Policy No: 17. Numeracy Policy

Coordinator	Executive Operations Manager
Review Frequency	Annually
Policy First Issued	2014
Last Reviewed	Autumn Term 2017
Date policy considered by External HR Consultant	N/A
Date policy considered by External Solicitor	N/A
Agreed by Governors and adopted on	17th November 2017
Does this policy need to be agreed by Governors? If yes, which committee	Yes, Board of Governors
Due for Review	Autumn Term 2018
This policy is communicated by the following means:	
Governors	Governor consultation by email when policy reviewed and agreement
Staff	Policy folders on staff shared drive and in-house training
Parents	Academy website, Parent Evenings
Students	Academy website, assemblies, in lessons

Numeracy Policy

UTC@harbourside Numeracy Policy

Rationale

Numerical skills are used daily in order to make sense of the world around us and to make valid decisions and judgements.

The development of a functional numeracy skillset is an essential life skill as well as of central importance in any STEM career or application. Developing the numerical and problem solving skills of students is therefore an absolutely essential part of the UTC@harbourside curriculum.

Aims

- Raise the profile of numeracy within the college
- Raise standards of numeracy
- Embed numeracy across and deeply within the curriculum
- Make numeracy teaching an overt part of every curriculum area
- Promote the importance of numeracy beyond college study and application

Purposes of the whole-school numeracy policy:

Raising Standards:

To develop, maintain and improve standards in numeracy across the school.

Consistency of Practice:

To ensure consistency of practice including methods, vocabulary and notation.

Areas of Collaboration:

To indicate areas for collaboration between subjects, create strong links with other colleges and UTCs in order to use these links in order to improve consistency.

Transfer of Skills:

To assist the transfer of students' knowledge, skills and understanding between subjects, through a focused approach to numeracy.

Numeracy is a proficiency that involves confidence and competence with numbers and measure. These skills can be consolidated and enhanced when students have the opportunities to apply and develop them across the curriculum. Each subject area should identify the contribution it makes towards numeracy and mathematical skills so that students can become confident at tackling numeracy and mathematics in any context.

It is important to recognise all teachers are teachers of numeracy. It is the key for academic success and the long-term sustainable improvement in student attainment.

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A current definition of numeracy:

Being numerate means having the confidence and skill to use numbers and mathematical approaches in all aspects of life - at work, in practical everyday activities at home and beyond, as consumers, in managing our finances, as parents helping our children learn, as patients making sense of health information, as citizens understanding the world about us.

Being numerate means being able to reason with numbers and other mathematical concepts and to apply these in a range of contexts and to solve a variety of problems. Being numerate is as much about thinking and reasoning logically as about 'doing sums'.

It means being able to:

- Interpret data, charts and diagrams
- Process information
- Solve problems
- Check answers
- Understand and explain solutions
- Make decisions based on logical thinking and reasoning

Practice at UTC@harbourside

Raising Standards

At UTC@harbourside we are committed to developing the numeracy skills of our learners. Raising standards in numeracy across our college cannot solely be judged in increased test percentages. There is a need to evaluate our students' ability to transfer numeracy and mathematical skills into other subject areas, applying techniques to problem solving. Their confidence in attempting this is initially as important as achieving the correct solution. There are key roles within college that will ensure that this policy is effective and becomes a well-established part of our college practice.

Role of the Leadership to:

- Monitor the effectiveness of the cross curricular strategy in raising standards of achievement
- Provide INSET opportunities and resources for teachers and support staff as appropriate.

Role of the Numeracy Co-ordinator with assistance from the Mathematics department to:

- Work with the Leadership Team to determine a strategy for dealing with numeracy across the curriculum and to ensure the effective development of the whole college numeracy policy.
- Monitor the implementation of the whole college numeracy policy through schemes of work and student voice.
- Evaluate the effectiveness of the strategy and modify it as necessary.
- Lead staff INSET on common practices and methods to be adopted across the whole college and provide exemplar materials for use in classroom
- Work with departments and individual staff, set up Numeracy working groups with representatives from each department. Meeting on a half-termly basis to discuss resources and improve consistency across subjects.
- Encourage teachers of Mathematics to provide assistance and advice to other departments so that a consistent approach is used across the whole college.
- Raise the profile of numeracy across the whole college and on the website
- Seek opportunities for topics from other subjects to be used in mathematics lessons

- Publicise mathematical methods to be used consistently across the college

Consistency of Practice

Teachers of Mathematics should:

- Be aware of the mathematical 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 appropriate expectations of students and difficulties likely to be experienced in various age and ability groups.
- Through liaison with other teachers, attempt to ensure that students have appropriate numeracy skills by the time they are needed for work in other subject areas.
- Seek opportunities to use topics and examination questions from other subjects in mathematics lessons.

Teachers of subjects other than Mathematics should:

- Ensure that they are familiar with correct numerical language, notation, conventions and techniques, relating to their own subject, and encourage students to use and assess these correctly.
- 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 for particular groups.
- Provide resources for mathematics teachers to enable them to use examples of applications of numeracy relating to other subjects in mathematics lessons.

Our Areas of Collaboration

It must be recognised that not all learners in a particular group will have the same numerical skills and when unsure of the capabilities of particular students, advice from the Maths department should be sought.

Subject teachers need to discourage students from writing answers only and encourage them to show numerical working within the body of their work. In addition estimations and predictions should be encouraged before final answers are calculated.

It needs to be recognised that there is never only one correct method and learners should be encouraged to develop their own strategies where appropriate. In order for students to remember and apply techniques, they should be helped to understand the method they are being asked to use rather than learning by rote.

<u>Whole college Policy on the use of calculators</u>

When calculators are used in lessons it is important that:

- Students' first resort should be mental methods

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- Students have sufficient understanding of the calculation to decide the most appropriate method: mental, pencil and paper or calculator;
- Students have the technical skills required to use the basic facilities of a calculator constructively and efficiently, the order in which to use keys, how to enter numbers as money, measures, fractions, etc.
- Students understand the four arithmetical operations and recognise which to use to solve a particular problem.
- When using a calculator, students are aware of the processes required and are able to say whether their answer is reasonable.
- Students can interpret the calculator display in context (e.g. 5.3 is £5.30 in money calculations).
- We help students, where necessary, to use the correct order of operations– especially in multi-step calculations, such as (3.2 - 1.65) x (15.6 - 5.77).