

The Naace 3rd Millennium Learning Toolbox

**3 – Impact section – The value added to teaching and learning by ICT**

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Introduction.

One of the big problems in deciding how best to use technology in teaching and learning is the hugely diverse ways in which ICT can be used. This can lead teachers and schools to use ICT in ways that have very minor impact instead of focusing on uses that could have very big impact, in the context of their school.

This tool is a 20-25 minute exercise that is best done with a whole senior leadership team in a school, or a larger group that might even be all the teachers in the school. The main benefit of the exercise comes from the discussion in the group, to identify the priorities for ICT use that will best support teaching and learning in the school.

In an individual school this exercise could be followed by actual determination of priorities for investment in ICT.

The exercise also works well with groups from different schools. In fact discussion in these groups is probably better as there is likely to be more argument about which are the highest priorities, because of the different nature and community of participants’ schools.

The next page is the handout that needs to be printed and cut into separate statements for each participant.

**Extend learning time**

**Increase communication and collaboration**

**Increase access to resources & tools**

**Increase motivation to learn**

**Enable access for minorities**

**Enable games-based learning**

**Re-balance teaching and learning**

**Increase scalability and replicability**

**Use more information channels**

**Enable publishing and audience**

**Automate management and recording**

Use of the tool

Prepare for the exercise by printing out the handout page for each participant. Cut the pages to create individual slips of paper for each value-add statement and either clip these into sets or put sets into separate envelopes for each participant.

To run the session:

i) Explain the difficulty mentioned above, of there being so many ways to use ICT in teaching and learning that it is necessary to have clear and agreed priorities in a school, so that decisions on investment in ICT will focus on the areas of ICT impact that will be greatest in the school.

ii) Tell the group that there are in fact 11 different ways that ICT can add value to teaching and learning. This analysis was done from responses from a large group of people very expert in the use of ICT in schools, including national experts from many countries of Europe, people in companies working with schools in Europe and worldwide, and a very experienced group of Naace members. The fact that though the analysis attempted to identify the minimum number of ways that ICT could impact, and found that it was impossible to reduce the mechanisms of impact to less than 11, in itself shows up this problem of the hugely diverse ways ICT can impact.

iii) Ask the group to work in pairs (with one group of three if necessary). They will need to clear some space on the desk because you are about to give them the 11 statements of value-add mechanisms for them to arrange.

iv) Show on the screen the 11 value-add statements. Explain that some need no explanation, but they need to think of the less obvious statements in the following ways:

 - “Enable access for minorities” can be any kind of minority, gifted, remedial, language minorities, or maybe a pupil who is temporarily in a minority because they are having difficulty grasping an idea the rest of the class has grasped.

 - “Enable games-based learning” refers to any kind of interaction stimulated by a computer that utilises the features of games to drive learning; pace, challenge, excitement, instant feedback, visual and aural stimulation and so on. And it includes group games not just individual games.

 - “Re-balancing teaching and learning” may be more learning for the same teaching input, but it could also involve more learning with different teaching input that overall is slightly less teaching time.

 - “Increase scalability and replicability” refers to ensuring all pupils get comparable experiences. For instance, can a supply teacher provide lessons comparable to the usual teacher? Can the pupil experience with weaker members of staff be made comparable to the experience pupils get from the best teachers?

 - “Use of more information channels” is referring to the impact of multimedia; text, voice, visual, graphical and maybe even touch combining to increase the ways pupils are receiving information to help them learn.

 - “Automate management and recording” includes the use to which recorded data is put to aid learning as well as management uses; so think also about how reporting systems can inform pupils and parents about progress and teachers about the whole child.

v) Then give each pair a set of statements (you made one for each participant as each may want a set to keep after the exercise) and ask them to lay the statements out on the desk and then to arrange them into a priority order. Ask them to see if they can agree a priority order of which areas of value-add from ICT are more important and which less important for their school.

vi) This discussion in pairs is likely to take around 10 minutes. A useful prompt to give half way through is to remind them that you did not say that they had to priority order them 1st to 11th, you asked for ‘arrangement into a priority order’ that could have equal priorities or central priorities and fringe priorities. When pairs are settling on an agreed arrangement, tell them that you will shortly be asking them to tell the rest of the group what their top three priorities are and why, to give them something to work on until the rest have finished arranging the slips.

vii) Then bring the group back into plenary and ask each pair to talk through their top three priorities and explain why they have made them key priorities. To draw the discussion to a close stress that different schools will have very different priorities in how they will get maximum impact from technology. For example a rural school where children have to travel long distances may invest primarily in enabling communication and collaboration to continue online after the school day, whereas an inner-city school in a poor area can easily arrange for pupils to meet and talk before and after school, but pupils are likely to be living in very resource-poor homes, making the key priority increasing access to resources and tools.

viii) To close the session ask all the participants to use their phones to take a picture of their arrangement so that they have a record of it. This little example of “automating management and recording” is a nice practical example for teachers who have not yet grasped the importance of pupils having their own computer devices and can stimulate some interesting discussions!

Credits

The analysis of the mechanisms of value-add from ICT was done by the European Education Partnership in 2001. The analysis is available online http://www.eep-edu.org/InnService/Start/what\_addval\_start.htm

Background and further information

The European Education Partnership was an industry-education think-tank committed to promoting the use of technology to advance education for all pupils. The organisation stopped operating in 2008 and the website given above is an archive. The analysis of value-add was done by challenging a large group of people (approaching 100, approx half from the UK, half from the rest of Europe) with great experience of the use of ICT in education, to state 6 ways in which ICT can add value to teaching and learning. These all had to be stated in human terms, without any reference to ICT.

These initial statements were then split into categories and further rounds of comments were sought to generate greater insight into the initial statements made. The intention was to produce the shortest possible list of different mechanisms for value-add but it proved impossible to reduce the number of ways to less than 11. The area covered in this exercise by ‘Games based learning’ was originally expressed as ‘Brain-centred learning’ as it included not only games but various examples drawn from special needs software where very high degrees of interaction were being stimulated with consequent considerable learning, in ways that were (and still are) not properly understood.

Note that all these mechanisms for adding value in teaching and learning are potentially measurable.

Comments from Naace members in the Toolbox Preview Group on this tool and its use

Comments from Naace members on this tool and its use are welcomed and will be appended here to help others gain maximum impact from use of the tool.

Examples arrangements will also be appended to show how different the arrangements produced can be.