

**An Roinn Oideachais agus Scileanna**

**Department of Education and Skills**

**REPORT**

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

**St Bricin's College  
Belturbet, Co. Cavan  
Roll number: 70350W**

**Date of inspection: 8 March 2010**



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

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

---

**SUBJECT INSPECTION REPORT**

This report has been written following a subject inspection in St Bricin's College. It presents the findings of an evaluation of the quality of teaching and learning in Materials Technology (Wood) and Construction Studies 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 the teacher, 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 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.

**SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT**

St Bricin's College offers Materials Technology Wood (MTW) as an optional subject in the junior cycle programme. Parents of incoming first-year students are given an optional subjects information booklet at enrolment. This booklet gives concise information on each of the seven optional subjects offered by the school. On entry into first year, students are asked to choose three of these optional subjects from pre-set option bands. Students who wish to change their chosen subjects are accommodated up to the mid-term break in October. It is suggested that the possibility of providing students with an experience of each of the optional subjects, before they make their final choices, be explored. Such an opportunity to sample subjects would provide a more robust basis for student decision-making.

At senior cycle, Construction Studies (CS) is offered as one of the optional subjects in the established Leaving Certificate (LC) programme. Students entering senior cycle are given an open choice of the optional subjects provided by the school with option bands then developed based on these choices. Parents and students are supported at this time with an information evening where the principal and the guidance counsellor provide information and advice on choosing optional subjects wisely. A school information pack is also sent home to parents with details on career options and subjects required. These arrangements form a good model for the making of informed choices and are in line with good practice.

While open access to MTW and CS is facilitated, it was noted during the evaluation that with the exception of first year, no female students were studying the subjects in any of the other year groups. It is recommended that school management and the subject department explore ways to encourage more female involvement. Currently both MTW and CS are offered as choices against

Home Economics. This arrangement encourages a stereotypical uptake of the subjects along gender lines and should be avoided if possible. A survey of the female students in the school to determine their knowledge of the subjects and related attitudes would be a useful source of information. It is suggested that all documentation and presentations concerning subject choice, given to parents and students, should be examined and amended, if necessary, to better promote the subjects to the female students.

Both junior-cycle MTW and senior-cycle CS receive an appropriate time allocation for the completion of the respective syllabuses. The division of this time into double and single lessons and their distribution across the week also provides for effective teaching of the subjects.

The subjects are taught in a bright, well equipped room. A laptop computer and a ceiling mounted data-projector are provided for the teacher to assist in the delivery of lessons. Effective dust extraction is provided by a central unit placed in the wood store to which the machines are ducted. It is recommended that, consideration be given to altering the layout of the room. This would facilitate the proper displaying of student project work and further improve the learning environment. The displaying of such work can provide a focus of attention for visitors to the room, can help motivate students and can also promote the work of the subject department.

The arrangements for the purchase of class materials for MTW and CS are effective. Resources, including wood, other materials and small pieces of equipment are supplied in response to the needs of the department from lists prepared by the teacher.

Management is commended for encouraging and facilitating the in-career development of the staff. In recent months the subject teacher has attended whole-school training related to *Assessment for Learning* as well as training on the integration of information and communications technology (ICT) into the classroom through the use of video editing, pod casting and blogging. The MTW/CS teacher could not avail of all the subject-specific in-service provided by the Technology Subjects Support Service (T4) as the first few rounds of in-service were over before the teacher had graduated. Contact should be made with T4 in order to get a copy of all missed notes and resources. The contact details can be found on the T4 website ([www.t4.ie](http://www.t4.ie)).

## **PLANNING AND PREPARATION**

Formal subject department meetings are facilitated once per term. It is recommended that minutes of meetings be retained in the subject planning documentation and shared with senior management.

A considerable amount of work has been carried out on the subject plan in recent months. Detailed schemes of work have been developed for first, fourth and fifth year classes. These schemes detail work on a week-by-week basis and describe the topic, the student output and the resources needed to teach each lesson. This work is highly commended. Planning the schemes to such an exact timeframe may prove too restrictive and it is suggested that consideration be given to dividing the schemes into larger bodies of work. At present the schemes of work for second and third-year students are not as well developed. It is recommended that detailed schemes, for these year groups, be drafted as soon as possible. As a next step in developing these plans, it is suggested that the planned methodologies and the methods of assessment of student learning be included also.

As part of the planning for these revised programmes of work it is recommended that a stronger emphasis on the design process be introduced into project work. The number of occasions when the whole class group produces identical projects should be reduced, particularly for more senior classes. The students' ability to modify designs or to produce unique solutions to a set design problem should be developed at every opportunity as this is a central aspect of the syllabuses at both junior and senior cycle. This approach will facilitate increased differentiation of projects within the practical lessons.

A copy of the document *Review of Occupational Health and Safety in the Technologies in Post-primary Schools* was presented with the planning folders. With reference to this, it is recommended that a risk and hazard analysis of the woodwork room be carried out as soon as possible. All hazards should be noted with a parallel list of control measures put in place to reduce risk. The resulting document should be reviewed annually. In addition to this the demarcation of safe operational areas (SOAs) around machines and the display of standard warning signage should be carried out urgently. These measures will complement the existing good practice of displaying safe-use rules adjacent to each machine. Further useful safety resources and guidance are available on the T4 website.

## **TEACHING AND LEARNING**

All lessons observed had a clear learning outcome and in most cases this was shared with the class at the beginning of the lesson. This strategy provides an early focus for the students on the specific objective of the lesson. To further build on this good practice, the proposed learning outcomes for the lesson could be written on the chalkboard and ticked off as each is achieved. The final part of the lesson could involve the use of these again to assist reflection on the progress achieved through the course of the lesson.

