Educational Technology, Tablets, Applications, and Standards

Arab Education Summit 2013
Matt Harris, Ed.D.
matt@mattharrisedd.com

Good morning. In this session we are going to discuss a critical element of educational technology.

As you can see behind me, educational technology is a complex and layered topic. We have come to understand that it is far more than just computers in classrooms.

At its foundational level, ed tech encompasses the technology infrastructure we need in our schools and in our countries to ensure fast reliable access to information and content for learning. It covers the devices and connections we offer to students, parents, teachers, and administrators. And it includes the software, data, and resources that come with these devices and infrastructure.

But Ed tech also includes the way we use technology for learning, be it in ICT as a standalone subject, elearning platforms or other digital pedagogy, at times using technology to deepen, broaden, and interconnect academic subject areas, or perhaps the fundamental goal of using technology to expand the potentials of learning.

Further, we have learned that Educational Technology is, at its peak, about outcomes. Student learning outcomes.

We know that access to technology in learning and the usage of technology for learning has the potential for numerous student learning outcomes… from improved academic performance to vocational training to building communication capacity to 21st century skills of collaboration and efficiency to the ability to work, learn, and live in a variety of situations all of which have lasting impacts on students, their communities, and their countries.

However, it is this point, the idea of identifying and articulating outcomes that eludes many of us in the field of Educational Technology. We talk a lot about purchasing equipment, building infrastructure, or supporting teachers, but rarely do we take the time to say what we hope to accomplish through these expenditures and this equipment. That is to say, why do we buy what we buy or why do we put in place what we put in place? We don't answer this question because we believe that there is some shared unspoken understanding of what students will get out using technology in school…but this shared understanding doesn't really exist, does it?

As such, I would argue this is the most important part of designing and evaluating your educational technology programs: You need to identify what you hope your students will

learn through technology in education. And as you can see, I have listed several potential outcomes that I think many of you have talked about or have heard discussed in countries all over the world.

Now, the identification and articulation of your intended outcomes, or the impacts on the students' futures if you like, is an arduous process and one that we won't tackle for you in the next hour, but I highly recommend you engage in these discussions on an institutional or ministerial level.

I would also recommend that you do not do this alone. Work with others in your region, talk to universities or ministries in other countries, come to conferences like this one, hire consultants, have indepth discussions with vendors about services, support, and help in long term planning, and most of all talk to people like these sitting up here.

Which leads me to the purpose of our discussion today.

Over the next hour, this panel will help shape the questions you need to ask when designing your educational technology initiatives. We'll do this by focusing on one element of the ed tech picture: devices, standards, and applications…and hopefully we'll provide you with a few answers and expert advice that will help you along the way.

If we look at the bottom layer of my educational technology pyramid, we'll see access to technology. This is the foundation for all learning in ed tech. It is the tools, the devices, the connections, the software, the data, the network…everything down to the ones and zeros. And it is the foundation because as you can see teaching and learning in ed tech is governed by the systems (the tools) it is built upon. We can't teach students to research on the Internet or develop digital literacy if we don't have access to a device or the Internet. Further outcomes or the impact on students is built upon this usage, culminating our efforts on the students themselves.

Today, we are going to talk about an element of that foundation layer of access.

Let's unpack the access layer a bit to know what we are really talking about.

Technology tools in education can be broken down (simplistically, mind you) into three categories:

- Infrastructure, which I define as systems required to connect devices to content and data. This includes servers, broadband, wireless and other networking equipment, Information systems, databases, etc. These are things that organizations invest in heavily both in time and manpower. The average user relies on infrastructure, but doesn't really know is there.
- Devices, standards, and applications – The physical tools our students, teachers, and educational staff use to access our networks, be productive, consume

information, create content, and communicate. It is their portal to everything else. As such, it is a critical element of your design strategy at it dictates the ways in which all users will interact with content. Beyond the devices themselves, this category includes the ways in which we use hardware and software and what rules govern that usage.
- Data – the information and content stored within our infrastructure. This could be educational content through eLearning platforms, the Internet, Student information systems, digital curriculum, student created content, assessment tools, staff professional development, etc. etc. etc.

Lucky for all of us, this conference has provided the opportunity to explore each of these three areas.

Yesterday, we heard from a panel discussing the challenges of infrastructure development and another panel talking about teacher training and curriculum development that speak to the data section of our access to technology layer.

This panel is going to discuss the critical element that directly influences students' and teachers' usage of technology. We are going to talk about devices, standards, and applications.

First, by standards and applications I want to clarify a bit. When I use those terms, I am referring to the following…and more:

- Ownership and selection of devices
- Maintenance and care
- Product lifespans and replacement cycles
- Technology configurations and requirements
- Expected ways of using the technology
- Rules and regulations for usage of technology
- Support structures needed to ensure sustainability, efficiency, and productivity

And as you have undoubtedly experienced, there is a lot complexity in dealing with these standards and application along with the complexities of selecting a device for your students that meets your requirements and your aspirations.

To focus this discussion a bit, we are going to highlight a specific technology in our device discussion.

You know, interestingly, if we were holding this conversation 15 years ago, we would be probably want to focus on the standards and applications of computer labs with desktop computers tethered to a single location where students would be required to visit the

computer, as opposed to having it with them, and only when the machine was available.

Just 8 years ago, we would be talking about laptops with students and teachers using a portable device for academic work at home and at school. Storing data and accessing content from a single device. Machines that can move with the students, but perhaps not be a part of their everyday lives and certainly not taking full advantage of the cloud.

But today we are going to talk about Tablets. Why tablets?

- Tablets are contemporary.
- They are an evolutionary development that has amazing potential for further infusing technology into our classrooms
- Tablets are mobile along the lines of our mobiles phones in that they can go with students everywhere, even places where a laptop cannot
- They are a combination of mobile phone design and laptop productivity, enabling the potential for consumption of information and creation of knowledge
- They are devices with 24/7 access to networking and the Internet, providing ubiquitous access to tools, content, software applications, and personal data synchronized on the cloud, thereby providing ubiquitous access to learning

But I must remind all of us that tablets are only the most recent technology to talk about.

This brings me back to my first point. As you think about those big picture outcomes, think about how decisions that we will discuss here, can impact your potential in making those outcomes a reality because I think you find these question we talk about are foundational to planning sustainable and impactful programs.