

Raising Digital Aspirations: Challenges and Solutions

Terry Freedman

One of the main strengths of the education technology community is the variety of areas it encompasses, and the wide experience of many of its practitioners. With this in mind, the opening debate of the 2018 MirandaNet/ITTE conference centred on the challenges and possible solutions faced in education today. This was a fitting start to the conference, the theme of which was Raising Digital Aspirations.

The panel, chaired by Dr Chris Shelton of the University of Chichester, comprised:

- Lawrence Williams – MirandaNet
- Mirka Cernochova – MirandaNet
- Jon Audain – University of Winchester
- Professor Christina Preston – Mirandanet Founder & Chair of ITTE
- Professor Sarah Younie – Journal Editor, Technology, Pedagogy & Education
- Terry Freedman – Freelance Writer & Consultant in Education Technology
- John Galloway – Advisory Teacher
- Douglas Butler – Innovative software developer

Most of the panellists contributed to a recent book called *Enhancing learning and teaching with technology: what the research says* (Rosemary Luckin, Ed). The table below summarises what they said.

Panellist	Challenge	Solution
Professor Preston	After an introductory tour of the history of innovation in the education technology field, ranging from Developing Tray, adventure games, laptops for teachers to video-based professional development, Professor Preston suggested that teachers have to make difficult decisions 'on the fly', which requires adaptive metacognition.	Investment in formal frameworks, reflective routines and communities of practice, which have been shown to help practitioners develop the necessary skills.
Terry Freedman	Focusing on how educational research is reported in the press, Freedman made the point that it was a process of leaving out detail, which deprives the final report of all nuance and caveats, thereby giving a distorted picture.	The solution is for teachers to read the original report or, if that is not possible, the executive summary. If that isn't available, read the press release sent out by the researchers, as the section entitled 'Notes for editors' will contain details such as sample size and other useful information.
John Galloway	Galloway is a special educational needs specialist. He stated that the challenges he faced were bringing a focus to person-centred technologies, trust, attitudes towards adaptive technologies and a lack of training.	The Universal Design for Learning approach should be implemented, and systems developed that work for pupils, not just for itself.
Douglas Butler	A maths specialist, Butler decried the development of touchscreens, such as on tablets, as making it	Using a product called Autograph, which is being redesigned as an HTML version, and better training

	difficult to represent models that require click and drag and multiple selection. In addition, some tablets' aspect ratio is inconsistent with that of the projectors and TVs in class.	for teachers.
Mirka Černochová and Lawrence Williams	The challenges identified were training teachers to cope with the demands of the Computing programme of study, especially coding, and developing an environment in which coding can be taught across the curriculum and in accordance with the principles of constructivism.	The three solutions are Aligning computational thinking projects with literacy, art and music to encourage creative engagement, developing cross-curricular teaching approaches which include coding in Logo, Scratch, and Python, and developing sequencing activities (“unplugged”) which support coding activities. Examples of an approach using Scratch or Python for literacy were shown (http://www.worldcitizens.net/literacy-from-scratch/literacy-from-scratch/; http://www.worldcitizens.net/literacy-from-python/).
Jon Audain	After a review of the changing face of IT in the National Curriculum, Audain identified over 20 areas in which he faces challenges, such as developing a personal digital community, mobile working, and presenting ideas.	Audain has created a graphical representation of an ecosystem comprising 6 themes, these being Utilise connectivity, Think critically, Communicate clearly, Work collaboratively, Embrace culture, Develop creativity. Within each theme appears a number of suggested solutions. For example, thinking critically might include the use of drama as well as programming activities, while communicating clearly could include blogging.

Conclusion

The challenges and their proposed solutions should not necessarily be seen as independent of each other or mutually exclusive. If we were to identify common themes, we would note that many depend on a community of practice, constructivism and student-centred learning (including the teacher in her role as a learner).

For more details of the panellists' contributions, please consult the slides at <https://mirandanet.ac.uk/opening-debate-enhancing-learning-and-teaching-with-technology-which-innovations-appear-to-work/>.