



West Dunbartonshire Council **Educational Services**

NUMERACY STRATEGY 3-18

April 2013

CONTENTS

1. Rationale
2. Background
3. Aims
4. Purpose
5. Vision and Leadership
6. Culture and Ethos
7. Learning and Teaching
8. Monitoring Progress and Achievement and Self Evaluation
9. Partnership and Parents
10. Appendix 1 – Reflective Questions
Appendix 2 – Numeracy Action Plan
Appendix 3 – WDC Key Strategic Educational Priorities

1. RATIONALE

Being numerate is a core skill for life for learning and for work. It means having the competence and confidence to use numbers in everyday situations; it is used in buying food, keeping time, in the world of work and playing games.

Building the Curriculum states:

“To face the challenges of the 21st century, each young person needs to have confidence in using mathematical skills, and Scotland needs both specialist mathematicians and a highly numerate population”.

In educational terms however, it could be argued that numeracy is the foundation for effective Mathematics teaching. This Numeracy Strategy therefore has to take account of this and delivers the best education for every child.

We have to ensure that the Numeracy strategy takes as its core the development of three key strands:

- Developing the curriculum and learning and teaching to meet the full range of interests, talents and abilities – Curriculum for Excellence.
- Acting more effectively to remove barriers to learning vital for vulnerable groups and individuals –eg take account of the following agenda:
- Getting it Right for Every Child (GIRFEC), Additional Support for Learning (ASL) and More Choices More Chances (MCMC).
- Ensuring consistency of learning and teaching within and across providers – the national Quality Improvement Framework.

Pupils enter schools as active thinkers and it is vital that we build on this prior knowledge to move forward. All establishments must meet this challenge and those outlined in the curriculum for excellence.

This includes:

- Improving attainment and achievement and post school outcomes for all children and young people.
- Invigorating learning and teaching.
- Using more relevant contexts to engage and enthuse learners including interdisciplinary learning to allow their application in new contexts.
- Ensure that all establishments value numeracy/mathematical skills and understanding as a major key to being a successful learner.

The purpose of this document therefore is to highlight the essential elements which are required in all establishments to support the development of numeracy.

2. BACKGROUND

West Dunbartonshire Council is committed to realising the potential of our young people, increasing and maintaining attainment and achievement of all learners and developing the curriculum in line with the principles of Curriculum for Excellence.

This Numeracy Strategy 3-18 is designed to give/offer advice and guidance to establishments on numeracy as they continue to evaluate and develop their curriculum. It is based on existing good practice. School/establishments should review their own practice in light of the advice given in this document. It is intended to stimulate dialogue, debate and the sharing of good practice about Numeracy to enable staff to make substantial progress in improving learning and teaching.

If we are to achieve the Scottish Government's target of sustainable economic growth vital to long term prosperity we need to challenge, motivate and engage our young people to increase their levels of understanding and achievement in Numeracy.

The strategy should also take account of local and national advice. West Dunbartonshire Council should lead and action the advice published through the Scottish Survey of Literacy and Numeracy 2012 and the results of the Standardised Assessment, carried out last session.

We should recognise the substantial progress which staff have already made by sharing practice and by also involving our young people, parents and communities in the process.

The challenge will be to sustain this very good progress which ultimately will raise achievement and attainment for all.

3. KEY AIMS

A numerate person has:

"The confidence and competence in using number which will allow individuals to solve problems, analyse information and make informed discussions based on calculations."

"Numeracy Across Learning – Principles and Practice Paper".

The aim of the strategy is to provide establishments with specific guidance on numeracy as they continue to evaluate and develop their curriculum in line with the principles of the Curriculum for Excellence. All establishments within West Dunbartonshire Council aim to ensure the very best standards of achievement and attainment for all its children and young people.

The key aims of the authority's numeracy strategy thereafter are to:

- Ensure all practitioners understand what numeracy means in the 21st century and its fundamental importance in equipping young people for learning, life and work.
- Raise levels of achievement and attainment in numeracy among all learners.

