ICT, Numeracy and Maths

1. Introduction

Literacy has always been the first priority for dyslexic learners but some of the learning difficulties can affect numeracy and maths as well.
Maths involves memory, sequencing, direction, vocabulary and problem solving strategies as well as calculations.
The National Numeracy Strategy should provide a more encouraging approach than the rigid methods of calculation often imposed in the past. Learners are encouraged to consider different approaches to problems and to describe their own methods, thus encouraging more use of mathematical language in discussing methods.
Learning basic number facts such as tables can be a particular problem for dyslexic learners yet access to higher levels of maths often depends on this. A computer can be helpful in providing practice, giving immediate feedback without criticism.
Problem solving skills are essential in applying basic facts to everyday situations. There are some good and enjoyable programs to enhance these skills.

2. Numeracy Software for dyslexic learners

There are many programs to suit learners of all ages. This is just a selection of some which have been found particularly useful for dyslexic learners and others who may need some extra support in maths. For general numeracy practice:
Numbershark (Age 5 - 16 years).
Numbershark is by the makers of Wordshark and has the same type of colourful, fun graphics in structured learning tasks and a similar range of enjoyable reward games.
It covers number recognition and sorting and the four main rules

of number, i.e. addition, subtraction, multiplication and division.
It gives users the chance to build up confidence, and the opportunity to practise those aspects of number that worry them, in an enjoyable way.
Study of the manual by the supervising adult is essential as there are so many options.
Email: sales@numbershark.co.uk
Web: www.numbershark.co.uk
tel: 020 8748 5927

Key Stage Maths Invaders (All ages).
The old favourite Space Invaders game has been adapted to provide an excellent way of practising basic number skills including tables facts. The levels vary from simple single digit addition to a variety of more complex number topics.
Email: info@nfsoftware.co.uk
Web: www.nhsoftware.co.uk
Tel: 0800 0568171

BBC Maths Workshop Series (Age 7 - 14 years).
The three CDs in this series cover Number, Calculations and Shape and Space.
They are aimed at pupils in Key Stage 2 but can prove useful for older pupils who struggle with the subject. There is a wide range of activities on each CD with simple clear graphics and spoken instructions.
Web: www.Logo.com
Tel: 01223 425558

Flying Carpet (Age 7 - 11 years) and Chefren's Pyramid (Age 11 - 14 years).
These two programs require the user to practice a number of basic skills from the curriculum for the two key stages. The problems are set in the context of an adventure with an Egyptian theme and provide motivation to continue to complete the adventure. Help with reading some of the instructions may be needed but discussion and adult support will make their use more effective anyway.
Web: www.nicholl.co.uk
Tel: 0800 174734

Intellimathics (Age 5 - 16 years)
The best way to introduce new concepts in maths is by handling concrete materials such as cuisenaire rods, number blocks etc. For those without access to such materials Intellitools offers a variety of tools which can be manipulated on screen. The various screens cover number, fractions, decimals, probability and shapes and will allow the user to investigate new ideas and observe the effects visually, which can really help understanding.
web: www.inclusive.co.uk

MathMania (Age 7 - 14 years).
Navigate through a maze finding a key and reaching the exit with the required score. Score points by collecting gold bars or by answering questions to get through barriers. Once each maze is completed, a puzzle appears and then another maze.
There are four levels of difficulty for the questions, which can be set on number, time, measurement, shape and space or a mixture of all these in a lucky dip. It is possible for teachers to edit the question bank.
Pupils enjoy this program as it is simple to use and fits well into a short lesson. The questions vary from simple sums like 5 + 8 to different equivalents in words.
The latter is most useful as this is an area which causes great problems in maths. MathMania is simple and effective and good value.
Email: sales@topologika.com
Web: www.topolgika.co.uk
Tel: 01326 37771

Problem solving.
The greatest benefit of these titles comes from verbalising the strategies to be used. They can thus be considered as programs to enhance thinking skills.
Maths Circus Acts 1, 2 and 3 (Age 5 - 14 years).
Twelve different games can be played and each one has five levels of difficulty. All the puzzles require reasoning skills. There are straightforward instructions. The colourful graphics relate to circus life with seals, lions, high wireacts etc.
The early levels can be solved by trial and error but learners gain the greatest benefit if they verbalise their reasons for following a procedure to solve a puzzle.

For teachers there is also a useful set of 24 activity sheets which can be photocopied.
Email: sales@4Mation.co.uk
Web: www.4Mation.co.uk
Tel: 01271 325 353

Zoombinis Adventures (Age 7 - 14 years).
Zoombinis are delightful little creatures with different feet, eyes, heads and noses. In their adventures they have to be guided through different obstacles which needs careful observation, trial and error and logic reasoning. The programs are very well presented with superb sound and animated effects and are very enjoyable.
Users will gradually gain confidence and learn the importance of working logically as they use these programs.
More ideas about the use of computers to support dyslexic learners can be found in these booklets which are available from the BDA shop.

- Count on your computer – Using ICT to support Maths – Di Hillage
- Catch 'em Young – Using ICT in the early years – Judith Stansfield
- Parents Guide to using a Computer with dyslexic children – Barry Whiting and Carol Kauffman