

**Right Technology at the Right Time for the Right Task**  
**Education Bureau Third Strategy on Information Technology in Education**

**A response from the ICT Adviser of the English Schools Foundation**

This document marks a new direction and describes a new vision for technology and learning. Many of the aims and strategies echo with the work we are doing in the ESF where we are also engaged in a similar process of strategy review. It is my hope that this response is the beginning of a long term dialogue between the Education Bureau and the ESF.

I have responded to each of the Action Points in turn beginning with an overall response to the opening Prologue.

**Prologue**

The sentiments in the prologue take no half measure when assessing the challenges that lie ahead. We are living in exponential times. The cost of memory and storage, processing power and hardware continues to fall to the point where, students in schools today, will have massive processing power in their back pocket before they leave school. At the same time we being reminded of the increasing digital divide between the way students learn in school and beyond school. Never before have expectations been so high that technology will change learning. I welcome the commitment to addressing these changes.

Those responsible for strategic leadership must take responsibility for blending the analogue and digital learning environment; they can no longer live along side each other, as has often been the case in the past. We can no longer rely on individual acts of heroism; innovation has to sustainable and become mainstream if our students learning is to benefit from all that the new technologies can offer.

The strength of the document lies in its grasp of the issues and its call for all schools and educators to work together. There is now a strong moral imperative for all schools to rethink their policies on teaching and learning if w are to prepare our students for life in the 21<sup>st</sup> century. The introduction of digital learning networks and learning tools will have a transformational effect on the leadership and management of schools. It is no longer a case of making things quicker or easier – as was often said in the past. The paradigm shift is seismic and will permanently change the educational landscape.

Hong Kong with its sophisticated digital infrastructure, affordable and ubiquitous connectivity is in an excellent position to begin this journey but the challenge for schools in the SAR is how to recognize, value and celebrate these new ways of learning when the majority of schools were designed and built to support an analogue learning world where schools and learning could be assumed to be the one and the same.

A particular challenge for educators in SE Asia is the potential conflict between deeply held Confucian values and beliefs about the role of the teacher and the nature of learning, and the new learning democracy where it is the students who own ( and instinctively understand) the means of production; where they can construct knowledge for themselves; where they can be the teachers and the experts. It is more than a question of acknowledging the arrival of web 2.0, it will be also be a question of rethinking long held personal professional values and beliefs.

Today there is a growing tension between what tends to happen in traditional classrooms and what tends to happen when students interact with digital technologies – that tension is very powerful, very disruptive and problematic.

The vision outlined in the forward and developed later on the document acknowledges fully what is happening and points us in the right direction but there appears to be a mismatch between the depth of the vision and the steps outlined to implement the vision. Is there a danger that the document underestimates the length of the journey and how much else will need to change? We can no longer afford to separate out the manifesto for IT from all the other reforms taking place in our schools. In particular will enough attention be given to what needs to be jettisoned if we are to arrive safely at our destination and not go round in circles or repeat the mistakes of the past.

### **Action 1**

A backwards by design model as proposed, with sample units illustrating how software and hardware can be used, in very specific contexts. We have adopted a similar strategy and found this to have more penetrating power because the units reveal how students respond and put the emphasis on the teaching and learning outcomes, rather than technology for its own sake. The drawback is that such models can restrict the vision by offering mere digital versions of traditional practice. Downloading exemplar resources is a start ( we use a new UK resource called ICTOPUS) but these units also need to be part of wider professional dialogues about the rationale and purpose.

I feel there is potentially a missed opportunity here to use the digital tools we are introducing to our students, to enable teachers to network together and collaborate. If we are to understand these new technologies then we need to be using them to support our own learning and professional development. One of the best ways of developing teacher understanding of the power of collaboration with web 2.0 is for them to use it themselves to co construct knowledge and understandings. In the ESF we have used the CLC to also support collaboration and knowledge sharing across our schools. Is there an opportunity to use HKEdCity in a similar way?. Similarly is there is an opportunity to merge Action 1 and 2 together and use HKEdCity to act as more than a distribution centre for digital templates but to also serve as digital learning network for teachers where they can build on and share their adaptations of these templates?.

## **Action 2**

As the title of the document so aptly states, the adoption of technology by teachers is all about timing. Too early and we can easily bedazzle our colleagues; too late and we miss that moment of receptiveness forever.

Technology is not value free and there is a growing body of research about teacher adoption and resistance to technology, which suggests that the key drivers are about personally held convictions about how students learning within the context of the subject or phase. We are no longer talking about how to use the tools; we need to engage in dialogue about how these tools are going to reshape the way we locate, process and present information.