- Implement the ICT strategy for learning with technologies including the use of GLOW.
- Provide an effective framework for the delivery of high quality learning and teaching in numeracy in all West Dunbartonshire Council establishments by increasing staff skills and confidence.
- Ensure a seamless, coherent and relevant numeracy curriculum for all from 3-18.
- Promote progression to ensure continuity at all stages of transition.
- Ensure that all practitioners understand their role and responsibility for numeracy across learning.
- Ensure that all learners are provided with maximum opportunity to acquire, understand and apply numerical skills effectively and with confidence.
- Promote effective approaches to assessment and moderation.
- Ensure that the strategy meets the requirements of both the National and West Dunbartonshire Education priorities.

4. PURPOSE

The purpose of this document is to ensure our young people have access to a curriculum which outlines six clear entitlements.

Curriculum for Excellence outlines these six entitlements for learners:

- Every child and young person is entitled to a curriculum which is coherent from 3-18.
- Every young person is entitled to a broad general education.
- Every child is entitled to experience a senior phase where he or she can continue to develop the four capacities and obtain a qualification.
- Every child and young person is entitled to develop skills for learning, skills for life and skills for work, with a continuous focus on literacy and numeracy and health and wellbeing.
- Every child and young person is entitled to personal support to enable them to gain as much as possible from the opportunities which Curriculum for Excellence can provide.
- Every young person is entitled to support in moving to a positive and sustained destination.

In addition, all schools/establishments should see this strategy as a central component to meeting the requirements of West Dunbartonshire's five key strategic priorities and also the National Priorities. Consequently the need for a strategy which encompasses all our children and young people from 3-18 will be made clear.

HMIE's Journey to Excellence highlights broad areas of excellence.

- Vision and leadership
- Learning and teaching
- Culture and ethos
- People and Partnership

These and with the addition of Monitoring Progress and Achievement and Self Evaluation have been used to provide an overarching structure for this strategy. In so doing, we hope to ensure that schools and centres take positive action in these areas to enable learners to develop capacities, attitudes and capabilities and skills in numeracy for learning, life and work.

5. VISION AND LEADERSHIP

Vision and Leadership focuses on developing a common vision and fostering high quality leadership at all levels.

Schools in West Dunbartonshire should consider the following elements within their practice.

- Establish a policy for Numeracy which aligns with the school's vision and values, is contributed to and understood by all staff and clearly details expectations in achievement, learning and the curriculum.
- Ensure a clear understanding of the importance of Numeracy by all staff, and that they all have a responsibility for ensuring pupils acquire numeracy skills for life learning and work.
- Ensure that all staff have a clear understanding of where numeracy is being developed within the school's curriculum and in which contexts.
- Appropriate systems should be in place to track pupils' progress and achievement in Numeracy.
- Establishments should consider auditing their current position in Numeracy as part of their ongoing processes of Self Evaluation.
- Establishments should consider formulating a plan of action on how this strategy can be implemented.
- Ensure that a clear system is in place to monitor and evaluate the success of numeracy in their establishment.

The term "teacher" applies to all educators in West Dunbartonshire establishments

6. CULTURE AND ETHOS

Schools in West Dunbartonshire should strive to include the following elements within their practice:

- Raise the bar in numeracy; set appropriately high standards for all.
- Promote a positive attitude to numeracy amongst all children and young people, staff and parents/carers.
- Make numeracy learning fun.
- Create a climate where numeracy has a high profile throughout the school e.g. displays, interdisciplinary learning.
- Give pupils responsibility for their numeracy learning e.g. pupils make decisions about moving onto more challenging examples.
- Encourage risk taking for pupils and teachers to inspire innovation- errors are learning opportunities.

