An Roinn Oideachais agus Scileanna

Department of Education and Skills

Subject Inspection of Technical Graphics and Design and Communication Graphics

REPORT

CBS Carrick on Suir
County Tipperary
Roll number: 65270U

Date of inspection: 4 February 2011
REPORT  
ON  
THE QUALITY OF LEARNING AND TEACHING IN TECHNICAL GRAPHICS AND DESIGN AND COMMUNICATION GRAPHICS

SUBJECT INSPECTION REPORT

This report has been written following a subject inspection in CBS Carrick on Suir. It presents the findings of an evaluation of the quality of teaching and learning in Technical Graphics (TG) and Design and Communication Graphics (DCG) and makes recommendations for the further development of the teaching of these subjects in the school. The evaluation was conducted over two days, 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 subject teachers. The board of management was given an opportunity to comment in writing on the findings and recommendations of the evaluation; a response was not received from the board.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

A graphics subject is offered to students in each of the school’s curricular programmes. Students receive three class periods per week at junior cycle, one class period in Transition Year (TY) and four class periods per week in fifth and sixth year. These allocations are considerably less than is common practice.

At senior cycle, students who choose TY are given the opportunity to sample DCG. This helps students to choose their Leaving Certificate subjects based upon their experience, interest and aptitudes. This model provides students with a good level of information and facilitates students in making more informed choices when entering fifth year.

Incoming first-year students study all subjects provided as part of the school’s junior cycle curriculum. The provision of optional subject choice at junior cycle should be investigated in a collaborative manner with all of the relevant stakeholders including students, teachers and parents. By providing students with some level of subject choice, school management should be able to determine means of increasing the time allocated to graphics subjects to ensure that students are given every opportunity to achieve their full potential.

Two teachers are deployed to teach graphics subjects, one of whom holds qualifications recognised by the Department of Education and Skills to teach the subjects to the highest level. While it is acknowledged that the teachers who are currently timetabled to teach the subjects have made valuable contributions to the development of a positive graphic communication education culture in the school, it is recommended that school management make every effort to deploy suitably qualified teachers to this subject area.
The resources available to the subject department to assist in the delivery of the syllabuses are excellent. These resources include a well equipped specialist room, a very good range of information and communication technology (ICT) resources and ample storage facilities.

The subject co-ordinator’s attendance at the recent continuing professional development (CPD) courses provided by the Technology Subjects Support Service (t’1) has been essential to the implementation of the new DCG syllabus. This engagement with the support service is commended.

PLANNING AND PREPARATION

Management facilitates formal subject planning meetings biannually. The proceedings of these meetings are recorded as is good practice. To date, subject planning has included the development of a subject plan for both TG and DCG and the identification of common curricular plans for both subject areas. To further develop the impact of subject planning on the teaching and learning of TG and DCG, the subject department should include pedagogical elements on planning meeting agendas. Examples could include developing an agreed approach to teaching particular curricular components or collaboratively identifying the most appropriate demonstration techniques for specific topics.

The subject department’s curriculum planning includes the identification of resources, some evaluation of practice and a common agreed timeframe for the delivery of curricular content. The initial stages of this curriculum plan need to be reviewed in order to ensure that students have acquired the basic skill-sets before progressing onto more difficult concepts. It is suggested that first-year curricular planning be refocused on key learning outcomes such as the development of basic draughting techniques, ability to complete essential constructions and the key concepts of orthographic projection and pictorial representations. To ensure that students develop these skills and associated understanding, the subject department should endeavour to administer formative feedback focusing primarily on the concept, accuracy and presentation of students’ work.

Individual planning for all lessons observed was very good and in some instances excellent. The preparation of resources and teaching aids included parametric models of questions, physical models of the principal planes of reference, audiovisual clips embedded in electronic presentations and a variety of display media.

TEACHING AND LEARNING

The quality of teaching observed during the course evaluation was good. Where new topics were introduced, students were engaged through the use of innovative learning activities such as exploratory and experiential learning. These methods were effective and were structured in a manner that consolidated students’ prior knowledge.

The integration of appropriate active learning methods including group work and model making, fostered co-operative leaning opportunities for students. This was particularly apparent during a senior cycle lesson that introduced the concept of perspective drawing to students. During this lesson students worked in pairs to model a perspective view of artefacts using large acrylic sheets to represent the picture plane. This methodology was very effective. The use of model making in a junior cycle lesson had a positive affect on students’ engagement with the topic. In this lesson developments of cones were used to compare and contrast the result of altering their altitudes and diameters on their developments and three-dimensional representations.
A variety of demonstration techniques was utilised during the lessons observed. These techniques included individual and small group demonstrations, class demonstrations using sketches and constructions on the whiteboard, constructions displayed with the aid of a visualiser and some innovative computer-aided design animations. The use of such a wide variety of demonstration media is commended. It is important, however, that students are given ample opportunity to model the teachers’ draughting techniques.

All students received very good individual assistance and guidance throughout the lessons observed. Questioning was used to good effect, especially when used in conjunction with student activities. A good blend of global and directed questioning was used and students responses to questions posed demonstrated a good understanding of the topic.

Classroom management was effective in all instances. Teachers maintained an orderly learning environment through the use of active learning strategies combined with more structured and traditional methodologies. This resulted in a supportive and participatory learning environment where a positive student-teacher rapport was evident.

The quality of students’ class work and portfolio work varied considerably. One area for development is the improvement of students’ presentation techniques. This should be tackled using a variety of interventions. In addition to the strategies outlined in the planning section of this report, the subject department should incentivise the improvement of students’ presentation skills. This could be achieved by rewarding improvement through the assessment procedures or awarding students with certification or recognition periodically.

Uptake of higher level TG is low with the majority of students choosing ordinary level in recent times. To improve this situation, senior management should prioritise addressing the subject choice, time allocation and teacher deployment issues highlighted above, while the subject department should focus on reviewing first-year curricular planning, developing the demonstration models utilised and focusing on increased levels of formative and summative feedback. Ongoing review and evaluation should also be carried out to identify the prime contributory factors and the effects of any interventions on students’ outcomes.

**ASSESSMENT**

Formal school examinations are held at Christmas and summer. To supplement these assessments the subject department should consider incorporating a coursework component based upon students’ portfolio work. This may help to improve the overall standard of student drawings.

To alleviate some of the time constraints faced by the subject department a more considered approach to homework should be adopted. All students, especially those new to the subject, should be expected to reinforce their classroom experiences through the recapitulation of class work. In doing so, key learning outcomes could be prioritised and developed through the use of sketching and freehand problem solving techniques. To further develop the formative approach to assessment, the subject department could also identify common areas for development based upon the correction of samples of students’ homework. The resulting information could then be shared with the class group and could also be used to inform future teaching strategies.
SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS

The following are the main strengths identified in the evaluation:

- The graphics subject department works in a collaborative manner and is committed to the development and improved delivery of the subjects.
- All lessons observed were very well prepared and delivered in an effective manner.
- Teaching aids and resources were integrated into the learning environment effectively and enhanced the explanation and understanding of key concepts.
- Active and participatory learning strategies were incorporated into lessons often in a most innovative manner.

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

- Senior management should increase the time allocated to graphics subjects at junior and senior cycle.
- Every effort should be made to ensure that graphics lessons are delivered by suitably qualified personnel.
- The various factors contributing to the low uptake of higher level TG should be explored and strategic plans should be developed to address the situation.

Post-evaluation meetings were held with the principal and subject teachers at the conclusion of the evaluation when the draft findings and recommendations of the evaluation were presented and discussed.

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