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

St Fintina’s Post Primary
Longwood, Co. Meath
Roll number: 71970L

Date of inspection: 18 October 2010
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 Fintina’s Post Primary. 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 teachers, examined students’ work, and had discussions with the teachers. The inspector reviewed school planning documentation and the teachers’ written preparation. Following the evaluation visit, the inspector provided oral feedback on the outcomes of the evaluation to the principal and the subject teachers. 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 Fintina’s Post Primary currently caters for 176 students: 94 males and 82 females. Materials Technology Wood (MTW) is offered as an optional subject in the junior-cycle programme. The teaching staff is present at the school’s open night in October to showcase and discuss subjects with prospective students and their parent. This is followed by an information night for parents, in May, where subject choice is discussed. During a two and a half day induction period, at the beginning of the school year, first-year students are given an overview of the available optional subjects by the subject teachers. Students then make their choice in consultation with their parents. Option bands, based on these choices, are then developed with all reasonable efforts being made to accommodate students’ choices. The guidance counsellor offers advice and support to both parents and students during this process.

Students moving to senior cycle are offered a choice of two programmes, the Established Leaving Certificate and the Leaving Certificate Vocational Programme (LCVP). Construction Studies (CS) is offered as an optional subject within each programme. Towards the end of third year, students are presented with an open menu of the optional subjects provided by the school. Students make their subject choices and bands that best fit these selections are then generated. Support for students, at this important decision-making time, is provided by the guidance counsellor, the LCVP co-ordinator and subject teachers. An information night is held as an additional support. These arrangements form a good model for the making of informed choices.

Time allocation to CS and MTW, five periods per week in senior cycle and four periods per week in junior cycle, is sufficient for the completion of the respective syllabuses. Class periods are well distributed across the week and the provision of double and single periods reflects good practice. All classes are of mixed ability and students sit certificate examinations at the level appropriate to their abilities and interests.
The classroom available for the teaching of the subjects has recently been refurbished and is well-appointed, equipped and maintained. A range of colourful, student-produced and commercially-produced wall charts decorate the walls. Examples of students’ practical project work for MTW and CS are also displayed. This provides a visually rich and stimulating learning environment for students. The use of information and communications technology (ICT) is actively promoted within the subject department. Facilities are good, with a desktop computer, a teacher laptop, a ceiling-mounted data projector and a visualiser provided. A computer numerically controlled (CNC) router is also available and the subject department is urged to explore ways in which this expensive piece of equipment can be best used as a teaching and learning aid.

There is good provision for minimising dust within the workshop. Effective dust extraction is provided by a central unit placed outside the workshop to which the machines are ducted. Safe operational areas (SOAs) are clearly demarcated around machines. A range of standard warning signage is displayed and this signage is supplemented by teacher-produced safe use rules for each machine. The display of such signs in the workshop raises the awareness of risks and hazards and helps to reinforce students’ knowledge and understanding of health and safety issues.

Both teachers have recently graduated and have availed of the continuing professional development (CPD) made available through the Technology Subject Support Services (T4). Whole-school in-service sessions relating to classroom management, differentiation and the motivation of the varied learners in the classroom have also been provided. Management is commended for supporting, encouraging and facilitating the in-career development of the teaching team.

**PLANNING AND PREPARATION**

A subject co-ordinator has been appointed and this role is rotated amongst members of the teaching team. Subject department planning meetings are facilitated by school management four times per year. These formal meetings are supplemented by regular informal meetings. Detailed minutes are retained in subject planning documentation and are shared with senior management, as is good practice. These minutes record the work being done as well as documenting the plans for the future development of the subjects.

Separate planning folders have been developed for MTW and CS. Both sets of plans follow the SDPI template and are well structured and organised. Within these plans, schemes of work have been created which indicate topics to be covered with each year group, at specific times during the year. To further improve on these plans it is recommended that each topic be examined to establish the exact learning outcomes to be achieved by students. Reference should be made to the methodologies to be used, the resources available and the proposed methods of assessment of each topic. The subject teachers already work collaboratively in the production of teaching resources and these worksheets, handouts, electronic presentations, digital photographs and video clips should all be referenced in the plans. The discussion generated in formulating such schemes of work will assist in cataloguing the additional resources and in identifying areas that need more attention.

As part of the planning of revised programmes of work, in particular at junior cycle, it is recommended that a stronger emphasis be placed on the design process of project work. Developing the students’ ability to modify designs or to produce individual solutions to a set design problem should be fostered from an early stage. Furthermore, the development of freehand
drawing techniques is important for students of MTW and CS. It is suggested therefore that the promotion of sketching should become a central theme when planning for these subjects.

A safety statement which identifies significant hazards in the workshop and lists the control measures put in place to reduce risk has been drawn up. This high quality document is used as the basis for a safety audit once a year. This is very good practice. It is important that the results of each audit be recorded and stored with the safety document and that a copy is made available to management.

The subject department, in conjunction with the business studies department, help run a mini-company each year. They also assist in the production of stage sets for the drama group. Such cross-curricular work is highly commended.

Students’ outcomes in the Leaving Certificate are analysed and compared to the national norms each year. This information is included at the back of the planning folder. The identified trends indicate an increase in the uptake of the subject at higher level. It is suggested that this practice be extended to include Junior Certificate results. Such analysis can be used to inform future planning for the subject.

Planning for individual lessons was of a very high standard. All classroom resources had been prepared in advance and this ensured that progression through the lesson was maintained at a suitable pace.

