

Technology for learning

A professional development module

Overview



The purpose of this unit is to reflect on whether technology is being used to genuinely enhance teaching and learning in mathematics or whether technology is being used purely because it's there! Following reflection on current practice you will consider different technologies and their effectiveness as part of the learning experience with a view to deciding future actions for you and your department.

Where are you now?



A good starting place is to consider some leading questions such as:

- Write down when you started using technology in your teaching.
- Write down any technology you have used in your teaching recently.
- What technology exists that you don't use in your teaching?
- What prevents you from doing so?

Share and discuss responses to these questions.

Activity 1



Individual Activity

Take **Card Set A**

First split the cards into two columns, choosing and stating your own criteria. Take the bigger column and split this again into two groups. Share and discuss as a group.

Note: The point of this activity is to highlight some of the different resources that are available and to create discussion around the idea that technology is nothing new; it has always existed in one form or another.

For example, consider a ruler: a tool which is now in common use, but was once a technological advance.

Activity 2



Paired Activity (can be done as a 'three')

One possibility is that hardware and software form two of the criteria in the Individual Activity

Resource Sheet 1 lists these alphabetically. In pairs decide on a star rating for each resource using the following rating:

5* being invaluable to learning in the 21st Century mathematics classroom

1* representing very restricted use.

Reflection



Consider the following questions:

1. What makes a 5* resource worthy of 5 stars in this context?
*A Data Projector might be worthy of this rating, as long as the mantra “at the board, on the desk, in the head” is always observed.
Dynamic Software might also be worthy of this rating for its flexibility and potential for visualising concepts.*
2. Do we have the capacity to develop the use of any identified technology resources in our own classroom?
Staff expertise or departmental finance situations may influence thoughts.
3. Reflecting on questions 1 and 2, what will you aim to develop in your teaching, how are you going to achieve this, and what (if any) support will you require?
You might choose to develop your use of Autograph to enhance learning, search for relevant web-based resources and research and attend appropriate professional development courses?

Implementing and continuing to learn



Complete **Resource Sheet 2**.

Choose at least one each of the links in the following section to investigate, and be prepared to share findings at the next department meeting.

Further Reading



<http://nlvm.usu.edu/en/nav/vlibrary.html>

Virtual manipulatives from the U.S.

www.subtangent.com/maths/investigations.php

Interactive investigations

www.waldomaths.com/index1116.jsp

Lots of ‘applets’

www.fi.uu.nl/wisweb/en/welcome.html

More ‘applets’

www.emaths.co.uk/tutorials.htm

Video tutorials (get that GCSE Grade C)

www.kangaroomaths.com/samples/index.htm

Bring on the Maths activities

www.tsm-resources.com/mlink.html

Links to lots of maths resources

Card Set A

Calculator (inc. Graphical)	Presentation software (e.g. PowerPoint)
Abacus	Data Projector
Slide Rule	Dynamic Software (e.g. Autograph, GSP)
Graphics Tablet	Electronic Voting System
Web Resources	Protractor (plastic or virtual)
Compasses	Data Logger
Ruler	Activity Template Software (e.g. Tarsia)
Spreadsheets (e.g. Excel)	Napier's Bones
Electronic Whiteboard	

Resource Sheet 1

Hardware	Software
Calculator	Activity Template Software
Data Logger	Dynamic Software (e.g. Autograph, GSP)
Data Projector	Presentation Software (e.g. PowerPoint)
Electronic Voting System	Spreadsheets (e.g. Excel)
Electronic Whiteboard	Web Resources
Graphics Tablet	

Resource Sheet 2

Tomorrow	Next Week	Next Year