

Meánscoil na mBráithre Criostáí, Cill Chainnigh

Christian Brothers Secondary School, Kilkenny.

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NUMERACY POLICY Jan 2021

School Name: Christian Brothers Secondary School, Kilkenny

School Address: James's Street, Kilkenny

School Details: CBS Kilkenny is a Voluntary Roman Catholic Secondary School under the Trusteeship and the Patronage of the Edmund Rice Schools Trust. The School is grant aided by the Department of Education & Skills and is a single sex (boys) school.

School Management: The Board of Management of CBS Kilkenny is a statutory Board appointed pursuant to the provisions of the Education Act 1998.

Mission Statement

Inspired by its founder, CBS Kilkenny aims to provide Catholic education in the Edmund Rice tradition. The school endeavours to be a caring Christian Community which promotes to the best of its ability the personal, spiritual, physical and intellectual development of its students.

Ethos

As an Edmund Rice School, CBS Kilkenny seeks to promote the five key elements of an Edmund Rice School as espoused by the ERST Charter:

- Nurturing faith, Christian spirituality and Gospel-based values
- Promoting partnership in the school community
- Excelling in teaching and learning
- Creating a caring school community
- Inspiring transformational leadership.

Aim

The aim of the Numeracy Policy is to provide for, and support, an environment that fosters awareness and appreciation of numeracy and an eagerness to engage with it in both abstract and contextual situations.

Rationale

When launching the national literacy and numeracy Strategy, *Literacy and Numeracy for Learning and Life 2011-2020*, the Minister for Education and Skills stated “Without the skills of literacy and numeracy, a young person or adult is often denied full participation in society.... I am convinced that ensuring all our young people acquire good literacy and numeracy skills is one of the greatest contributions that we can make towards achieving equality and social justice in our country”. At CBS Kilkenny we aim to ensure that we maintain a strong focus on literacy and numeracy skills, within a broad and balanced curriculum.

Child Protection

This policy has been reviewed in accordance with the CBS Kilkenny Child Safeguarding Statement and in line with the Children First Act 2015 and the Child Protection Procedures for Primary & Post Primary Schools 2017.

Wellbeing

While renewing this policy, due consideration has been given to all aspects of the wellbeing of students at CBS Kilkenny and particularly to the Wellbeing School Improvement Plan (May 2018).

GDPR

General Data Protection regulation came into force in May 2018, and this policy has been reviewed in accordance with the best practice as detailed in this legislation.

Definition of Numeracy

Numeracy is not limited to the ability to use numbers to add, subtract, multiply and divide. Numeracy is the capacity, confidence and disposition to use mathematics to meet the demands of learning, school, home, work, community and civic life. This perspective on numeracy emphasises the key role of applications in the learning of mathematics, and illustrates the way that mathematics contributes to the study of other disciplines.

Key Players

In CBS Kilkenny five main partners are involved in the enhancement of numeracy within the school:

- Management
- Non-Maths teachers
- Maths Teachers
- Special Educational Needs (SEN) team and Special Needs Assistants (SNAs)
- Students and Parents/Guardians.

Their roles and responsibilities are detailed below.

Role of Management

Management in CBS Kilkenny has ultimate responsibility for the implementation of all school policies. As an integral driver of numeracy in the school, management aims to:

- Facilitate continuous professional development (CPD) for staff within the limitations of timetabling and budgets. The training of key staff members to deliver internal in-service training to all staff members will be prioritised.
- Set aside financial resources to support numeracy initiatives, e.g. In-service training for staff, funding for Maths Week etc.
- Support numeracy within timetabling where practicable.
- Reiterate the commitment of the school to numeracy at each available opportunity: Staff Meetings, Parent Council meetings, Parent Information evenings, Open Night and other student meetings. Use the school eNewsletter, the school website and various social media platforms, to support numeracy initiatives in CBS Kilkenny.
- Request that the Board of Management (BOM) ratifies the Numeracy Policy and keep the BOM informed of the progress of numeracy initiatives under the Teaching & Learning item on the agenda.

