



Groby Community College

Achieving Excellence Together

Numeracy Policy

2014-15

Last reviewed: February 2014

Next review: Spring 2015

Signed: Tracey Kinsley

(Chair of Teaching, Learning & Achievement Committee)

Vision statement

The vision and values of Groby Community College are based around the simple concept that for all of our students to have the best possible future then we need to be consistently outstanding in everything that we do. This includes raising the standards of numeracy for all students. Students should develop their numeracy skills in all areas of the curriculum they have access to. These skills are necessary to cope with the demands of further education and future employment requirements. Groby Community College regards numeracy as fundamental in empowering students to reach their maximum potential.

Aims

In adopting a whole school numeracy policy, Groby Community College is committed to developing the numeracy skills of our students, in the belief that it will support their learning, enabling them to access the whole curriculum and, in turn, raise standards for all. It is important to recognise **that all teachers are teachers of numeracy**. It is the key for academic success and the long-term sustainable improvement in attainment in mathematics.

Objectives

- To adopt a whole-school approach to numeracy across the curriculum in order to raise standards of attainment for all students
 - To recognise the importance of numeracy in all subjects across the curriculum.
 - To identify similarities and differences in mathematical teaching in different curriculum areas and develop a common approach
 - To encourage staff to take responsibility for the development of numeracy in each subject area
 - To raise staff and student awareness of key numeracy strategies through whole school inset time
 - To encourage students to transfer mathematical skills and apply them in everyday and unknown contexts
 - To ensure each faculty is linked to an expert in the mathematics faculty who can share best practice and support
 - To have a coordinated approach to literacy and numeracy through collaboration between the Numeracy Co-ordinator and Literacy Co-ordinator.
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A definition of numeracy

Numeracy is a life skill. It is a proficiency that is developed not just in Mathematics but also across the whole curriculum. Numeracy involves students having the confidence and competence to use numbers and measures. It requires an understanding of the number system, recalling mathematical techniques and an ability to solve problems in a variety of contexts. A practical understanding of graphs, charts, tables and diagrams is an important part of numeracy.

We believe that every child can become a numerate adult – with skillful teaching in school and encouragement at home.

(Mathematics made to measure, Ofsted 2012)

Although our focus is on numeracy, we see mathematical thinking as a particularly important part of numeracy and these words may be used interchangeably.

References to numeracy within the Ofsted framework

When evaluating the achievement of pupils, inspectors consider:

- the standards attained by pupils by the time they leave the school, including their standards in reading, writing and mathematics
- how well pupils develop a range of skills, including reading, writing, communication and mathematical skills, and how well they apply these across the curriculum

When evaluating the quality of teaching in the school, inspectors consider:

- how well teaching enables pupils to develop skills in reading, writing, communication and mathematics

(The framework for school inspection April 2012, No. 090019)

College Improvement Plan

Appendix 1 includes a copy of the College Improvement plan. Highlighted are the sections which feature literacy and numeracy and illustrate that the development of these play an integral part towards ‘the journey to outstanding.’

A numerate student should be 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 negative numbers in context
 - Use proportional reasoning to simplify and solve problems
 - Use calculators and other ICT resources appropriately and effectively to solve mathematics 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, recognising the degree of accuracy that can be achieved
 - Understand and use measures of time and speed, and compound measures such as cost per hour or miles per litre
 - 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 and give results to a degree of accuracy appropriate to the context.
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Appendices

Below is a list of the appendices which follow:

Appendix 1: College Improvement Plan

Appendix 2: The role of the college

Appendix 3: The role of the Senior Management Team (SLT)

Appendix 4: The role of the Numeracy Co-ordinator

Appendix 5: The Flexible Learning Team

Appendix 6: The Mathematics Faculty

Appendix 7: The role of Mathematics teachers

Appendix 8: The role of faculties

Appendix 9: The role of teachers

Appendix 10: The role of form tutors

Appendix 11: Dyscalculia

Monitoring and review

The numeracy policy will be monitored through:

- Curriculum Leaders via termly monitoring and quality assurance processes which include: lesson observations, work scrutiny, learning walks, monitoring record keeping and planning
- Regular curriculum Teaching and Learning and Progress and Intervention meetings
- SLT monitoring of quality assurance processes through: leadership link meetings, termly work scrutiny, learning walks, lesson observations
- SLT monitoring of CPD provision and quality
- SLT reporting to governors through the Teaching and Learning Committee
- Governor link visits
- External review processes led by OfSTED and/or HMI
- Examination results.

