

An Roinn Oideachais agus Scileanna

Department of Education and Skills

**Subject Inspection of Mathematics
REPORT**

**Clongowes Wood College S.J.
Clane, County Kildare
Roll number: 61720F**

Date of inspection: 27 September 2011



**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 MATHEMATICS**

INFORMATION ON THE INSPECTION

Dates of inspection	26th and 27th September 2011
Inspection activities undertaken <ul style="list-style-type: none">• Review of relevant documents• Discussion with headmaster, assistant headmaster and teachers• Interaction with students	<ul style="list-style-type: none">• Observation of teaching and learning during five class periods• Examination of students' work• Feedback to headmaster, assistant headmaster and teachers

MAIN FINDINGS

- The quality of teaching ranged from excellent to good and the quality of learning was very good.
- Although students derived much benefit from participating in independent learning activities in some lessons, there was scope for improvement in this area.
- Levels of student interest were highest where lessons had a conceptual focus rather than a content focus.
- Teachers assess and monitor progress well.
- There is very good whole-school support for Mathematics.
- Support for students with special educational needs and students for whom English is an additional language is very good.

MAIN RECOMMENDATIONS

- The provision of opportunities during lessons that encourage students to engage independently with Mathematics should be increased.
 - The conceptual approach that was taken in most lessons observed should be extended to the exploration of all syllabus material.
 - Assessment for Learning (AfL) principles should be used in the correction of students' work.
 - Over time, a section on methodology should be added to each topic outlined in the programmes of work for each year group and level.
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INTRODUCTION

Clongowes Wood College S.J. is a voluntary Catholic secondary boarding school for boys with a current enrolment of 458 students. Transition year (TY) is compulsory.

TEACHING AND LEARNING

- The quality of teaching ranged from excellent to good. The methodologies observed included teacher led exposition, lively discussion, the use of very good quality information and communications technology (ICT), and guided discovery.
- It is good that in most cases a *Project Maths* approach was taken. This was particularly evident in the questioning strategies used and the quality of class discussions that occurred.
- Most lessons began with the sharing of the learning objectives and this had a positive effect on learning. This strategy should be extended to all lessons.
- Some lessons included opportunities for independent learning. However, there was scope for improvement in this area. It is, therefore, recommended that more opportunities be provided for students to think for themselves through working on appropriately challenging activities without direct teacher assistance. Furthermore, it is important that the students only share ideas at appropriate times during lessons to avoid providing too much support for their classmates.
- Levels of student interest were highest where lessons had a conceptual focus rather than a content focus as was the case in the majority of classrooms visited. In such instances teachers facilitated students in exploring the concepts taught by choosing ICT resources that illustrated the concepts very clearly and provoked student discussion, by focusing on the meaning of the key words used, and by providing activities that captured the students' imagination. These approaches facilitated robust treatment of lesson material and contributed to a deeper understanding for students. It is recommended that the very good practices observed in the teaching of most concepts be extended to the exploration of all syllabus material.
- Students frequently asked questions and this was useful in enabling teachers to meet individual needs. In one case too much lesson time was spent on one-to-one questioning with the rest of the class group passively listening. It is recommended that laminate boards be considered as a means of providing good quality immediate feedback on students' progress as a way of addressing this issue.
- Teachers assess and monitor progress well through observation and questioning. The quality of presentation in the students' work is good. However, there is scope for AfL principles to be used in the correction of students' work. This should involve regular monitoring and the inclusion of comments to encourage, motivate and advise students.
- The quality of student contributions demonstrated that high quality learning was taking place in the majority of lessons. It was evident that students take responsibility for their own learning through engaging and participating very well.
- The relationship between students and their teachers is warm and supportive. Most lessons progressed with a sense of fun and teamwork.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- There is very good whole-school support for Mathematics in terms of time allocation and timetable arrangements for level choice. The provision of resources and ICT equipment to support teaching and learning is also very good.
- Students are placed in mixed-ability classes for Mathematics in first year and are assigned to higher and ordinary level groups from second year onwards which is good practice. There was much evidence to indicate that students are encouraged to study the highest level possible for as long as possible. This is borne out by the very high proportion of students taking higher-level mathematics in the certificate examinations.
- Higher-level Mathematics in both the junior and senior cycles is rotated amongst all mathematics teachers which is valuable in ensuring that the capacity to teach this level is retained within the school.
- Attendance at continuing professional development (CPD) courses is good and is strongly supported by school management.
- Support for students with special educational needs and students for whom English is an additional language is very good. It is positive that there are plans to add team-teaching to the modes of delivery used for the provision of learning support.
- There are very good whole-school procedures in place for monitoring students' application and progress.
- A wide range of valuable opportunities are provided for students to participate in mathematics-related extracurricular activities.

PLANNING AND PREPARATION

- Meeting time for Mathematics is provided once per term as part of the whole-school planning process. There is a co-ordinator for the subject department and it is good that this position rotates periodically.
- A good mathematics plan has been developed and it contains all of the relevant policy documents and detailed schemes of work for each year group and level. The schemes of work set out the content to be covered within defined timeframes and include the *Project Maths* strands already introduced. It was evident that very good ICT resources and valuable methodologies are planned for individual lessons. It is recommended that over time the teachers collaborate on including this aspect of planning in the main mathematics plan. This would involve adding a section on methodology to each topic to be covered. The teaching and learning plans provided by the *Project Maths* development team should also be used. The use of the plans will also provide a forum for the sharing of expertise and will be very beneficial.
- The mathematics department engages in a valuable process of action planning. It is recommended that this process be used to identify areas for development in teaching and learning, to devise and implement strategies for improvements and to evaluate the effects of any changes made in due course.
- Each year a comprehensive analysis of the school's performance in the certificate examinations against national norms is carried out. This indicates that the school is

performing well. To gain an alternative perspective it is recommended that student achievement also be compared to student intake data.

- The TY plan comprises a good combination of syllabus and non-syllabus material. A range of alternative methodologies is outlined to deliver the programme which is good.

The draft findings and recommendations arising out of this evaluation were discussed with the headmaster, assistant headmaster and subject teachers at the conclusion of the evaluation. 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

Appendix

SCHOOL RESPONSE TO THE REPORT

Submitted by the Board of Management

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

We very much welcomed this report and its very positive findings. In particular we noted the inspector's comments on:

The quality of teaching, from good to excellent;
The high quality of learning that was taking place;
The warm and supportive relationship between students and teachers;
The very high proportion of students taking higher level maths in certificate examinations;
The very good whole-school procedures for monitoring students' application and progress;
The very good quality information and communications technology (ICT);
The encouragement of students to study the highest level possible for as long as possible;
The action planning process that has been employed by the Maths Department'
The Maths Department's comprehensive analysis of the schools performance in certificate examinations against national norms;
Overall we were very happy with this positive report and we whole-heartily welcome its findings.

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

1. We will devise worksheets to be incorporated in the scheme of work, which are designed to extend the area being studied, using open ended problems and investigations;
2. We aim to extend the conceptual approach, which is used at present, to all areas of the syllabus, bearing in mind especially the materials available in the "Teaching & Learning Plans" from the Project Maths Team;
3. We are endeavouring to use the principles of AfL in the correction of students' work.
4. A section on specific methodologies is being added to the plan, drawing on ideas available from the Project Maths publications and other sources;
5. In conjunction with the Guidance Department, we are beginning a *Longitudinal Study* to compare student achievement to intake data.