- Support links with outside agencies which will underpin the Numeracy Policy, e.g. IMTA, College and ‘Association’ Quizzes, Engineering Events with STEPS, TYPE (TY Physics Experience), Junior Achievement Awards, STEM etc.
- Support a diverse range of methodologies which promote numeracy at all levels and abilities within the school.
- Support student wellbeing by promoting Maths as a means of connecting students to their school, their friends, community and the wider world.

Role of Non-Maths Teachers

(Refer to principal-to-staff shared drive “*Numeracy Strategy In-Service Presentation to Staff*” for further ideas on how to integrate numeracy into a range of subjects.)

Non-Maths teachers play an important role in integrating numeracy into their lessons, raising awareness of the widespread presence and application of numeric concepts in our everyday lives. The students’ wellbeing is founded on a confidence in their ability to process numerical realities.

The responsibilities of non-Maths teachers include the following:

- Be familiar with the definition of numeracy and its relevancy in their subject
- Include reference in subject plans regarding commitment to numeracy
- Generate a bank of resources and share them within the department
- Avail of CPD where possible and disseminate good practice within the department
- Expand the focus of lessons to emphasise the numeric element when appropriate
- Incorporate a numeracy question in tests where appropriate.
- Support students in using the ‘Map My Progress’ section in their diaries, building their resilience.

Table 1 below summarises some suggested approaches.

Subject	Numeracy Strategies
Gaeilge & Modern Foreign Languages	Numbers translated, calendar, clock, shopping, money, costing for a trip/holiday/event. Estimating dimensions of landmarks etc.
English	Calendar, location of quotations with page number and line, timed assignments using online clock, estimating, language of information, searching for evidence, statistics etc.
Geography	Maps, grid references, weather data charts, population pyramids, field study data displayed in numbers and chart format, trade games etc.
History	Date line, timeline of key events, estimating, evidence, critiquing data, statistical analysis etc.
Music	Notes and values, extracts of music displayed on walls with beat value shown, timing rhythm, beats etc.
Religion	Date line, timeline of key events, estimating, analysing data and statistical concepts, CSO figures, Calendar of religious festivals/dates
Physical Education	Score boards, points for games, diagrams for strategies, bar charts of fitness levels, timing, weights, monitoring heart rates, designing exercise programs, etc.
Art	Painting by numbers, date line for painting periods, estimating, portioning, drawing to scale, segment sketching
ICT	Formulae for excel, spreadsheets, grades, averages, points calculations etc.
Computer Science	Performing calculations, programming, using variables, etc.
Science	Periodic table, measurements, estimating, graduating, weighing, calculating, atomic structures etc.
Home Economics	Varying temperatures electric/fan ovens, times for cooking/storage, calendar of seasonal foods/fruits etc.
Business	Profit and loss accounts, balance sheets, estimating, predictions, projections, surplus etc.
Technologies	Measurement, estimating, furnace heat, flame, tension of materials, melting points, joints, drawing to scale etc.

Table 1: Suggested Numeracy Strategies for non-Maths teachers

Role of Maths Teachers

Maths teachers play a pivotal role in raising awareness of the widespread presence and application of numeric concepts in our everyday lives. It is equally important that the Maths teachers assume a guidance role with regard to non-Maths teachers. This involves supporting them in integrating numeracy into their subjects. The Mathematics Department recognises its role in promoting and advocating a positive approach to this policy through its Department Subject Plan.