The policy will be reviewed on an annual basis by:

- The Numeracy Co-ordinator
 - The Principal and The Senior Leadership Team
 - MLT
 - Governors (Teaching, Learning & Achievement Committee).
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Appendix 1

Outstanding 2015	<p>Outstanding 2015</p> <p>Leadership and Management Non-negotiable/100% pledge: To become an outstanding 11-18 campus working in partnership</p>	<p>Outward facing and working in partnership to achieve excellence for all 11-19</p>	<p>Outstanding 2015</p>	
	<p>Students in all groups (vulnerable) and across subject areas have the highest levels of achievement.</p> <ul style="list-style-type: none"> Narrowing the gap for vulnerable students Pupil Premium students are specifically targeted to raise their achievement at 5A*-C with E/M/S Key underachieving subjects are targeted for improvement. Eliminate variation between subjects. Focus on Maths—multiple entry / intervention <p>The curriculum provides positive, challenging and enriching experiences which meets individual needs, impacts on behaviour and contributes to their achievements (includes SMSC)</p> <ul style="list-style-type: none"> Broader range of L3 courses Meet DfE accountability measures from 2014 for KS4 Develop SMSC across the college Multi-cultural enrichment day <p>The college develops highly successful strategies for engaging with parents especially those who are hard to reach.</p> <ul style="list-style-type: none"> Linking with vulnerable families e.g. PA students Attendance Support links Virtual school for PA students <p>The college works effectively with a range of partners to develop outstanding 11-19 progression</p> <ul style="list-style-type: none"> BOSGRO quality assurance to focus on progress with Ofsted targets Develop future teachers through Schools Direct Develop Primary links—recruit for the future 	<p>Governors are highly ambitious for the college and robustly hold the college to account for its performance of staff and students.</p> <ul style="list-style-type: none"> Development of One Campus Governing Body Highly trained Governors who are well informed and can ask challenging questions Close links are formed across the college <p>To maintain an effective budget which enables suitable staffing and the developing of outstanding facilities.</p> <ul style="list-style-type: none"> Market driven culture - focus on recruitment at P16 Develop Post 16 facilities Develop ICT in PE / ADT / Science Bids to DfE <p>All leaders and staff are highly ambitious for the performance of students and their own professional development.</p> <ul style="list-style-type: none"> Eliminate R1 teaching Increase proportion of 'outstanding' teaching Learning College/Action Research programmes driving T&L 	<p>Improve attendance to above average for KS4 and continue to improve punctuality for all students including KS5</p> <ul style="list-style-type: none"> ASO networks across the city to share good practice ASO works with vulnerable families / feeder schools Attendance support evenings Virtual school for PA students Clear KS5 strategy reduces Post 16 punctuality problems Improve KS5 tutoring: KS5 in every day <p>Further embed uniform and formality</p> <ul style="list-style-type: none"> KS4 - Full uniform / more prescriptive / enforced Staff are proactive in following up on uniform infringements PE kit—enforced 	<p>Behaviour and Safety Non-negotiable/100% pledge All students regardless of context attend, behave and achieve well throughout the college</p> <p>To further develop the assembly and effective tutoring programme</p> <ul style="list-style-type: none"> Better targeted tutoring through key stage approach KS4 assembly programme to reflect SMSC agenda Formal KS5 tutoring programme delivered by specialists More clearly defined expectations for KS5 tutoring—clearly defined Post 16 take on a leading role in the Houses as House Captains / leading House Councils <p>To ensure greater collaboration across the college to maintain high standards of behaviour for all groups of students</p> <ul style="list-style-type: none"> Behaviour management training programme Fortnightly meetings between broad wellbeing team—focus on students Improve on-call system—e.g. follow up procedures <p>To develop strategies with vulnerable students and their families</p> <ul style="list-style-type: none"> Share student information across the college Target Pupil Premium students More regular proactive contact with vulnerable families e.g. informal parent evening, follow up after Parent Evening
High challenge, high expectations and high support for all	<p>Much of the teaching in all key stages and subjects is outstanding and never less than good. As a result all students make rapid and sustained progress</p> <ul style="list-style-type: none"> Structured INSET and CPD Targeted support for R1 teachers Ensuring ALL teaching is at least good Drive Team across each faculty sharing and developing practice Development of Quality Mark Focus Days 	<p>Assessment is embedded so that teachers systematically effectively check students' understanding</p> <ul style="list-style-type: none"> Consistent assessment criteria across the college QA calendar Grobby Key Faculty P&I Developing AFL through CPD <p>The Learning College CPD and Action Research ensures the focused development for all staff especially NQTs and early years teachers. CPD challenges and supports improvement and is linked to PM</p> <ul style="list-style-type: none"> Action Research cycle Targeted programmes for G20, NQT, 2YT, 3YT Networking with other schools 	<p>Development of higher level numeracy and literacy skills for students—The teaching of RWCM is highly effective and cohesively planned and implemented across the curriculum</p> <ul style="list-style-type: none"> Literacy and numeracy in schemes of learning CPD for all staff including the use of INSET / Friday AM Use of Maths to be high profile across the college and built into courses High profile literacy rules support development QA to check literacy marking Supporting parents with literacy and numeracy Working closely with Brookvale on the development of literacy Work closely with parents 	<p>Increased teacher accountability</p> <ul style="list-style-type: none"> Exam analysis using SIGRA Use ALPS / SIGRA effectively to monitor progress and lead timely interventions Line Managers and Curriculum Leaders are more challenging where performance is below target.
	Outstanding 2015	<p>Quality of Teaching: Non-negotiable/100% pledge 100% of teaching is good or outstanding.</p>	<p>Teachers plan and deliver lessons that match the individual needs of students accurately and as a result students learn exceptionally well</p> <ul style="list-style-type: none"> Focusing on challenging the most able through INSET and Post 16 Curriculum Leaders CPD focuses on challenging the most able Tracked through observations 	<p>Achievement: Non negotiable/100% pledge The achievement of all subjects at pre and post 16 does not vary across the college or groups of students</p>
Outstanding 2015	<p>An outstanding, creative learning environment which engages and motivates all members</p>			Outstanding 2015

