



Down High School

Numeracy Policy

Definition

“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 and ability to solve number problems in a variety of contexts. Numeracy also demands practical understanding of the ways in which information is gathered by counting and measuring, and is presented in graphs, diagrams, charts and tables.”

(Department for Employment and Education: National Framework for teaching Mathematics, 1999)

Count, Read; Succeed (DENI 2011) states that

“Numeracy is the ability to apply appropriate mathematical skills and knowledge in familiar and unfamiliar contexts and in a range of settings throughout life, including the workplace. It involves the development of:

- a. an understanding of key mathematical concepts and their interconnectedness;
- b. appropriate reasoning and problem-solving skills;
- c. the proficient and appropriate use of methods and procedures (formal and informal, mental and written); and
- d. active participation in the exploration of mathematical ideas and models.”

This policy is a working document, which aims to:

- Clarify the school's thinking and approaches to the development of pupils' Numeracy
- Consider the school's aims with respect to Numeracy.
- Provide positive direction for all staff on Numeracy matters
- Provide a framework for action and evaluation of Numeracy developments

1. Rationale

DENI (School Improvement) (1998) states that “Although the terms 'Literacy and Numeracy' are used in this paper, they should be taken as meaning the whole subjects of English and Mathematics”. The document goes on to state that

“Numeracy and Mathematics are, for all intents and purposes, synonymous terms.”

Count, Read; Succeed (DENI 2011) says that “The term Numeracy is also used in a wide and inclusive way. The appropriate application of the term will vary with context and includes 'Mathematics and Numeracy' when considering the revised curriculum, as well as the cross-curricular skill of Using Mathematics.

Down High School believes that

- Although the links between Numeracy and Mathematics are strong, Numeracy is viewed as a whole school issue.
- Numeracy underpins and supports the work in many departments and that each area of learning has something to contribute to the development of

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Numeracy. Therefore, Numeracy will be developed in a cross-curricular context.

- Numerical Literacy is at the heart of enabling pupils to cope with the demands and challenges of our modern world. It is, in essence, a life skill, with application in Learning for Life and Work and other subjects where appropriate.

With the development of the NI Curriculum and the minimum requirement for Using Mathematics applied to every subject the need for a coordinated, coherent attempt to raise the profile and the level of Numeracy and Financial Capability is increasingly pertinent. This is borne out by ESAGS and successive Chief Inspectors reports (2008-10; 2010-12) emphasizing the need for raised Numeracy standards.

2. Aims

- To maintain the already high level of Numeracy which our pupils possess and to improve it where possible.
- To improve Numeracy through the programmes of study. Numeracy will be integrated within these programmes of study, where appropriate.
- To develop Numeracy competences through sound mathematical knowledge being reinforced through cross-curricular applications of that knowledge. This will be done in a coherent, coordinated manner.
- We aspire that our pupils will be able to apply their knowledge appropriately in familiar and unfamiliar situations.
- Pupils will be able to communicate mathematical concepts using appropriate language, notation and methods.
- Teachers will use a wide range of teaching strategies and to deliver a broad and balanced curriculum which incorporates Numeracy. Strategies will incorporate an appropriate use of ICT.
- Numeracy will be promoted as a life-skill, especially in relation to financial management.

This will be achieved by addressing

- (i) Schemes of Work (SoWs)
- (ii) Learning and Teaching
- (iii) Pupil/Parent participation
- (iv) Raising the profile of Numeracy

(i) The Schemes of work

The Schemes of work will, where appropriate:

- Identify areas where Numeracy is being addressed (using the Numeracy Logo)
- Foster positive attitudes towards Numeracy;
- Ensure that Numeracy is related to pupils every day experiences, for example in managing finances;
- Emphasise appropriately the role of mental mathematics;
- Be sufficiently detailed to help the teachers match the work to the abilities of the pupils, including those requiring additional help with their Numeracy;
- Use a variety of appropriate activities, including ICT and practical equipment

- Provide, when taken together, a broad, balanced, varied and coherent Numeracy curriculum.

It is recognized that not all subjects will include Numeracy in each topic taught.

(ii) Learning and Teaching

The Department of Mathematics will take the lead in delivering the main body of knowledge with respect to Numeracy. However, where appropriate, some other departments will contribute significantly in this area. These skills will be further developed in a cross-curricular context. ICT will be appropriately incorporated into the schemes.

(iii) Pupil/Parent participation

Pupils and parents should view Numeracy as a proficiency which involves confidence and competence with numbers and measures. It is hoped that pupils will be able to apply their knowledge appropriately and will be able to develop the necessary skills in order to apply their knowledge in unfamiliar contexts, thus enabling pupils to take greater responsibility for their own learning.

Improved communication with parents, through using the homework diary will allow teachers to raise concerns quickly. The homework diary will be adapted to include material and QR Codes, which will allow pupils to see good practice from a Numeracy perspective.

