Numeracy Policy

Ranelagh School

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Rationale

Numeracy is a proficiency which involves confidence and competence with numbers and measures. It requires an understanding of the number system, a repertoire of computational skills and an inclination to solve number problems in a variety of contexts. Numeracy also involves practical understanding of the ways in which information is gathered by counting and measuring, and is presented in graphs, diagrams, charts and tables. Competence in mathematics/numeracy is important and essential for success in many areas of study.

Mathematics is a broad structure that provides a way of viewing and of understanding the world. Through the use of numeracy information can be

- organised

- manipulated

- predicted

- described

- explained

- communicated

- questioned

This policy describes our values and philosophy in relation to meeting the needs of all mathematical learners. It outlines the framework within which all staff work and gives guidance on planning, teaching and assessment. It is designed to describe how the school intends to meet the needs of mathematics learners of all ages.

We aim to ensure that:

i) all students are at 'ease' with numbers, having an ability to make use of various mathematical skills (including arithmetical, algebraic, geometric and statistical skills) which enable an individual to cope with common applications;

ii) numeracy is an experience from which students derive pleasure and enjoyment;

iii) all students experience a rich numeracy learning environment, regardless of perceived 'ability';

iv) all students are able to appreciate some of the ways that mathematics can be used as a means of communication in an increasingly technological society.

Where possible, all teachers at Ranelagh should:

i) endeavour to promote numeracy across the curriculum in a manner that is consistent and positive in order to build students' self-confidence and belief in both themselves and mathematics;

ii) expect students to calculate efficiently and accurately, drawing upon a range of calculation strategies with mental arithmetic as a first resort;

iii) ask students to judge whether their answers are reasonable and use strategies for checking them;

iv) talk about links between maths and other subjects and make these links explicit with the students;

v) foster a positive attitude towards, and enthusiasm for, mathematics;

vi) develop the mathematical skills necessary to link mathematics to everyday life;

vii) provide students with the basic skills needed to develop confidence in their mathematical ability and enhance their independence when working;

viii) encourage a spirit of enquiry and exploration;

ix) stimulate an interest in, and fascination for, mathematics;

x) develop the ability to communicate using appropriate mathematical language;

xi) develop logical thinking and reasoning skills through natural curiosity and an investigative approach;

xii) develop a methodical approach to solving problems;

xiii) encourage accuracy in working and underline the importance of self-checking;

xiv) develop numeracy through a cross curricular approach.

In order to implement the policy we shall:

a) Follow these approaches in the classroom: -

i) As a matter of routine ask students how they worked out a calculation, and listen carefully to their response. When appropriate we shall seek and compare a range of computational methods.

ii) Encourage students to think about any particular numbers they may encounter, and routinely ask them to estimate an answer before doing a calculation - e.g. "How big is 36%?" "What is the answer going to be, roughly?" "Why do you think that answer is correct?"

iii) Allow students access to calculators, but encourage them to use them sensibly - e.g. "Come on! You can do that in your head", "If you really need to, you can use a calculator."

iv) Avoid saying to students "I am no good at numbers", but rather "I am still learning Maths" and promote the view that we can work it out if we think for a time about the problem.

v) Make use of diagrams that help make sense of number properties - e.g. show 37% on a number line from 0 to 100%.

vi) Establish some commonality of approach - e.g. "How do we divide by 10?"

vii)   Give some idea of size, relationships and physical references when considering large numbers, making real comparisons to assist in the construction of images - e.g. "A million people is about 25 football crowds", "A centimetre is the length of a fingernail", "A kilometre would take you about a quarter of an hour to walk."

b) Run a numeracy workshop once a year for teachers of other subjects to consolidate, refresh, and enhance their own numeracy skills. In addition, the numeracy workshop will aim to:

i) promote an understanding of the numeracy policy;

ii) produce recommendations in terms of language and acceptable methods;

iii) understand the numeracy score given for each student from the maths department numeracy test taken annually;

iv) enable teachers of subjects other than mathematics to signpost their schemes of work in order to identify their contribution to numeracy.