

**An Roinn Oideachais agus Scileanna**  
**Department of Education and Skills**

**Subject Inspection in Mathematics**

**REPORT**

<b>Ainm na scoile / School name</b>	Mary Immaculate Secondary School
<b>Seoladh na scoile / School address</b>	Lisdoonvarna Co Clare
<b>Uimhir rolla / Roll number</b>	62000W

**Date of Inspection: 30-09-2016**



**WHAT IS A SUBJECT INSPECTION?**

Subject Inspections report on the quality of work in individual curriculum areas within a school. They affirm good practice and make recommendations, where appropriate, to aid the further development of the subject in the school.

**HOW TO READ THIS REPORT**

During this inspection, the inspector evaluated learning and teaching in Mathematics under the following headings:

1. Learning, teaching and assessment
2. Subject provision and whole-school support
3. Planning and preparation

Inspectors describe the quality of each of these areas using the Inspectorate's quality continuum which is shown on the final page of this report. The quality continuum provides examples of the language used by inspectors when evaluating and describing the quality of the school's provision in each area.

The board of management of the school 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.

## Subject Inspection

### INSPECTION ACTIVITIES DURING THIS INSPECTION

<b>Dates of inspection</b>	29-09-2016 and 30-09-2016
<b>Inspection activities undertaken</b> <ul style="list-style-type: none"><li>• Review of relevant documents</li><li>• Discussion with principal, acting deputy principal and key staff</li><li>• Interaction with students</li></ul>	<ul style="list-style-type: none"><li>• Observation of teaching and learning during seven class periods</li><li>• Examination of students' work</li><li>• Feedback to acting deputy principal and relevant staff</li></ul>

### SCHOOL CONTEXT

Mary Immaculate Secondary School is a co-educational voluntary secondary school located in the town of Lisdoonvarna. The programmes offered are the Junior Certificate, an optional Transition Year (TY), the Leaving Certificate Vocational Programme and the established Leaving Certificate.

### SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS:

#### FINDINGS

- A good standard of learning and teaching was observed in the majority of lessons, with some very good practices noted, and some scope for improvement in a small minority of lessons.
- The use of pair-work and differentiation were effective features observed in some lessons.
- The use of information and communications technology (ICT) to support learning and teaching was achieved successfully in lessons.
- Subject provision and whole-school support for Mathematics is very good.
- It is commended that the teachers of Mathematics are actively engaged with subject-specific continuing professional development (CPD).
- A good standard has been reached by teachers in their planning practices.

#### RECOMMENDATIONS

- The good practices observed in relation to collaborative learning and differentiation should be extended to all lessons.
- The next stage in the development of schemes of work should include the further tailoring and cataloguing of resources, methodologies and assessment modes to the learning outcomes already identified in the schemes.

## **DETAILED FINDINGS AND RECOMMENDATIONS**

### **1. TEACHING AND LEARNING**

- The standard of learning and teaching was good in the majority of lessons observed with some very good practices noted and some scope for improvement in the teaching approaches used in a small minority of lessons.
- Students demonstrated positive dispositions towards Mathematics and all lessons were conducted in a positive and affirming manner.
- For the majority of lessons, resources to support the content of the lesson were prepared in advance. Where these resources were most effective, they contained an incremental level of challenge that allowed all students to achieve while providing sufficient challenge for the more able students. It is recommended that the use of such differentiated resources be extended to all lessons.
- The use of pair-work was a feature of some lessons and it was apparent that students were comfortable interacting with their peers and discussing mathematical concepts. In some lessons, students would benefit from further opportunities to engage in such collaborative activity.
- The development of students' oral literacy was achieved successfully in many lessons. In most cases this was achieved through in-class discussion and in one case, students were required to present projects to the class group. These projects were accompanied by well-developed assessment sheets that facilitated an effective critique of the projects by the other students in the class.
- ICT was used in the majority of lessons and was used for a variety of purposes. Teachers demonstrated high levels of confidence and competence in using the available technology. In some classes, the use of an online file-sharing platform allows the sharing of lesson content in a secure online forum and also allows students to submit work for viewing by the teacher and by other students in the class.
- The use of mini-whiteboards as an assessment for learning (AfL) technique was a feature of some lessons and was very effective in facilitating good progress through the content of the lesson. Such practice also allows the teacher to gain a clear insight into how the students are progressing. In one lesson, students were required to formulate problems to be solved by their peers. The use of such AfL techniques is worthy of further discussion among teachers.
- Homework was issued in all lessons and was typically corrected as a whole-class activity. The correction of homework was achieved efficiently in most cases and students were diligent in making corrections to their work where necessary. The use of peer assessment should be considered by all teachers, particularly in cases where it is evident that students have been largely successful with their homework.

### **2. SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT**

- Subject provision and whole-school support for Mathematics is very good. Timetable provision is in line with syllabus requirements in all year groups and there is a generous provision of six periods per week for fifth-year and sixth-year students.
- First-year students are taught in a mixed-ability setting in line with best practice. This year, mixed-ability has been extended to second-year classes also. It is reported that this approach is working well with the current cohort of students. In other year groups, students are taught

in level-specific classes where concurrent timetabling facilitates the movement of students between levels where necessary.

