

**An Roinn Oideachais agus Eolaíochta
Department of Education and Science**

**Subject Inspection of Technical Graphics and
Design and Communication Graphics
REPORT**

**Blackrock College
Blackrock, County Dublin
Roll number: 60030V**

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**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 Blackrock College, conducted as part of a whole school evaluation. It presents the findings of an evaluation of the quality of teaching and learning in Technical Graphics and Design and Communication Graphics 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 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, deputy principal and the subject teachers.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

Blackrock College offers Technical Graphics (TG) and Design and Communication Graphics (DCG) as optional subjects in its junior and senior cycle programmes. Students get the opportunity to choose TG upon entry into the college at the beginning of the second year of their junior cycle programme. This means that students must complete a three-year TG course in two years. To counteract this problem, a recently implemented initiative allows students enrolled in the college's feeder school Willow Park, a school that does not offer TG, to study the subject on a voluntary basis every Tuesday evening after school. The subject department's efforts in this regard are commended.

The allocation of class periods for graphics subjects is appropriate. However the organisation of these periods requires considerable flexibility from students and teachers, as half of the double periods allocated to fifth-year students takes place during lunchtime and half of the double periods allocated to sixth-year students takes place before 9 am. It was articulated during the evaluation that this arrangement is working well although it does put particular time constraints on students and teachers during lunchtime.

There are two well-equipped specialist graphics rooms and an additional computer aided design (CAD) room available to the subject department. Considerable work has gone into updating and modifying these rooms in preparation for the introduction of the DCG syllabus. Both specialist rooms are fitted with information and communication technology (ICT) resources allowing ICT to be effectively integrated into lessons.

Both members of the graphics subject department are equally deployed to both junior and senior cycle graphics. This rotation of teachers promotes the development of the required skill sets especially at this time of syllabus change at senior cycle.

Incoming second-year students are offered TG in two optional subject bands. Prior to entry into the college, students of Willow Park First Year are provided with an opportunity to commence their study of TG. The teachers of TG in Blackrock College provide these lessons on a voluntary basis. The commitment and enthusiasm of the TG teachers has helped to ensure sustainable uptake of the subject. To improve student uptake further, the subject department should continue to develop strategies to promote the subjects. In addition to the existing voluntary TG class for first-year students, other initiatives could be developed including: annual subject specific presentations to first-year students and their parents, the development of promotional literature for the subject and a review of the subject sampling layer within TY.

The subject department has been supported and facilitated by senior management in attending the recent and ongoing continuous professional development (CPD) courses provided by the Technology Subjects Support Service (t⁴). The attendance at these courses is most beneficial to teachers as it helps them to develop their skills, increase their resources and forge links with colleagues in their subject area.

PLANNING AND PREPARATION

A subject department coordinator has been appointed, on a three-year cycle, to oversee the planning for technology subjects in the college. School management facilitates regular planning meetings and the outcomes of these meetings are recorded, as is best practice.

A subject department plan has been developed collaboratively. In this plan, key department policies are outlined including homework, assessment and record-keeping policies. In addition to these subject specific policies, a curriculum action plan has also been developed. This action plan details targets to improve teaching and learning through specified tasks, timeframes and measurable success criteria. This form of strategic planning is proactive and its worth is inherent.

Curricular planning for each year group has also been developed. These programmes of work, beginning with the plans for the voluntary first-year group, detail the subjects' content on a term-by-term

basis. The inclusion of learning outcomes for each section of the course similar to those identified in the DCG syllabus is praiseworthy and has enhanced the curricular plans for the subject at junior cycle.

A TY plan has also been developed for DCG. This plan offers students who choose the module a very good insight into the subject at Leaving Certificate level. To further improve the module, the subject department should identify alternative teaching and learning methods for the delivery of the subject matter that would complement the strategies currently employed. These methods could include paired learning, group work and individual or group presentations to their peers using ICT and graphic design.