TEACHING AND LEARNING

Four lessons were observed during the course of the evaluation, three in junior cycle and one in senior cycle. All lessons had a clear learning outcome and this was shared orally with the students. This strategy helped to enable both the teacher and the students to focus on the specific objective of the lesson. To further build on this good practice, the proposed learning outcomes could be written on the whiteboard to be referred to during and at the end of the lesson.

Students had an established routine with regard to entering the room and getting set up for their lesson and, as a result, very little teaching time was lost. Lessons were logical and sequential and the pacing was appropriate. A suitable variety of teaching methodologies was used to ensure that the students’ interest was maintained. In one junior-cycle lesson observed, the students were starting the marking out of a coat hanger project. A working drawing was distributed with instructions on how to proceed. The teacher then demonstrated the processes involved and confirmed students’ understanding through questioning. Whilst the students began this work, a video clip was shown which repeated the instructions given during the demonstration. The teacher moved around the room to affirm the work being done and to offer assistance where it was needed. This multi-layered approach is highly commended and it evidently helped to scaffold learning.

Good use was made of information and communications technology (ICT) to focus students’ attention and to support their learning. By using the data projector, notes and ideas were quickly presented in a colourful and exciting format. A lesson on producing a scaled drawing of a strip foundation was greatly enhanced by the use of a visualizer camera. By using this piece of equipment, the teacher was able to project live, close-up, video images of himself producing the drawing. All the students could see exactly what was going on, via the data projector and screen, whilst still sitting at their seats. Students’ understanding of the concepts was further enhanced by the incorporation of a three-dimensional model of the foundation. As the scale drawing was
developed, the teacher asked students to assemble this model and describe to the class the function of the part they had just placed into position. This carefully planned use of resources greatly enhanced the learning experience of the students.

Demonstrations were generally given to the whole-class group initially, with teachers then demonstrating to small groups or individuals as the need arose. This is good practice. Teachers used the demonstrations to model the proper execution of woodworking procedures with best health and safety practices emphasised at all times. A strong feature of these demonstrations was the careful integration of subject theory and terminology. Students were encouraged to participate in these sessions and did so willingly.

Group work was observed in two of the lessons visited. This worked best where members of each group were assigned clear roles and where these roles were rotated for each new task. Group work can be a very exciting methodology but it needs to be managed very carefully if it is to be productive for all students in the class.

In all lessons observed, the teacher generated enthusiasm for the work being undertaken. Students were disciplined in their approach and the atmosphere was at all times positive and encouraging. A good student-teacher rapport contributed to a relaxed yet productive environment.

ASSESSMENT

Examinations are held for all students at Christmas. Students in third year and in sixth year take mock examinations in early spring. All other year groups sit examinations towards the end of the school year. Reports are sent home after each assessment and parents are invited to attend one parent-teacher meeting per year. In addition to these formal tests, there was evidence that teachers also give end-of-topic tests. As an additional support to first years and their parents, a progress report is sent home, early in the school year, which tracks how these students have settled in to their new school.

Good practice was evident in the regular assignment of homework to students. Homework is an important element of the learning process and it helps reinforce the learning undertaken in lessons. This work is regularly monitored by teachers. In addition to the correction of errors, it is recommended that teachers provide written, developmental feedback on the quality of answers, sketches and annotations. This would affirm good work and highlight areas in need of improvement.

In all of the lessons observed, there was continuous assessment of students’ practical work accompanied by oral feedback. The inspector was informed that students’ larger practical projects are graded and the outcomes from such assessments are combined with formal tests at Christmas and summer. This aggregation of results from practical work and formal written tests is compatible with the aims and objectives of both syllabuses. To further build on this good practice, the subject department is encouraged to incorporate portfolio work and results from end-of-topic tests into this assessment model. Care must be taken to keep students aware of how marks are being awarded and in what proportion. Such a clear and transparent system would provide an increased incentive for sustained effort from students throughout the school year.

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 classes evenly distributed across the week.
• The classroom available for the teaching of the subject has recently been refurbished and is well equipped and maintained.
• A safety statement has been drawn up by the department and a safety audit is carried out once a year.
• A good standard of teaching and learning was observed during the course of the inspection.
• A range of teaching methodologies were used in lessons which effectively supported students’ learning.
• ICT was well integrated into the teaching and learning of the subject.
• Subject theory and terminology were well integrated into all lessons observed.
• Teachers and students showed great enthusiasm for the subjects.

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

• As a next step in the improvement of subject plans, it is suggested that, alongside each topic, the proposed learning outcomes should be listed. The methodologies and resources to be used and the means of assessment should also be documented.
• Planning for MTW should have students’ involvement in the full cycle of the design process and the development of sketching techniques as central themes.
• Written developmental feedback should be provided to students on their work.

Post-evaluation meetings were held with the teachers of Materials Technology (Wood) and Construction Studies and with the principal and the teachers at the conclusion of the evaluation when the draft findings and recommendations of the evaluation were presented and discussed.

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Appendix

School response to the report

Submitted by the Board of Management
Area 1: Observations on the content of the inspection report

Teachers were very happy with the Inspection and it was conducted in a fair manner. The report accurately reflects the teaching and learning in the subjects. It was an informative and constructive exercise for the Department in the school.

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 subject department are adding the specific learning objectives to each topic as they are being prepared and then reviewed when complete. Objectives will keep in mind the ability of students in each group (differentiation of learning). This will include the methodologies and resources as well as the assessment strategies to be used in each lesson/topic. Assessment will be for learning and matched to the student where appropriate.

Every effort will be made to involve the students in the cycle of design and development of the sketching techniques through questioning and posing the problem to them for initial solutions, suggestions and building on their ideas.

Assessment for learning with written feedback will be incorporated into the classroom assessment of work and every effort to help students learn from one exercise to the next will be made.