Continuity with previous learning was assured by means of well-paced introductions to lessons. A variety of individual and group questions, including higher-order questions was used to focus students' attention and to revise previous learning effectively. To avoid the situation where students are answering questions out of turn or shouting out answers it is recommended that clear classroom rules are established requiring students to put their hands up. The teacher needs to take control of class interactions and to ensure respect for all contributions. Such an atmosphere would enhance the learning experience for all the students.

Information and communications technology (ICT) was used extensively during a theory lesson on wood fasteners in a junior cycle lesson. This took the form of notes with simple line drawings of the various nails and screws. The potential of the data projector to present information in a unique colourful way was not fully exploited. Efforts should be made to improve such presentations by integrating coloured sketches, pictorial drawings and photographs in the text. The use of the chalkboard in tandem with ICT would further support student learning. Step-by-step chalkboard demonstrations of freehand sketching techniques, as well as the use of shading to improve a drawing, would focus students' attention on these important skills. The students' learning experience would have been further enriched if physical samples of the fasteners being discussed had been available for the students to examine.

The CS teacher is to be commended for using the building of the school extension as an added resource for senior cycle lessons. Meetings were organised between the students and the architect, the main contractor and the consulting engineers. Students produced an interesting project on the building of the extension. This type of hands-on experience reinforces classroom learning and

gives the students a deeper understanding of the subject. A second project involved the subject department teaming up with both the science department and the business studies department in a cross-curricular project for the Young Entrepreneurs Competition. The group of second year students involved won first place for their wooden flower boxes project. Another cross-curricular initiative, the planting of ten native hardwood trees within the school grounds, created links with the geography and science departments. All this work is strongly encouraged.

At the time of the inspection students of Leaving Certificate CS were engaged in the completion of project work for submission to the State Examinations Commission. The main teaching methodology used in this lesson was teacher demonstration, which was very effective. These demonstrations were generally given to individuals as the student numbers were low. This good practice was particularly valuable in the context of the lesson, the realisation phase of individual projects. To speed up the completion of these projects an increased use of machinery, by the students, is to be encouraged.

The teacher demonstrated best health and safety practices at all times and the practical activities that students engaged in were closely monitored. There was smooth and unobtrusive teacher movement throughout the classroom during the different lessons observed. This ensured all students were kept on task and engaged in lesson activities. Opportunities were taken to provide individual attention in a discreet manner where required.

## **ASSESSMENT**

Examinations are held for all students during October, at Christmas and at the end of the school year. Third and fifth year students take 'mock' examinations in March. The other year groups have additional examinations at Easter. Reports are posted home and parents are invited to attend one parent-teacher meeting during the year. These arrangements are satisfactory.

There is continual assessment of student practical work with oral feedback to students. In addition to the provision of oral feedback it is recommended that a more formal approach be adopted whereby all outcomes of continual assessment are recorded by the teacher and subsequently combined with formal test results. Students should be kept aware of how these marks are allocated and of their progress at any given time. Such a system would provide an incentive for sustained effort from students throughout the school year.

Students' attendance and attainment are recorded systematically by the teacher. These records form the basis for reports to parents. Homework is assigned regularly which is good practice. Homework is an important support for the work students do in the classroom as well as acting as a valuable assessment tool for teachers. To help maximise the value of homework the teacher should provide written feedback to the students on the quality of answers, diagrams and annotations. Such developmental feedback affirms high quality work and guides improved answering and is in keeping with assessment for learning (AfL) principles.

The quality of students' portfolio work varied from student to student. It is recommended that portfolios should be monitored on a more regular basis with constructive feedback provided to students. It is suggested that drawing sheets should be initialled, dated and corrected and any key mistakes highlighted. Providing students with a list of drawings required for the year would assist both the students and the teacher in measuring progress through the syllabus. Similarly copies used during class time should be monitored to ensure that a high quality of note-taking and sketching is maintained by all students at all times.

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

The following are the main strengths identified in the evaluation:

- Time allocation for the subjects at junior and senior level is good with an even distribution of these lessons across the week.
- The resources made available to the subject department are very good.
- Subject planning is progressing well.
- The subject department is involved in several excellent co-curricular projects.
- In the lessons observed, the teacher demonstrations were clear.
- Best health and safety practices were emphasised at all times and all practical activities that students engaged in were closely monitored.

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

- School management and the subject department should explore ways to encourage more female participation in the subjects.
- A risk and hazard analysis of the woodwork room is needed. The demarcation of safe operational areas (SOAs) around machines and the display of standard warning signage should be carried out.
- A more formal approach of combining continual assessment with formal test results should be adopted.
- Written feedback should be provided to students on their class work, portfolio work and homework in keeping with assessment for learning (AfL) principles.

A post-evaluation meeting was held with the principal and the teacher at the conclusion of the evaluation when the draft findings and recommendations of the evaluation were presented and discussed.

*Published December 2010*

# **Appendix**

**SCHOOL RESPONSE TO THE REPORT**

**Submitted by the Board of Management**

**Area 1: Observations on the content of the inspection report**

The school management are satisfied with the manner in which the inspection was carried out and are pleased by the many elements good practice identified in its report.

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

To encourage more female participation in the subject, the school management intends to introduce compulsory subject taster sessions for all incoming first year students from September 2011.

The school management is currently reviewing the subject option blocks as recommended.

As part of a whole school review of health and safety, a full risk hazard analysis of the Woodwork room is currently being carried out.

The classroom teacher has begun the practice of formally recording continual assessment.

Recommendations in relation to assessment for learning have commenced.