REPORT
ON
THE QUALITY OF LEARNING AND TEACHING IN MATHEMATICS

INFORMATION ON THE INSPECTION

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MAIN FINDINGS

• The quality of teaching observed varied considerably from very good to lessons in which there was scope for further development, particularly in relation to lesson planning.

• The quality of learning varied considerably from some instances where very good learning was observed to lessons in which the need to create greater learning opportunities for students was clear.

• Students have opportunities to experience Mathematics through participation in co-curricular and extracurricular activities.

MAIN RECOMMENDATIONS

• Teachers should integrate a greater range of active teaching and learning methodologies and make greater use of higher-order questioning strategies where appropriate.

• Fundamental weaknesses in the organisation of Mathematics need to be addressed; these include strategic planning, timetabling arrangements, teacher deployment, capacity building within the department, accessing continuous professional development (CPD) and planning for the long-term development of Mathematics.
INTRODUCTION
St Laurence College is co-educational with a population of 464 students. An optional Transition Year is available. A one-year repeat Leaving Certificate Programme is provided to 95 students. The school participates in the Delivering Equality of Opportunity in Schools (DEIS) initiative.

TEACHING AND LEARNING

- The quality of teaching varied considerably, ranging from very good in some lessons to those in which there was scope for further development. The most effective teaching observed included very clear lesson planning, the stating of learning objectives from the outset, appropriate pacing and the creation of high expectations. As this was observed in some instances, there are opportunities for these practices to be established for all lessons.

- The main methodology used was whole-class teaching; the standard of which was good in a minority of lessons, but requires further development in most instances. There is scope for broadening the range of teaching approaches used in Mathematics. All teachers should give greater attention to planning and to embedding active learning methodologies so that students actively experience, process and apply their learning. In addition, teachers should incorporate greater opportunities for co-operative learning such as group and pair work.

- In a small number of lessons, group work was observed and the success of such a methodology clearly depended on teacher preparation. For example, it is necessary to ensure that there is a clear focus for the task and that necessary instructions are communicated from the outset in relation to what will be expected of students at the end of the activity, and a specific time should be allocated to complete the task.

- The standard of questioning used by teachers varied considerably in lessons. Best practice included the use of very good balance between lower and higher-order questioning. This is advised for all teachers in order to provide opportunities for students to develop higher-order thinking skills. In questioning, care is also advised that teachers do not give students the solution without firstly using a sequence of questions to prompt suggestions.

- The quality of learning in lessons varied considerably, ranging from some instances where very good learning was observed to lessons in which the need to create greater learning opportunities for students was clear. Lessons with good planning and structure, presented in an enthusiastic manner and engaging of students, allowed for very successful progress to be made. In such lessons, students took opportunities to question their teachers for further clarifications about the topic.

- Good practice was observed where teachers implemented the numeracy strategy of mental arithmetic at the beginning of the lesson. In some instances, teachers took time to check students understanding of terminology which is very good practice. In some lessons, effective use was made of setting Mathematics in real-life contexts for students.

- In most instances, resources used were effective and supported the learning experience for students. These included differentiated worksheets, measuring equipment and textbooks. When used, information communication and technology (ICT) was very effective. However, there is scope for greater integration of ICT.

- Teachers retain records of students’ attainment and attendance.
Assessment takes place through in-class questions, formal assessments, and homework. There is evidence of teacher monitoring on student work, but this practice varies and consistency in departmental assessment practices and procedures is recommended. Agreement on the use of common assessment for key school assessments is also recommended and collaboration during subject planning should support such practices.

SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

There are significant weaknesses in the overall organisation of Mathematics, including teacher deployment and class formation, and these require immediate attention. The timetabling for second-year should be reviewed to allow daily contact with the subject. Concurrent timetabling should be facilitated from second year onwards. The deployment of two teachers and a student teacher to one first-year group on different days of the week militates against continuity of delivery and should be reviewed. Consideration should also be given to deploying available resources to create independent higher and ordinary-level class groupings. This should support the desire to increase attainment in Mathematics.

The mathematics department comprises nine teachers. The availability of teachers who are subject specialists in Mathematics and the capacity within the department to teach to the highest level is currently inadequate. The sourcing of courses that would allow for upskilling is recommended. Some teachers have limited contact with the subject in the current year. The department should be consolidated over time through the creation of a core group of mathematics teachers.

Monitoring and review of student attainment at all levels is recommended. This process should use baseline date from which progress can be measured. Such a review should be undertaken in conjunction with the aforementioned recommendations on class formation and CPD.

Students have opportunities to participate in co-curricular activities including national competitions, Maths Week and the Young Scientist and Technology Exhibition. Consideration should be given to a display notice board where pertinent events could be exhibited and Mathematics could be promoted.

PLANNING AND PREPARATION

Current co-ordination arrangements for the mathematics department are not sustainable and this is a matter that should be resolved, not least to ensure the long-term development of Mathematics.

The mathematics plan comprises some organisational details, meeting minutes and a collection of individual teachers’ schemes of work. There is no succinct common scheme of work for Mathematics that identifies the learning continuum that should be achieved by students. This needs immediate attention.

Further areas for strategic planning include collaboration to allow for the synchronisation of topics across levels and the identification of areas for further development for the department with associated action plans.

Some work has taken place on the development of common strategies to teach topics such as percentages and in mental arithmetic. Overall, however, this work has progressed
slowly and should be expanded to include other common areas which should ultimately support a whole-school numeracy policy.

- Individual planning in some instance was very good and in such lessons good progress was made. In other lessons, however, further attention to lesson planning is necessary.

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

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