

Ysgol Maesydderwen



Numeracy Policy

Polisi Rhifedd

Type: School Policy

Reviewed / Adopted On	Signed	Next Review
7/7/2021	<i>J. P. Adams</i> <i>P. D. L. Grimes</i>	Spring Term 2022

Defining Numeracy

The National agenda for Numeracy

'Numeracy is an essential life skill and learners need to be able to apply this skill across the curriculum in different subject areas, and in real life contexts. It is also about identifying and applying numerical reasoning skills in order to solve a problem, and carrying out the numerical procedure which enable people to work out and show their solutions'.

Achieving the ambition in Wales

The ambition for numeracy in Wales will be achieved by *'raising overall numeracy levels across Wales'* by *'having robust and consistent standards of numeracy across Wales'* and *'all teachers will be teachers of numeracy'*.

(National Numeracy Programme—Welsh Government May 2012)

Rationale

At Ysgol Maesydderwen, we accept that being numerate is essential for learners to prepare them for adult life. We realise that numeracy is a proficiency that is developed mainly in mathematics but also in other subject areas. Numeracy is more than an ability to do basic arithmetic. The school recognises that poor numeracy skills hold back learners' progress and can lower their self-esteem. Numeracy skills can be consolidated and enhanced when learners have opportunities to apply them across the curriculum. Thus, improving these skills is a whole school matter.

At Ysgol Maesydderwen we recognise that certain subjects, such as Science, use numeracy on a more regular basis than subjects such as English. The subjects with a high demand of numeracy are known as 'numerate heavy' subjects whereas those with less numeracy are known as 'numerate light' subjects. However, the school recognises that all teachers have a responsibility to teach numeracy when it arises naturally within the subject. Therefore, as such, **all teachers are teachers of numeracy**. Therefore, the staff of Ysgol Maesydderwen share responsibility for the teaching of numeracy **throughout** the curriculum and recognise their statutory responsibilities, as outlined in National Literacy and Numeracy Framework.

A numerate student is able to:

- have a sense of the size of a number and where it fits into the number system;
- recall mathematical facts confidently;
- calculate accurately and efficiently, both mentally and with pencil and paper, drawing on a range of calculation strategies;
- use proportional reasoning to simplify and solve problems;
- use calculators and other ICT resources appropriately and effectively to solve mathematical problems, and select from the display the number of figures appropriate to the context of a calculation;
- use simple formulae and substitute numbers in them;
- measure and estimate measurements, choosing suitable units, and reading numbers correctly from a range of meters, dials and scales;
- calculate simple perimeters, areas and volumes, recognizing the degree of accuracy that can be achieved;
- understand and use measures of time and speed, and rates such as £ per hour or miles per litre;

- draw plane figures to given specifications and appreciate the concept of scale in geometrical drawings and maps;
- understand the difference between the mean, median and mode and the purpose for which each is used;
- collect data, discrete and continuous, and draw, interpret and predict, from graphs, diagrams, charts and tables;
- have some understanding of the measurement of probability and risk;
- explain methods and justify reasoning and conclusions, using correct mathematical terms;
- judge the reasonableness of solutions and check them when necessary;
- give results to a degree of accuracy to the context.

Policy Aims

- to adopt a whole-school approach to numeracy throughout the curriculum in keeping with the principles and practices established in the National Literacy and Numeracy Framework;
- to enable all learners to reach their potential in the key numeracy skills of numeracy;
- to support the development of numeracy skills throughout the curriculum and those who are under performing;
- to raise staff awareness of key numeracy strategies through working party discussions, INSET and the dissemination of good classroom practice;
- to encourage staff to take responsibility for the development of numeracy in their subject areas through the inclusion of appropriate lesson planning;
- to identify specific roles and responsibilities within the school with regard to the development of numeracy work;
- to establish procedures for monitoring numeracy across the curriculum.

Leadership of the Policy

Numeracy is a key drive of School Improvement and hence the Deputy Learning Leader in the Science Department has the responsibility of Numeracy throughout the curriculum co-ordinator (NTC). The roles and responsibilities of the NTC are:

- work with the Senior Leadership Team, to determine a strategy for dealing with numeracy throughout the curriculum and to ensure the effective development and implementation of a whole-school numeracy policy;
- identifying, through research/observations in the school, locally and nationally, current thinking, development and good practice, (to include Estyn guidance) and communicating these to all relevant parties;
- liaising with partner primary schools regarding teaching/learning strategies, assessment processes and the standards achieved by learners in order to ensure a smooth transition and continuity and progression between Key Stages 2 and 3;
- work closely with and support the Director of Learning (Raising Standards) with the implementation of Numeracy Intervention programmes;
- coordinating, monitoring and evaluating specific projects and programmes aimed at developing learners' numeracy skills;
- reviewing, developing and updating, on an annual basis, the school's 'Numeracy Policy and Guidelines' and advising/supporting colleagues accordingly;
- providing training/support for colleagues on an individual, departmental and whole school basis;
- auditing and evaluating the cross-curricular status of numeracy in the school in terms of learners' standards of achievement, teaching and learning strategies and assessment processes and communicating the outcomes of this to all relevant parties;
- advising on the priorities/targets relating to cross-curricular numeracy to be included in the school's annual development plan and coordinating/managing their implementation.