In addition, the Maths Department further promotes a culture of numeracy by:

- (a) Being aware of mathematical techniques/processes/skills which overlap in other subject areas and by supporting non-Maths teachers in their objective of promoting numeracy in their specific subject area.
- (b) Availing of and providing opportunities for CPD within the Maths Department and all teaching staff.
- (c) Standardising methodologies and assessment where appropriate and using this as a basis upon which student attainment can be analysed and methodologies can be adjusted to reflect agreed necessary changes.
- (d) Focusing on the application of mathematical concepts, understanding mathematical terms, application of a variety of methods in problem solving, collecting, handling, interpreting and presenting data and carrying out procedures accurately.
- (e) Being aware of the approaches to numeracy being adopted by non-Maths teachers and to adopt and implement such approaches into Maths classes.
- (f) Promoting the value of achievement at both Higher and Ordinary Level in state examinations.
- (g) Promoting numeracy through many co-curricular activities, e.g. Maths Week, Visual Displays, Statistics Noticeboard, National Quizzes, etc.
- (h) Introducing one calculator model school-wide (for all subjects)
- (i) Advising non-Maths teachers on simple effective strategies to increase the emphasis on numeracy in their lessons where appropriate.
- (j) Adopting consistency of approach in several key areas such as: factorising, getting %, adding fractions, increasing/decreasing by a percentage, slope calculation, simultaneous equations, elements of a graph, greater than/less than, etc.
- (k) Inculcating a culture of estimation, calculation and checking.
- (l) Encouraging mental arithmetic in a Calculator-free zone
- (m) Deploying mainstream Maths teachers in the SEN Department
- (n) Where practical, having a print rich environment in classrooms which displays both student and commercial numerical resources

Role of the SEN Department and SNAs

The SEN Department plays an important role in supporting students who find numerical concepts challenging and demotivating. To overcome these difficulties, the SEN Dept aims to:

- ensure that every student leaving school has an appreciation for, and a working understanding of, numeracy.
- arrange for the administration, correction and analysis of Entrance Assessment Tests.
- analyse the results of standardised test results/transfer data/psychological reports etc., and to identify students who need support in developing their numeracy skills.
- prioritise students who are performing at or below the 10th percentile on standardised tests in mathematics.
- place significant importance on the development of numeracy skills when drafting these students' Individual Educational Plans (IEPs), and will set SMART targets for these students in relation to improving numeracy skills.
- share this information in a collaborative manner with subject teachers so that each teacher will be in an informed position to encourage and help students to develop their numeracy skills across all their subjects.

Suggested strategies to engage SEN students with meaningful, investigative and problem-based learning, including:

- Mental routines - 10 minute lesson starters with suggested closed, open and flip questions designed to engage students and arouse their enthusiasm.
- Problematical situations - challenges that encourage students to work mathematically with open-ended "real life" situations and construct their own ideas. These lessons include a reflection session where mathematical language is used to describe successful strategies and where more formal methods are introduced and demonstrated.
- Investigations - open-ended investigations to encourage students to test and expand their skills.
- Games - fun activities designed to reinforce the strategies developed in each unit.
- Assessment activities - consolidation activities that students should readily complete at the end of each unit.

Role of Students and Parents/Guardians

Children with good numeracy skills are more likely to:

- Stay in education longer
- Be in work as adults
- Earn more throughout their lives
- Be better at problem-solving.

Even if parents find Maths and numeracy difficult, they can support their children using the following guidelines:

- **Do not** say things like ‘I can’t do Maths’ or ‘I hated Maths at school’... your son might start to think like that themselves...
- **Do** talk about Maths in everyday life, and ask your son how they work out problems or questions.
- **Do** praise your son for effort, rather than talent.
- **Do** encourage your son to do puzzles and to play logical games.
- **Do** encourage your son to practice practical Maths like shopping, cooking, map reading, communicating and presenting information, looking for and recognising patterns, estimating and deciding if an estimate is “reasonable”, calculating bills, etc.

In turn, each student has a responsibility to enhance his own numeracy and can follow the tips above provided for parents. In addition, it is important that the student partakes fully in classwork, homework, fieldwork and project work. Teamwork is educational and rewarding and it is important that each student partakes to the best of his ability.

There is a far-reaching national strategy to support and enhance numeracy levels for Irish students. The student can maximise the positive impact of this strategy by adopting a positive attitude and willingness to learn.

Approval

This policy has been approved by CBS Kilkenny Board of Management.

Signed: _____
Chairperson, Board of Management

Date: _____