References to numeracy

An outstanding school at the heart of the community

Appendix 2: The role of the college

Groby Community College will:

- Identify students who have low levels of numeracy
 - Provide intervention strategies to support students with numeracy across the curriculum
 - Provide opportunities for CPD on numeracy issues to support the whole school numeracy aims
 - Monitor faculty implementation of the numeracy policy
 - Ensure that the Numeracy Co-ordinator works with Curriculum Leaders and the Senior Leadership Team to promote and develop numeracy skills across the school.
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Appendix 3: The role of the Senior Management Team (SLT)

The SLT should participate in the implementation and evaluation of the whole school numeracy policy. They should monitor the policy through:

- SLT and MLT meetings
 - The college and faculty improvement plans
 - Lesson observations
 - Learning walks
 - Work scrutiny
 - Student voice
 - Ensuring that the college lesson plan includes an explicit reference to numeracy
 - Analysing faculty assessment data related to numeracy
 - Discussions with staff, parents and governors
 - Working with the Numeracy Co-ordinator
 - Ensuring that staff are actively involved in developing students' numeracy skills
 - Providing CPD/inset resources for staff as required
 - Providing opportunities for effective communication between the numeracy co-ordinator, the SLT, the mathematics faculty and other faculties
 - Providing finance for resources
 - Providing and organising numeracy intervention for students
 - Ensuring that the Flexible Learning Team plays a key role in raising the standards of numeracy for key students.
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Appendix 4: The role of the Numeracy Co-ordinator

The role of the Numeracy Co-ordinator includes:

- Working with SLT to determine a strategy to ensure the effective development and implementation of the whole school numeracy policy

- Monitor with SLT the implementation of the whole school numeracy policy
 - Evaluate various strategies to raise numeracy levels
 - Develop whole school numeracy activities
 - Develop numeracy activities as part of the tutor programme
 - Organise Number Day and World Maths Day activities and contribute to other key events and focus days as appropriate
 - Work with the LRC to acquire numeracy based texts
 - Organise competitions that celebrate and develop numeracy skills
 - Lead staff CPD/Friday am sessions addressing key numeracy skills
 - Work with outside agencies to develop students' numeracy skills.
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Appendix 5: The Flexible Learning Team

