AN INVESTIGATION INTO THE CONCEPT OF MATHS EYES WITH A PARTICULAR FOCUS ON THE MATHS EYES POSTER COMPETITION

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Rationale for the Study

The provision of teaching and learning of numeracy has never been so prominent (Liljedahl, 2015). Internationally, this is largely driven by the Organisation for Economic Co-operation and Development (OECD) and in Ireland, by the National Numeracy Strategy.

In the National Numeracy Strategy, numeracy is defined as encompassing “the ability to use mathematical understanding and skills to solve problems and meet the demands of day-to-day living in complex social settings” (Department of Education and Skills, 2011, p. 8).

What is Maths Eyes?

An initiative which helps make real life mathematics more visible.

Promotes new ways of looking at and considering familiar objects.

Offers new approaches to teaching and learning numeracy.

Encourages integration of ICT in primary, post-primary and adult education.

Encourages critical citizenship.

Maths Eyes Projects Internationally

There are a number of countries worldwide that are implementing Maths Eyes projects and these are identified in green below.

The National Maths Eyes/GeoGebra Poster Competition

The aim of the competition is for entrants to:

• Take a photograph in their local area.
• Come up with a title to highlight the mathematics that they see in the photograph.

The entries to the competition are increasing each year as shown in Table 1. Table 2 shows the variation of entries according to the strands of the school mathematics curriculum in Ireland.

Category: Under 7 Under 11 Under 14 Under 18 Adult Education Family/Community GeoGebra Total
2013 17 135 240 59 5 91 34 581
2014 65 99 190 177 36 84 29 680
2015 51 169 158 353 10 39 24 804

Table 1: Number of entries submitted per year

Primary strand Data Shape & Space Number Algebra Measures Miscellaneous No Total
Under 7 0% 47% 45% 2% 0% 12%
Under 11 1% 41% 36% 8% 3% 8%
Post-primary Statistic & Probability Geometry & Trigonometry Number Algebra Functions Miscellaneous No Total
Under 14 2.5% 38.3% 60% 6% 0% 11%
Under 18 3% 35.3% 60% 2% 1% 15.5%
Adult Education 10% 10% 90% 0% 0% 9%
Family/ Community 20% 39% 6% 2.5% 10% 10%
GeoGebra 0% 54% 0% 0% 25% 12.5%

Table 2: Percentage of entries submitted in each category which link to a particular strand or no strand at all.

Examples of Winning Posters in the Competition

Initial Evaluation

The Dominican Campus is a community of schools in a suburb of Dublin, including one post-primary school and three primary schools. Students and teachers from the 4 schools worked together, with the parents of the primary school students to design and produce a range of Maths Eyes posters to be entered into the national competition.

An initial evaluation was conducted by the teachers and anecdotal evidence of the Dominican Campus involvement with the competition is presented below.

What the teachers said:

“The children were motivated and active in their learning”

What the parents said:

“I did not realise the mathematics that I do every day”

“I can now talk to my children about maths and its not just about homework”

Future Research

Research is being conducted by the author to answer the following research questions:

Where to now?

How will students’ numeracy be improved using Maths Eyes?

Does Maths Eyes contribute to an increase in learners’ mathematical confidence?

How can students’ behaviour be influenced and developed across all of the dimensions?

Does Maths Eyes influence a positive change in the attitudes of those who engage in the programme?

What type of evaluation model can be developed to evaluate Maths Eyes and other initiatives similar to Maths Eyes?

What type of integrated theoretical framework supports the Maths Eyes initiative?

How can individual’s numeracy be improved using Maths Eyes?

References