

Numeracy Strategy - Numeracy Across the Curriculum

Overview

Key whole-school objectives

1. Transition from Primary

- Make contact/links with a primary feeder school to increase cooperation/understanding with primary teachers
- analyse primary learning material e.g textbooks
- collate and analyse Primary student data
- have a better understanding of the Primary Bridging document and the Primary learning outcomes, referencing them to 1st Yr Schemes of Work

2. Data analysis

- set-up database with student data, including Primary standardised scores, CAT test and other assessment data, common tests results (Competence Test, Xmas, Summer of 1st yr), the new 2nd yr standardised tests,..
- review current practice in assessment/cognitive testing in school, and update/change where appropriate
- subject teachers to use the data to identify the capabilities of their class(es) and tailor T&L accordingly
- provide CPD for staff to become familiar with how to use database

3. Cross-Curricula Numeracy

- each subject group carry out a mapping process to document all instances of numeracy in the syllabi for JC (and LC)
- subject teachers to become familiar with any relevant section of the Primary Bridging document, and how it relates to their subject at Post-Primary

4. Common methods and standards for certain tasks

- Select a core team to agree a list of tasks (calculations, terminology, graphical representations)
- agree common method
- provide CPD for staff

5. Use of calculators

- agree on a common make/model of calculator for the whole-school
- install emulator onto all classroom PCs
- provide CPD for staff on its use, as required

6. Promote Numeracy

- any numeric test scores returned to students should be only in fractional form, and require students to calculate the %age score

- be Positive about Maths: being empathetic towards students who struggle is different from making statements that validate, or provide kudos for, any students' short-comings. **Questions to ask within individual subjects**
- Is the learning environment numeracy-rich?
- How successful are we in integrating the development of numeracy into our subject?
- How closely do we collaborate with the mathematics department in planning our delivery schedule?
- Are we happy that our practice in carrying out calculations and other mathematical procedures and the use of mathematical symbols and terminology is consistent with that prescribed by the mathematics department?
- What is working well?
- Are there any problem areas?
- What action can we take to improve?
- How effective are we in developing students' problem-solving skills in our lessons? Are there any difficulties? How can we improve the teaching and learning of problem-solving?
- What strategies are most successful in enhancing the numeracy skills of students with special education needs?
- What are the most effective teaching and learning strategies for further developing the numeracy of students with very good mathematics ability?
- Do we provide opportunities for the assessment of numeracy when assessing students' learning in this subject?
- What resources, including ICT, are most useful in enhancing the teaching of numeracy in our subject?
- What changes should we consider in our practice to further facilitate numeracy development in our lessons?
- How effective is our approach to homework in consolidating students' learning of numeracy in our subject?

Questions to ask as a school

Is the overall competence of the students with regard to each of the following skills improving or remaining at a high standard:

- **Knowledge and understanding of mathematical concepts**
 - Students display their understanding of number processes and concepts
 - Students are encouraged to hypothesise and propose solutions
 - Students can explain their reasoning
- **Application of concepts and problem-solving**
 - Students tackle problems in familiar and unfamiliar contexts
 - Students identify the relevant skills and concepts
 - Students work independently and collaboratively
 - Students evaluate their solutions
 - Students are aware of and avoid common mathematical misconceptions
- **Communicating and expressing**
 - Students contribute effectively and appropriately to discussions

- Students use multiple representations
- Students use mathematical language correctly
- Students are encouraged to estimate and to develop mental agility
- Students make effective use of ICT

- **Integrating and connecting**
 - Students make links to other areas of the curriculum
 - Students apply numeracy skills in a range of contexts
 - Students develop an understanding of the role of numeracy in everyday life
 - Students look for patterns and can identify similarities and differences

- **Data acquisition and analysis**
 - Students are competent in gathering, representing and analysing data
 - Students display an understanding of randomness, bias, chance and causality

- **Implementing**
 - Students develop the capacity to engage with and complete tasks and assignments

- **Students, including those at risk of underachieving, are attaining well and are making very good progress from their prior levels of achievement**

- **The students use their numeracy skills competently in all subjects and programmes**

- **Uptake in Mathematics at higher level in the state examinations compares favourably with national norms**

- **Student performance in Mathematics in state examinations compares favourably with national norms**

- **Analysis of uptake and performance is linked to actions for improvement in the mathematics subject plan**

- **The numeracy learning targets set out in the school improvement plan have been achieved**