The Flexible Learning Team should:

- Liaise with faculties about individual student progress in numeracy as required
 - Communicate with relevant staff regarding students who have difficulties in numeracy and monitor these students via review meetings
 - Be familiar with mathematics requirements at KS4
 - Support intervention to develop numeracy.
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Appendix 6: The Mathematics Faculty

The Mathematics Faculty should:

- Encourage the development of numeracy skills through KS4 and KS5
 - Support students through numeracy activities
 - Use available data on students to make informed choices about appropriate activities and to plan appropriate support for students
 - Work with the Numeracy Co-ordinator when delivering whole staff CPD/insets
 - Be willing to support other faculties should they require support with their numeracy.
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Appendix 7: The role of Mathematics teachers

Mathematics teachers should:

- Be aware of the mathematical techniques used in other subjects and provide assistance and advice to other faculties, so that a correct and consistent approach is used in all subjects
- Liaise with the Flexible Learning Team if they notice that students are particularly weak with numeracy

- Provide information to other subject teachers on correct mathematical language, notation, conventions and techniques
 - Liaise with other teachers to ensure that students have appropriate numeracy skills by the time they are needed for work in their subject areas
 - Seek opportunities to use topics from other subjects in mathematics lessons to ensure cross curricular reflection
 - Seek to provide extra curricular opportunities to develop numeracy including whole school numeracy activities.
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Appendix 8: The role of faculties

Faculties should:

- Correctly explain key words and vocabulary related to numeracy
 - Have calculators and numeracy aids appropriate to their subject area
 - Ensure lessons address keywords and key concepts that develop the numeracy requirements of the content
 - Develop and use strategies to support students' numeracy skills
 - Ensure that schemes of work address key aspects of numeracy and these are regularly updated.
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Appendix 9: The role of teachers

Teachers should:

- Recognise the indicators of dyscalculia (appendix 2) and alert the appropriate staff of their concerns
- Use differentiation strategies to support all students to progress with numeracy within their subjects
- Have regard for the school's numeracy policy in their planning of lessons
- Use models of good practice in the planning of lessons to enable students to succeed with the numeracy demands in their subject
- Continue to develop and use a variety of activities that promote interactive learning using numeracy skills
- Ensure that their lessons address any numeracy requirements as required in the course
- Ensure they are familiar with correct mathematical language, notation, conventions and techniques relating to their own subject and encourage students to use these correctly
- Ensure the transference of numeracy skills across the curriculum
- Be aware of appropriate expectations of students and difficulties that might be experienced with numeracy skills
- Provide information for mathematics teachers on the stage at which specific numeracy skills will be required by particular groups

- Provide resources (if applicable) for mathematics teachers to enable them to use examples of applications of numeracy relating to other subjects in mathematics lessons.
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Appendix 10: The role of form tutors

Form tutors should:

- Encourage their tutees to participate in whole school and tutor time numeracy activities.
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Appendix 11: Dyscalculia

Dyscalculia is a condition that affects the ability to acquire arithmetical skills. Dyscalculic learners may have difficulty understanding simple number concepts, lack an intuitive grasp of numbers, and have problems learning number facts and procedures. Even if they produce a correct answer or use a correct method they may do so mechanically and without confidence

(DfES 2001)

Indicators of dyscalculia:

- An inability to subitise (see without counting) even very small quantities
- An inability to estimate whether a numerical answer is reasonable
- Weaknesses in both short-term and long-term memory
- An inability to count backwards reliably
- A weakness in visual and spatial orientation
- Directional (left/right) confusion
- Slow processing speeds when engaged in maths activities
- Trouble with sequencing
- A tendency not to notice patterns
- A problem with all aspects of money
- A marked delay in learning to read a clock to tell the time
- An inability to manage time in their daily lives

(Bird 2009)

Students who are weak at numeracy and dyslexic also display some or all of these symptoms.

Students who are weak at numeracy, dyscalculic, dyslexic, find accessing all numerical content difficult. Nothing is obvious. Nothing is easy. Nothing is simple.