

An Roinn Oideachais agus Scileanna

Department of Education and Skills

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

REPORT

**Meánscoil Iognáid Rís
Drimnagh Castle, Dublin 12
Roll number: 60480G**

Date of inspection: 29 January 2010



**A N R O I N N | D E P A R T M E N T O F
O I D E A C H A I S | E D U C A T I O N
A G U S S C I L E A N N A | A N D S K I L L S**

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 Meánscoil Iognáid Rís. 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 the teachers, examined students' work and reviewed school planning documentation. Following the evaluation visit, the inspector provided oral feedback on the outcomes of the evaluation to the principal. The board of management was given an opportunity to comment in writing on the findings and recommendations of the report; a response was not received from the board.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

Meánscoil Iognáid Rís offers TG and DCG as optional subjects in its junior and senior cycle programmes respectively. A module currently offered to Transition Year (TY) students focuses primarily on technology education with some elements of graphics education. The provision of such a module gives the opportunity for the subject department to incorporate significantly more graphics in a cross-curricular manner. The inclusion of additional graphics material in this way would also help to introduce students to the subject at senior cycle. This rebalancing of the current module to include additional graphics material should be implemented without delay.

The time allocated to graphics subjects is appropriate and consists of four class periods per week at junior cycle, two class periods per week during TY and five class periods per week in fifth and sixth year. These allocations are divided into a combination of both single and double periods as is common practice.

Uptake of TG is very good; however this trend does not continue in DCG at senior cycle. School management and the subject department must work together to identify the factors that are contributing to this decline in uptake and implement strategies to improve student uptake at senior cycle.

The facilities available to the subject department for the teaching and learning of graphics subjects are good. The graphics classroom is equipped with good quality demonstration media,

appropriate information and communication technology (ICT) resources and has a number of subject-specific posters and student drawings on display.

The teachers of senior cycle graphics have availed of the recent and ongoing continuing professional development (CPD) courses provided by the Technology Subjects Support Service (t⁴). This essential engagement with the support services is commended and has resulted in the incorporation of a variety of resources developed by t⁴ designed to assist in the teaching and learning of the various strands of the syllabus, especially at senior cycle.

Currently five teachers are timetabled to teach graphics subjects. Of these five teachers, only two hold qualifications recognised by the Department of Education and Skills (DES) to teach the subjects to the highest level. It is imperative that senior management makes every effort to remedy this situation as soon as possible.

At junior cycle, TG is offered in two optional subject bands. This provides almost all students with the opportunity to choose the subject. Senior cycle students are given an open choice and the optional subject bands are devised based on students' preferences, as is best practice. A number of positive interventions are made to support students at these important decision-making times. These interventions include: options information seminars for students and parents, individual meetings with parents, aptitude testing and regular briefings by the school's guidance counsellor.

PLANNING AND PREPARATION

The responsibilities for the co-ordination of the graphics subject department are shared among two members of the subject department. Both of these teachers also have co-ordination duties for Technology in the school. The further development of a stand-alone graphics subject department should help to provide the much-needed impetus for the future development of graphics in the school.

It was reported that meetings of the subject department occur during each term and that minutes of these meetings are maintained. As a result of these meetings two subject plans, one for junior cycle and one for senior cycle, have been developed. These subject plans include information pertaining to the organisation and management of the various year groups and also identify the sequence in which subject content is delivered. To further develop these plans, the subject department should combine these two documents into one coherent graphics subject plan, thereby eliminating repetition in both documents. Once this has been carried out, the subject department should revisit each section and review and update them, paying particular attention to the sections outlining the interventions in place for students with additional educational needs and planned assessment procedures.

While a common curricular plan, based on the delivery of subject matter, is in place for junior cycle year groups, there is a need to further develop curricular planning at both junior and senior cycle. The DCG syllabus document should be used as a template in this instance, especially when deciding upon desired learning outcomes for students. The current subject plans for graphics subjects are primarily organisational documents. To embrace subject planning on a more meaningful level, a strategic section should be included in the reviewed subject plan. In this section the subject department, in collaboration with senior management, should identify areas for development in the subject group. Once these areas have been identified, strategies should be put in place to achieve them within appropriate timeframes. Possible examples of areas for

development include: improving attainment at junior cycle, increasing student uptake at senior cycle and the development of a smaller core team of graphics teachers.

Although individual planning for lessons was evident in the lessons observed, no records of this planning were made available during the inspection. All lessons observed were very well structured and were organised and sequenced appropriately. Good use and preparation of ICT, teaching aids, models, question sheets and overhead transparencies was evident in all lessons.

