

LAHC MATHEMATICS CONFERENCE

SOME KEY ISSUES

Secondary

How can we use ICT effectively?

As teachers:

- Think carefully about the task and the learning environment
- Make the objectives clear and prepare carefully
- Introduce variety

As learners:

- ICT can support visual learners and the learning of strongly visual concepts (eg graphs, geometry)
- ICT can offer reinforcement and opportunities to explore mathematical situations

How do we avoid de-skilling students?

- Follow up ICT tasks with a formalisation of the underlying mathematical processes
- Make sure that ICT is not the only tool – also use mental activities, practical activities, discussion and cross-curricular links

How can ICT help with differentiation?

- Allows students to work at their own pace
- Offers “repeatability”
- Offers a greater range of learning experiences
- Individual ICT work can help students with concentration and motivation

Can ICT give us more time for developing mathematical thinking?

- Graph plotting programs, dynamic geometry programs and statistical packages all take out a lot of the routine work and allow students to focus on higher order thinking skills, such as analysis, interpretation, evaluation and decision making

Primary

How can we use ICT effectively?

- Data Handling
- Word problems
- Visualisation
- Cross-curricular

What for?

- Introduction
- Reinforcement
- Plenary
- Investigation
- Fun and motivation

Challenges and dangers of using ICT

- Careful dosification (tool, not a remedy)
- Proper and sufficient training
- Teacher may not be aware of students' progress without careful monitoring and recording system

Problem solving

What sort of problems?

- Problems that generate challenge, conflict and instability, which lead to investigation, hypotheses and the search for answers by different routes

For what purpose?

- To give maths a real life context in which it can be applied

Approaches

(R)ead the problem

(U)nderline the important parts

(D)ecide on the operation(s)

(E)stimate the answer

(D)o the calculation

(U)nits – do you need any?

(C)heck your answer

(R)ead

(U)nderstand

(C)alculate

(S)olve

(A)nswer

(C)heck

FINAL SUMMARY

	PRIMARY	SECONDARY
WHAT WAS SUCCESSFUL?	<ul style="list-style-type: none"> ● practical maths ● enciclomedia ● problem solving workshop ● sharing ideas and resources 	<ul style="list-style-type: none"> ● interaction and sharing between participants ● practical solutions ● workshops ● ideas to take away
WHAT WOULD YOU HAVE LIKED MORE OF?	<ul style="list-style-type: none"> ● time for discussion and reflection on how to adapt and implement ideas in specific school contexts ● ideas for helping second language learners ● guest speakers ● ideas for practical differentiation in the classroom 	<ul style="list-style-type: none"> ● application to specific topics ● differentiation and ICT ● dynamic geometry, autograph, excel ● evaluating the impact of ICT ● getting ICT into the classroom
WHAT WOULD YOU LIKE TO HAVE SEEN THAT YOU DIDN'T SEE?	<ul style="list-style-type: none"> ● opportunity to attend workshops in both English and Spanish ● workshops for infants/Key Stage 1 	<ul style="list-style-type: none"> ● interactive whiteboards ● graphical calculators ● options for Linux ● primary-secondary interaction ● cross curricular links ● exchange of software and resources ● non-ICT techniques

KEY RECOMMENDATIONS

	PRIMARY	SECONDARY
FOR TEACHERS	<ul style="list-style-type: none"> ● use a variety of resources to avoid stagnation of ideas ● constant ongoing professional development ● feedback useful ideas to schools ● maintain contact to exchange ideas (on-line LAHC forum?) 	<ul style="list-style-type: none"> ● don't be scared to share ideas and opinions ● share experiences (positive and negative) ● set short term goals ● be creative with what you have ● start to use ICT – don't be afraid and take risks ● stop feeling guilty ● continuous professional development
FOR SCHOOLS	<ul style="list-style-type: none"> ● invest in high quality resources and train teachers in their use ● more training in the use of ICT ● more time for pupils to investigate ● increased links between kinder, primary and secondary ● visits to other schools 	<ul style="list-style-type: none"> ● provide training for use of new technology ● move forwards – invest in technology and training ● create spaces (and time) for teachers to share and experiment ● create banks of resources and ideas for everyone ● make links with state schools in the area ● invest in software as well as hardware
FOR LAHC	<ul style="list-style-type: none"> ● more publicity ● more conferences (with more guest speakers and better hotels) ● co-ordinate on-line resources ● support in facilitating importation of educational resources 	<ul style="list-style-type: none"> ● invite more teachers from non LAHC schools ● create a network (on the LAHC webpage?) where new experiences can be shared ● organise another conference in the medium term to follow up on this one ● set objectives before the conference ● organise a conference on teaching techniques not necessarily linked to ICT