(v) Raising the profile of Numeracy

The Mathematics teaching promotes understanding of fundamental concepts, and competence in relevant techniques. To develop Numeracy, and to allow pupils to be engaged outside of a classroom environment the Numeracy committee will seek to use

- The school magazine.
- UKMT challenges in Years 9, 11 and 14
- Inclusion of Numeracy issues into learning intentions.
- The homework diary.
- A notice board to:-
 - provide stimulus to promote logical thinking through the use of Numeracy Puzzles and
 - to develop a curiosity for the applications of number
 - promote mental mathematics through the Numeracy Ninja resource.
- Maintaining a license for “MyMaths” which will, in essence, is an online tutor that all of our pupils will have access to.
- Careers promotion through KS3 and KS4 option talks along with Year 10 and 12 option booklets.
- The Numeracy Logo, within relevant learning/assessment resources.

3. Provide positive direction for all staff on Numeracy matters

The Department of Mathematics is responsible for delivering all aspects of the Northern Ireland Curriculum for Mathematics. However, other departments have responsibilities for developing Numeracy within the framework of their curriculum.

- Aspects of Mathematics/Numeracy taught in other subjects will be audited at intervals and departments will be responsible for identifying aspects of their scheme of work that contribute to raising students' standard of Numeracy and highlighting these aspects in the classroom. It is recognized that not all subjects will include Numeracy in each topic taught.
- Support from the Department of Mathematics will be made available to subject leaders in identifying the levels of attainment for subject specific mathematical content where appropriate.
- The correct use of mathematical language (to develop mathematical oracy), notation and spelling is to be encouraged and reinforced at all times.
- All students are to be encouraged to use mental methods as a first resort when a calculation is needed. (Estimate, Calculate, Check)
- Relevant departments to continue to deliver and review opportunities for pupils to use their skills in non-familiar contexts.

4. Provide a framework for action and evaluation of Numeracy developments

"Literacy and Numeracy is every school's core business. All concerned need to be aware that ensuring their pupils are literate and numerate is their most important curricular responsibility. A school which is not effective in this respect cannot be judged to be a successful school." DENI - School Improvement 1998

The delivery and improvement in Numeracy within this school will continue to be monitored and evaluated. Improvement in Numeracy will be due to a planned and coordinated programme and will be a feature of the school development planning.

Framework for action and evaluation of Numeracy developments

- a. The Numeracy coordinator will:
 - Be responsible to the Principal and Board of Governors for the development of Numeracy throughout the school
 - Review and evaluate the whole school policy for Numeracy
 - Collect relevant information and resources and communicate these to the teaching staff as necessary
 - Oversee the development of Numeracy across the curriculum
 - Coordinate priorities and targets to be achieved
 - Help identify training needs of staff in relation to Numeracy and ensure that these training needs are met
 - Chair the Numeracy Committee
- b. The Numeracy committee will
 - Consider the provision of Numeracy through the development of an Audit
 - Review and evaluate the whole school policy for Numeracy
 - Help identify training needs of staff in relation to Numeracy and ensure that these training needs are met
 - Identify and share best practice in delivering Numeracy
 - Raise the profile of Numeracy throughout the school community
- c. The Senior Leadership Team will:

- Recognise and support the work on Numeracy. By continuing to include Numeracy provision in the School Development Plan where appropriate.
- Provide time for meetings and resources for staff training where appropriate

Appendix

Intervention Strategies

The school already provides excellent support for pupils that struggle with Numeracy. In addition to this, consideration will be given to

- **Using baseline data to identify and appropriately support pupils with Numeracy difficulties.**

CAT tests have been employed to provide baseline data. This data is then compared (by the Data manager) to how the pupils achieve in their internal Maths exams identifying possible anomalies. Maths teachers will be informed of these pupils and extra support given as necessary.

- **Providing an inclusive and sensitive learning environment where pupils can seek help.**

It is essential that when helping pupils that are struggling with Numerical Literacy, that the pupils are not stigmatized.

1) Pupils attend a drop-in Maths self help clinic at break time in the library. There are a number of pupils in sixth year that have expressed an interest in the sixth form service programme, with Maths as their area of focus. These pupils will support the development of Numeracy with younger pupils thus acting as mentors and role models. Pupils that require extra help could then simply turn up to get assistance, given by the sixth form pupils that are seeking to be involved with Maths as part of their service. This works in line with the schools policy of trying to help pupils take responsibility for their own learning, and also affords teachers (of all numeric subjects) an opportunity to suggest that a pupil get help from this programme of support.

The sixth formers would strengthen any university application in a Mathematical (or other) field.

2) Pupils can use MyMaths to get help on any topic. This is an online resource which pupils can access at home or in the school library.

Alongside this informal approach to intervention, a strategy in line with the “Count, Read: Succeed” document should be followed. The policy that will apply to underachieving pupils is as follows:

1. underachievers will be identified following the two main school exams.
2. class teachers will, in the first instance, be responsible for providing support for these underachieving pupils. (This could be through providing extra work, referring the pupils to the aforementioned Maths forum, etc)

3. If the child is still underachieving, the Numeracy co-ordinator will be involved in providing support strategies to the teacher. At this stage, extra help may be considered for the pupil.
4. If a pupil is still underachieving, the Numeracy co-ordinator will provide extra help for the pupil.
5. At this point in the review process we have involved the teacher, school-based support staff. Support for the pupil may be continued or adapted after the review process. If, despite the completion of the planned interventions, a pupil continues to underachieve against the Numeracy targets set, the teacher, with the support of the others involved in the review, should consider whether the pupil has a special educational need.

Obviously, when considering Numerical Literacy problems, the department of Mathematics will be centrally placed to diagnose underachievement.