Teachers' individual planning and lesson preparation were very good and included a significant quantity of useful demonstration and resource materials. This level of planning is commended.

TEACHING AND LEARNING

All lessons began with the learning intention being shared with students and, in some cases, linked with prior learning. This had the effect of clearly identifying the success criteria for students and consolidating their previous learning.

A wide variety of teaching methodologies was employed during the lessons observed. In doing so students' attention was maintained and lessons progressed at an appropriate pace.

Blackboard sketching was utilised in all lessons to develop students' visualisation skills and to reiterate key points. Blackboard constructions were clear, accurate and modelled best practice through the use of indexing and coloured chalk to signify various line types.

Resources such as parametric and geometric models, devised by the TG department and tailored to their students, were introduced to lessons effectively and were, in all cases, useful in the explanation of key concepts such as solids in contact and the rotation of figures. Problem solving was encouraged in all lessons and, in one case, students were asked to use a previous solution to generate their answer. This method helped to encourage students to use their prior learning when problem solving as opposed to answering questions in a sequential fashion. Students were also involved in the teachers' construction of solutions during demonstrations and, in one instance, by carrying out the procedure at the blackboard. This involvement helped to maintain students' attention and allowed them to demonstrate their problem solving and analytical skills at the blackboard when completing constructions.

Teachers used all available resources effectively and in some cases innovatively. One example of this innovative use of resources occurred in a senior cycle lesson on geological geometry. To demonstrate the concepts clearly the question was projected onto the blackboard and the outline of the geological contours was traced. This provided the teacher with a much larger area to demonstrate the intricate constructions required to complete the question.

Students were well behaved and productive in all lessons observed and this was achieved through a combination of well-managed learning activities, good knowledge of students' abilities, progress and attendance and the development of a good rapport between teachers and students.

Both of the specialist classrooms used for graphics are conducive to technology education and have a wide variety of good quality student work on display. Resources are easily accessible in both rooms and good classroom management techniques have been developed to maintain the upkeep of the rooms.

Students demonstrated very good knowledge and skills through their problem solving and their answers to questions. Students' portfolio work was good and this good work is also reflected in the uptake of higher level and attainment in the state examinations.

ASSESSMENT

Formal examinations are held regularly in Blackrock College. Where there are two groups studying TG or DCG in a specific year group common assessments are used where possible. These examinations are set at a common level in second and third year and students' grades are dependent on a combination of these results, homework and class work portfolios. This is good practice, especially in preparation for senior cycle DCG where there is a significant coursework element to the examination.

Teachers offered good oral feedback to students during lessons observed. This feedback was administered at students' desks where specific questions were discussed. In addition to this formative feedback, some very good records of student assessments were also presented to the inspector. These assessments are extremely useful in plotting particular students' progress and in identifying areas that need to be revised. To further build upon this good practice, an increase in the amount of formative feedback for portfolio work would be beneficial in helping students identify areas for development.

The subject department maintains good records of students' progress and behaviour. Parents also receive weekly updates through a student progress card that is completed by all subject teachers and the students' year head. This method of monitoring students' academic and general progress is commended.

SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS

The following are the main strengths identified in the evaluation:

- A graphics subject is offered to students in all programmes in Blackrock College.
- The TG and DCG facilities in the college are very good.
- The subject department has engaged in the recent CPD courses provided by the t⁴ support service.
- Good quality subject department planning is well established in the college.
- The quality of graphics teaching in the college is very good.
- Student uptake at higher level and attainment in state examinations is good.

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

- The subject department should continue to develop strategies to promote the subjects especially among incoming students.
- The subject department should identify and implement additional alternative teaching and learning methods during TY to complement the strategies currently in place.

Post-evaluation meetings were held with the teachers of Technical Graphics and Design and Communication Graphics and with the principal and deputy principal at the conclusion of the evaluation when the draft findings and recommendations of the evaluation were presented and discussed.

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