study MTW and CS in the school is very good.

- Planning for MTW and CS has commendable cross-curricular elements involving the sciences as well as the other technologies.
- The quality of teaching and learning observed in the course of the inspection was at all times very high.
- The voice of the students formed a central part of the lessons.
- Evidence of very effective learning was provided by the students' appropriate knowledge and understanding of MTW and CS and by their confidence in responding to questions.

As a means of building on these strengths and to address areas for development, the following key recommendations are made:

- Teachers of the technologies should, where practicable, be provided with opportunities to teach each of the subjects for which they are qualified.
- As the complement of teachers in the subject department expands, the possibility of providing an annual budget for consumable items and materials should be considered.
- Planning for CS and MTW should consider teaching methods and strategies, support for the educational needs of all students and implementation of effective assessment for learning approaches.
- Further opportunities to use ICT in teaching should be sought, making use of the data projector and laptop computer and exploring the range of digital materials available.

A post-evaluation meeting was held with the principal and the teacher of Construction Studies and Materials Technology (Wood) at the conclusion of the evaluation when the draft findings and recommendations of the evaluation were presented and discussed.