7. LEARNING AND TEACHING

Schools in West Dunbartonshire should consider the following elements within their practice

- Promote the importance of numeracy to pupils.
- Mental agility practice should be a common feature of every numeracy lesson.
- Consistent implementation of West Dunbartonshire Learning and Teaching policy should be apparent in numeracy lessons across the establishment in line with National and Local initiatives.
- Adequate time should be given to the teaching and learning of core skills in numeracy.
- Ensure the tasks and activities over time provide appropriate breadth of learning challenge, application and reflect the principles of curriculum design where appropriate.
- Ensure that technology is a key tool for learning and teaching in numeracy
- Pupils should have opportunities to learn in relevant, rewarding and motivating real life contexts.
- Formative assessment (AiFL) strategies should be at the heart of learning and teaching.
- Staff should take account of and build on prior learning.
- Over time learners have a balance of numeracy activities which include opportunities for cooperative, collaborative and independent learning.
- Those skilled in using a range of effective teaching techniques, and with a greater depth of subject knowledge foster young mathematicians who have a disposition to recognise embedded mathematical ideas and apply them.
- Homework activities should be used in a formative way to check for understanding to determine how much practice is needed and to judge the learners' ability to apply their learning.
- Published resources eg Textbooks should support Learning and Teaching not dictate it. Staff should utilise all support materials including ICT in a discriminating manner to ensure levels of motivation do not drop.

8. MONITORING PROGRESS AND ACHIEVEMENT AND SELF EVALUATION

Schools in West Dunbartonshire should consider the following elements within their practice.

- Learners should be encouraged to reflect and take ownership of their learning through formative assessment strategies.
- Teachers should ensure that assessment practice is integral to the learning and teaching process and focuses on understanding not just procedural skills. It needs to be used to identify the nature and causes of barriers to learning .It should enable the teacher and the learner to plan next steps and to monitor the progress of learning and teaching.
- Teachers should encourage learners to reflect and take ownership of their learning through opportunities for self and peer assessment.
- Teachers should seek opportunities to provide quality dialogue to learners and support them in identifying and planning next steps.
- Assessment information should be used to improve pupil learning, engagement and attainment.
- Teachers need to be reflective and ask themselves questions which may include:
What is the purpose of this task? What do I hope to find out about my learners by engaging them in this task? How will I use the information gained? etc.
- Schools should create a consistent approach to moderation and sharing the standards both within and across the authority.
- Summative assessments can provide useful data which indicate how well children are progressing. This data, together with other forms of evidence should be used for future planning both at school or class level and individually.
- Successful transitions depend on the sharing of information. This should be from the pre-five into primary, at crucial stages through the primary, from primary into secondary during Broad General Education and into the Senior Phase. It is crucial that establishments share this information consistently and timeously.

9. PARTNERSHIP AND PARENTS

Schools in West Dunbartonshire should consider the following elements within their practice.

Children and Young People

- Encourage and develop pupil reflection about their learning in numeracy and take account of their views when planning future developments.
- Learning opportunities should enable pupils to make connections across curricular areas and indeed to the wider world.
- Ensure children and young people are involved in setting realistic targets.

Staff

- Provide opportunities for staff to engage in high quality continuing professional development and reflection which focuses on improving their own confidence and competence in teaching numeracy.
- Develop this approach to other groups of staff within the school/establishment, the cluster group in which they share and reflect on practice, including methodology and the language of numeracy.
- Schools and establishments should give clear consideration to each person's role in leading numeracy and their role in developing numeracy across the curriculum.

Parents

- Schools should keep parents informed and involved of numeracy developments.
- Schools should encourage parents to contribute and take an active role in promoting numeracy at home from the earliest possible age. This can take the form of simple numerical games to more complex support.
- Schools should consider how best to report each pupils progress in numeracy to parents.

Wider Community

- Schools should make use of outdoor learning opportunities to enhance numeracy skills.
- Schools should be proactive in looking for opportunities within the local community members and businesses e.g. invite bank or credit union staff to school.
- Schools should promote real life contexts for learning by involving different community members , groups and businesses.