Implementation

The implementation of the Numeracy Policy is based around 3 main areas:

1. Numeracy within the Mathematics curriculum

The school is aware of the importance of the mathematics in taking the lead in providing a solid foundation for learner's numeracy skills. Hence the department employs a number of different strategies in raising the numeracy skill levels of learners. The department recognises the importance that learners realise that skills developed in the mathematics classroom are transferable to other subject areas and to the real-world.

2. Numeracy Intervention Programmes

The school uses a range of data received to identify year 7 learners who require additional support to improve their Numeracy. These learners are withdrawn from their tutor period twice a week and work in small groups with a LSA. The learners are tested at regular intervals throughout the year and once it is determined they have reached a level where support is no longer needed then they are removed from the programme. This programme continues throughout KS3 for those learners who require it. The number of learners on the programme decreases as in year 8 and further decreases in year 9. This programme is taught by staff that have been timetabled to undertake the lessons but is evaluated and reviewed by the Director of Learning (Raising Standards).

The Director of Learning (Raising Standards) identifies and provides any staff training requirements for the acceleration programmes.

3. Numeracy throughout the curriculum

At present, Numeracy throughout the curriculum is underdeveloped within Wales. Thus, the NTC has a vital role in leading the school in implementing a policy that secures good provision that leads to good outcomes. In order to ensure this, the NTC will need to take on the following tasks on a regular basis:

- meet with representatives of departments to discuss Numeracy within that subject area in order to provide support and guidance as appropriate
- identify good practice and shares with colleagues
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- identification and implementation of additional numeracy projects;
- takes an active role in Powys numeracy development programmes;
- development of resources that support numeracy within the classroom.

Supporting Staff Development in Numeracy

In order to develop consistency in use of the Numeracy policy it is essential that staff are provided with a variety of support and training opportunities. The opportunities that are in use within the school are:

- staff INSET days – numeracy will be included when it is deemed appropriate
- support for departments by the mathematics department;
- identification of good practice in Numeracy from lesson observations which can then be shared with colleagues;
- encourage models of good practice e.g. modelling and close collaboration between colleagues in order to promote numeracy developments;
- staff are provided with numeracy specific differentiated learning outcomes that reinforce the delivery of Numeracy.

Roles and Responsibilities

In addition to the roles and responsibilities of the NTC the following also applies:

SLT

- accept overall responsibility for the delivery of the school's Numeracy Policy;
- provide opportunities for staff training in Numeracy during INSET days and other identified opportunities;
- provide finance for materials;
- monitor departments' implementation of the Numeracy Policy.

Learning Leaders or nominated Departmental Numeracy representative

- ensure that 'subject specific numeracy' is clearly identified in schemes of work, and that there is obvious progression through the key stages;
- ensure consistency in approach within the department in supporting the implementation of the whole school numeracy policy;
- seek to find opportunities to liaise with the NTC and the Mathematics Department to provide continuity;
- monitor the work of the department with regard to the inclusion of specific numeracy strategies in lesson planning;
- use available assessment data to identify learners that need support.

Pastoral Leaders

- track cohort numeracy results and reading test results;
- analyse cohort test data;
- work closely with the Assistant Headteacher in the deployment of cohort interventions.

Mathematics Teachers

- be aware of the techniques used in other subjects and provide assistance and advice to other departments, so that a correct and consistent approach is used in all subjects;
- provide information to other subject teachers on numeracy targets set;
- seek opportunities to use topics from other subjects in Mathematics lessons;
- be aware of the strategies used in the numeracy intervention programmes in order to support learners in their Mathematics lessons.

Teachers across the curriculum

- understand the importance of numeracy skills in relation to raising standards of work within their own subject;
- be aware of the numeracy targets of pupils and difficulties pupils may face with numeracy skills;
- ensure knowledge of the LNF and the progression of learners through it;
- should ensure that they are familiar with the specific numeracy demands of their subject and ensure sufficient coverage of these skills in their lesson planning;
- assess learners on their numeracy skills in the element identified for their subject.
 - identify opportunities to apply numeracy skills within subjects and across the curriculum;
 - provide examples of work completed covering LNF elements;
 - monitor and evaluate the impact of the approaches used.

ALNCO

- the ALNCO should continually liaise with the Director of Learning (Raising Standards), the NTC about ALN learners and their numeracy levels.

Parents

- encourage their children to use the range of strategies they have learnt to improve their numeracy skills

Learners

- take increasing responsibility for recognising their own numeracy needs and making improvements

Monitoring and Evaluation

We will make use of available data to assess the standards of learners' numeracy. Senior Leaders and the NTC will decide how to monitor progress in the school.

Possible approaches are:

- sampling work learners work to determine standards and use Marking and Feedback policy
- lesson observations
- line manager meetings
- learner interviews
- encouraging departments to share good practice by exhibiting or exemplifying learners' work
- talking to learners about teaching techniques which help them with their numeracy skills, and reporting their comments to staff;
- reporting on numeracy features noted in SLT lesson reviews.

Review and Evaluation

Responsibility for the planning, delivery and review of the Numeracy Policy initially rests with the NTC in conjunction with the Director of Learning (Raising Standards).

This policy will be reviewed

- as part of the school's self-evaluation cycle in the summer term of each academic year;
- prior to this date should there be any changes to statutory requirements.