TEACHING AND LEARNING

In almost all lessons observed, clear learning outcomes were identifiable. In some mixed-ability settings these learning outcomes were not always communicated adequately to all students. To ensure that students are fully aware of the levels expected of them, time should be given at the beginning of each lesson to clarify and identify the expected learning outcomes for all students.

All lessons were characterised by good topic development and continuity with previous learning. Best practice was observed where the focus of the lesson was maintained and referred to regularly. This practice should be extended by all members of the subject department.

Differentiated teaching strategies were evident in a number of lessons. Where this was the case students received good levels of support on an individual and group basis. This approach helped students to achieve their potential and created an individualised teaching and learning environment. This is commended. In some instances, students were given considerable freedom to express their creative abilities. This excellent practice was apparent in a senior cycle lesson where students used these skills to complete the coursework component of their certificate examinations.

Co-operative learning strategies were employed in a number of lessons. These strategies benefitted both parties involved as it enabled some students to recapitulate through instruction and helped others to develop their understanding through repetition. This good practice could be further developed by identifying and setting the parameters whereby co-operative learning takes place in lessons and by ensuring that all parties are fully aware of their roles within the process.

Good methods of demonstration were employed in lessons. Blackboard constructions and sketches were generally very good. Best practice was observed when teachers modelled good quality drafting techniques and used colour, shade and varying line types to highlight planes, lines and constructions to students. ICT was used in some lessons to complement the delivery of topics. To fully utilise this most useful teaching aid, the subject department should identify topics where computer aided design (CAD) and parametric modelling are particularly suitable to help students to develop their understanding of the various concepts. Once these areas are identified, the appropriate resources could then be collated by topic and shared among the subject department.

Teachers utilised a number of appropriate strategies to help students internalise important drawing constructions. Examples of these strategies, included the crating of pictorial drawings to scaffold students' construction and problem-solving skills and the use of partially completed drawings and parametric models to aid students' visualisation. It is essential that when using such strategies, students are made aware of the underlying principles governing the construction and not simply following a sequential procedure as was the case in one junior cycle lesson.

Almost all lessons observed would have benefitted from a brief recapitulation of the key learning outcomes of the lesson. In doing so, students could be reminded of the important points of the lesson and could be encouraged to evaluate their level of achievement, thereby encouraging the development of responsibility for their own learning.

Student behaviour was exemplary in all lessons observed. Lessons were characterised by a positive and participative learning environment where a good rapport has been developed between teachers and students. Students' work ethic was consistently high during lessons observed and an industrious atmosphere was evident throughout the inspection activity.

Student learning was generally good, however this varied depending on the particular year group. There were some examples of excellence, especially among senior cycle students, while the learning and understanding exhibited by some students, primarily at junior cycle, was less than satisfactory.

Junior cycle student uptake of higher level and attainment over the last number of years is an area that should be examined closely. A high proportion of students have in the past chosen to study ordinary level and have generally achieved very well at this level. While it was reported that the uptake of higher level among the current student cohort is much improved, the subject department should make a conscious effort to continue to encourage more students to choose higher level at junior cycle thereby providing students with a solid foundation for senior cycle DCG.

ASSESSMENT

Formal examinations are held periodically throughout the year. At junior cycle, to complement the common programmes of study, the subject department should endeavor to hold common terminal assessments. Common assessments would also support subject planning and would help to ensure a common pace of course coverage and that high standards are maintained across all class groups.

During the lessons observed, teachers offered good levels of feedback to students. In some cases the quality of formative feedback helped to ensure that students developed their knowledge and understanding, thereby enabling them to improve the quality of their practical coursework. This excellent practice is commended.

The quality and quantity of feedback given to students' in relation to their portfolio work varied considerably. The subject department must ensure that students' portfolio work is appropriately monitored, corrected and that any resulting advice and guidance is offered to students accordingly. This monitoring of students' work could be carried out on an ongoing basis in order to ensure that teachers have adequate time to provide each student with sound advice based on his specific level, strengths and weaknesses.

SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS

The following are the main strengths identified in the evaluation:

- Appropriate time is allocated to students studying graphics subjects.
- The resources and facilities made available to the subject department are good.

- Individual lessons were well planned.
- Experiential, co-operative and differentiated learning activities were used to very good effect in many lessons.
- Student behaviour and engagement in lessons was exemplary.

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

- The current TY technology module should be rebalanced to include significantly more graphics content.
- The good practices outlined in this report should be adopted and implemented by all graphics teachers in order to achieve a consistently high level of graphics education in the school.
- Senior management must work towards developing a smaller core team of suitably qualified subject teachers.
- There should be a full review of the subject plan to include consolidation of the existing plans, development of specific areas, identification of learning outcomes for students and the development of clear goals for the ongoing development of the subject in the school.
- The subject department should continue to actively encourage more students to choose higher level at junior cycle.

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

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