We would all agree that we must now go beyond the teaching of skills and address the question of how technology impacts on classroom practice. Our experience suggests there is a need to introduce radically new models of professional development. Centrally held courses and workshop were never sufficient by themselves to support changes in practice; they may be effective at the time but much of the new knowledge and enthusiasm evaporates under the pressure of everyday school life and culture

In the ESF we have adapted the UK Hands On approach, which was widely applauded by teachers, with our Door to Door initiative whereby teaching teams or subjects teams engage in a mini action research projects with a team of outside experts to develop working, practical and sustainable learning activities using digital technology. It is an expensive model but avoids the actual and hidden costs of supply cover and takes the technology to the school rather than the teacher out of the school. Such an approach may have a place in supporting Action 2.

Moving beyond the teaching of basic skills for teachers is to be applauded and is increasingly being rendered an irrelevance with the arrival of so many open source solutions which do not require attendance at expensive training sessions. Most adults, like students, learn how to use these applications from friends rather than trainers. The intention to focus on the pedagogy of using these applications for c – learning is again to be applauded but the proposal to restrict these programmes to Maths and Science and to then only measure their effectiveness by improvements in academic achievements is a puzzle. Are there not other indicators which could be used such as the ISTE Standards or the Enquiring Minds Competencies?. Both of these learning models have well articulated and well defined outcomes for c learning.

## **Action 3**

The model road map for planning and evaluation is to be welcomed and builds on the excellent work that has already been done in this area. The response from ESF staff who have visited local schools is testimony to quality of the work undertaken and the quality of leadership that is driving these changes. In the ESF we have made extensive use of the Becta Matrix for self evaluation. – these tools can be used by all levels of management

and do much to increase professional self awareness about impact of technology on learning and help to shift the emphasis away from purchasing and procurement identifying outcomes. We have also benefited from working with colleagues in Higher Education in HK, Australia and the UK.

The emerging technologies of Web 2.0 will present school and subject leaders with new challenges and I feel these may need to be more closely addressed. Web 2.0 and the proliferation of digital learning networks it creates, means that more and more of students learning will take place outside the conventional boundaries that once defined the where, what and how of learning. How can school leaders assess the quality of this learning under these circumstances?. Classroom observations may no longer be an accurate reflection of the quality of learning in the school. As teacher and students make use of learning networks, how are the outcomes to be monitored and evaluated?.

### **Actions 4 and 5**

Extra resources are always to be welcomed and it is right that these should be subject to declared outcomes. My question is about whether the proposals go far enough, not in terms of levels of investment, but in terms of recognizing that we are now dealing with digital learning environments and digital classrooms, rather than specialist rooms?.

Implied in Action 4 and 5 is the notion that the mainstream classroom will be where students will engage with IT ( the use of Interactive Whiteboards, mobile technologies, video and audio devices). Similar changes have taken place in the ESF with our first strategy, which was to take IT out of the specialist rooms and embed it into classroom practice. With this comes the need to increase the capacity to support classroom uses of IT – the re training and restructuring of IT support staff so they feel more confident about working in the classroom, is just one example. The practice of training para professionals – often educational assistance – to join the IT support team has been particularly effective. Another trend has been for schools to consolidate their IT equipment into Learning Centres where students are able to access a variety of resources on demand rather than when the timetable allows.

### **Action 6**

I welcome the reference to cybersafety. In the UK there are now major programs in place designed to educate and protect young minds from the worst of the cyberworld. Quite rightly the document puts parents into the picture from the beginning but cybersafety is more than a set of new protocols and new rules or new agreements for students to sign up to. Cybersafety is about both cognitive and affective behaviors.

It should also include teachers as more adults also engage with social networks and use blogs to broadcast their views and publish their resources. Responsibility for cybersafety lies with all teachers and we are more likely to protect our students if use the same tools.

While there is a real need to be absolutely explicit about the dangers we must tread a careful line between protection and censorship. Some schools have over reacted to the dangers by censoring the very tools and networks which have become the neural pathways of the digital world. Our students will be safer if they are taught how to use these new tools. Banning the digital networks will only increase the risks.

I would welcome the linking of cybersafety with all the other 21<sup>st</sup> century literacies – Information Literacy, Digital Literacy, Visual Literacy etc. Cybersafety is more than a question of personal safety, tolerance and respect for others. It is also about also being a responsible digital citizen who knows how to publish not plagiarize, how to be discerning of sources, how to be creative by building on rather than reproducing what is already known.

Peter Woodhead  
ICT Adviser  
ESF