- The extension of mixed-ability class formation to TY should be considered. Such an approach would fit well within a project-based structure and would lead to a reduction in the planning load associated with the TY mathematics programme.
- The teachers of Mathematics have a very good qualifications profile. All of the teachers satisfy the requirements of the Teaching Council for the teaching of Mathematics and all have attended a range of CPD events in relation to Mathematics and mathematical literacy.
- A flexible model of support is in place for students in need of additional numeracy support. The creation of smaller class groups as well as some small-group and individual withdrawal are the main forms of support currently in use in the school.
- Exceptionally able students are identified through a combination of testing and teacher observation. Participation in competitions such as the BT Young Scientist Exhibition and a variety of mathematics-related quizzes are among the ways in which these students extend their learning beyond the classroom.
- The integration of ICT into learning and teaching practices has been the focus of recent school self-evaluation and the positive effects of this were evident during lesson observations.

### **3. PLANNING AND PREPARATION**

- The standard of planning and preparation in the mathematics department is good. A subject plan has been developed collaboratively and gives a good overview of how the subject is provided for in the school.
- There are currently five teachers involved in the teaching of Mathematics in the school. Rather than assigning co-ordination duties to one teacher, duties are distributed equitably among the group and a team approach is adopted where feasible.
- Schemes of work have been developed for each year group and for each level of study. These schemes of work are presented in tabular format and are stated in terms of learning outcomes. The next stage of development should include the further tailoring and cataloguing of resources, methodologies and assessment modes to individual learning outcomes.
- On entering first year, students sit a mathematical competency test. The results of this test allow teachers to identify strengths and weaknesses among the student cohort and are used to inform the adaptation of schemes of work where necessary. The results of students in the certificate examinations are also analysed by teachers on an annual basis.

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

## **Appendix**

**SCHOOL RESPONSE TO THE REPORT**

**Submitted by the Board of Management**

**Part A Observations on the content of the inspection report**

The Board of Management welcomes the very positive report on the teaching and learning of Mathematics in Mary Immaculate. It was delighted to note that subject provision and whole-school support for Mathematics is very good. It welcomed the finding that teachers demonstrated high levels of confidence and competence in using available technology.

**Part B Follow-up actions planned or undertaken since the completion of the inspection activity to implement the findings and recommendations of the inspection.**

With regard to the recommendations the Mathematics Department commit to:

- the further development of collaborative learning and differentiation
- the further development of schemes of work by cataloguing of resources, methodologies and assessment modes used and linking these to learning outcomes.

## THE INSPECTORATE'S QUALITY CONTINUUM

Inspectors describe the quality of provision in the school using the Inspectorate's quality continuum which is shown below. The quality continuum provides examples of the language used by inspectors when evaluating and describing the quality the school's provision of each area.

Level	Description	Example of descriptive terms
<b>Very Good</b>	<b>Very good</b> applies where the quality of the areas evaluated is of a very high standard. The very few areas for improvement that exist do not significantly impact on the overall quality of provision. For some schools in this category the quality of what is evaluated is <b>outstanding</b> and provides an example for other schools of exceptionally high standards of provision.	Very good; of a very high quality; very effective practice; highly commendable; very successful; few areas for improvement; notable; of a very high standard. Excellent; outstanding; exceptionally high standard, with very significant strengths; exemplary
<b>Good</b>	<b>Good</b> applies where the strengths in the areas evaluated clearly outweigh the areas in need of improvement. The areas requiring improvement impact on the quality of pupils' learning. The school needs to build on its strengths and take action to address the areas identified as requiring improvement in order to achieve a <i>very good</i> standard.	Good; good quality; valuable; effective practice; competent; useful; commendable; good standard; some areas for improvement
<b>Satisfactory</b>	<b>Satisfactory</b> applies where the quality of provision is adequate. Overall, learners have access to a basic level of provision. The strengths in what is being evaluated just outweigh the shortcomings. While the shortcomings do not have a significant negative impact they constrain the quality of the learning experiences and should be addressed in order to achieve a better standard.	Satisfactory; adequate; appropriate provision although some possibilities for improvement exist; acceptable level of quality; improvement needed in some areas
<b>Fair</b>	<b>Fair</b> applies where, although there are some strengths in the areas evaluated, deficiencies or shortcomings that outweigh those strengths also exist. The school will have to address certain deficiencies without delay in order to ensure that provision is satisfactory or better.	Fair; evident weaknesses that are impacting on pupils' learning; less than satisfactory; experiencing difficulty; must improve in specified areas; action required to improve
<b>Weak</b>	<b>Weak</b> applies where there are serious deficiencies in the areas evaluated. Immediate and coordinated whole-school action is required to address the areas of concern. In some cases, the intervention of other agencies may be required to support improvements.	Weak; unsatisfactory; insufficient; ineffective; poor; requiring significant change, development or improvement; experiencing significant difficulties;