Reflective questions for staff

- How effectively does our curriculum deliver our shared vision and values?
- What evidence is there to demonstrate that learners are treated equally and fairly, and are valued?
- What steps have been taken to create a positive learning environment both inside and outside of the building? How do you know?
- Do teachers use a variety of methodologies?
- Does the classroom environment and physical layout support this flexibility?
- How do you ensure that learners have a shared responsibility in developing the ethos with the class/establishment
- Do the resources in your establishment dictate learning and teaching rather than support it?
- Do teaching approaches encourage individuals to take responsibility for organising their learning with others, work collaboratively with groups and teams?
- To what extent do learners understand how learning takes place?
- Does the data and information from assessment processes demonstrate learners' security and confidence across a range of mathematical concepts and skills?
- How do you ensure that the learning experiences are relevant to those pupils with significant learning difficulties or language and communication difficulties?
- How can we use direct observation of mathematics and numeracy to open up learning and so improve outcomes for our learners?
- Do our assessment policies and practices ensure that those who require additional support with their mathematics are identified at an early stage?
- Do our assessment policies and practices ensure that those who require support with their learning or those who are mathematically gifted are considered?
- Does the data and information from assessment procedures demonstrate learners' security and confidence across a range of mathematical concepts and skills?
- How are the results from summative assessments, including preliminary examinations used?
- How do they compare with learners performance in other curricular areas?
- Where children and young people self assess, is this closely monitored by staff and followed up by individual, group or whole class feedback and action?
- At points of transition do we use assessment information to ensure continuity of learning?
- How do we build on the views of young people, staff, parents and partners to improve learning in mathematics? How confidently can we show the impact of using people's views on improving outcomes?
- To what extent do the views of all stakeholders match the views of staff in terms of the quality of learning and teaching in mathematics?
- How well do we gather and use the views of stakeholders using a variety of approaches, for example focus groups, questionnaires on line surveys?
- How often do we seek the views of our stakeholders and for what purposes? For example, to explore the challenge and enjoyment within homework tasks?

**WEST DUNBARTONSHIRE COUNCIL
DEPARTMENT OF EDUCATIONAL SERVICES**

NUMERACY					
Actions	Lead Staff	Timescale	Resources	Expected Impact/Outcome	Monitoring/Evaluation
1. Develop Draft Numeracy Strategy to meet the demands of the Curriculum for Excellence	QIO representative Working Group from all sectors	2012-2013	Time	Authority Numeracy Strategy	Working Group
2. Numeracy Showcase to share good practice	HMle – QIO Numeracy/Maths Range of establishments	October 2012	Suitable venue ICT support Key staff (highlighted by QIO staff)	Annual event to showcase good authority practice	Feedback from participants
3. In-service / instruct maths champions, early years and PT of mathematics in secondary schools on the expectations of the strategy with a view to sharing this strategy with all staff.	QIO Numeracy/Maths Working Group members	June 2013	Time	Staff in all sectors Understand and implement strategy	Focus Group Feedback
4. To ensure numeracy is a core component of all establishment improvement plans.	Quality Improvement Service	2013/14	Improvement plans from each establishment	Numeracy as a priority for establishments	Evidence of numeracy in plans
5. Develop a Numeracy Glow Website to share good practice	QIO ICT QIO Numeracy/Maths All establishments	Ongoing	ICT technical support	People to share resources/ideas through ICT/Glow	Success of site/materials

NUMERACY					
Actions	Lead Staff	Timescale	Resources	Expected Impact/Outcome	Monitoring/Evaluation
6. Baseline assessment in numeracy materials developed for introduction in session 2013-2014	Selected maths champion staff and early years representatives	November 2013	Staff release to produce materials	Baseline assessment to provide a benchmark to support and challenge	Establishment results and evaluation.
7. Develop a numeracy audit (including financial education) to identify development needs	QIO Numeracy/Maths Working Group	2013/2014	Time Develop an audit tool Maths Champions	Overview of current position in establishment and development of necessary CPD requirements.	Results of audit

Additional Points for Action

- Curriculum Network Support – Production of planning materials for the introduction of National 4 + 5 for Curriculum for Excellence.
- Introduction of Education Scotland materials to develop capability in numeracy.

West Dunbartonshire Educational Service – 5 Key Strategic Priorities 2012-2015

1. Raise attainment and achievement.
2. Implementation of Curriculum for Excellence, Getting It Right For Every Child (GIRFEC) and Early Years Framework.
3. Improve Self Evaluation process and system
4. Implement ICT Strategy for Learning with Technologies (An Entitlement).
5. Further regeneration of the educational/schools estate.