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ICT and Education:
INCREMENTAL PROGRESS OR FUNDAMENTAL CHANGE?

Discussion group: **EPISTEMOLOGY**

IDIT HAREL CAPERTON, MAMAMEDIA, WWW FOUNDATION

I am Idit and I am here with my husband, Gaston Caperton, president of the College Board – probably on a conference call some place – and I am the CEO of MaMaMedia and president of the Worldwide Workshop Foundation. Sarah?

SARAH FITZPATRICK,
NATIONAL COUNCIL FOR CURRICULUM AND ASSESSMENT, IRELAND

Thank you, and I'm Sarah. We started out with a couple of questions. As you know epistemology is that branch of knowledge that – or that branch of philosophy that is really concerned with studying knowledge. And so we asked two questions initially: we asked if knowledge was fixed, or if it was evolving and evolutionary, and then we asked if our society was simple or whether it was complex. And these were two such great questions that we came up with a play for you, and we thought it would be a play in one act and that it might have four scenes. I think we're following from Paul's cheese that we got earlier – that was maybe the appetiser because we are giving you a plate, a balanced diet, a healthy heart and an onion. And we hope that by the time that you've thought having dinner with the plate, the balanced diet, the healthy heart and the onion that you'll maybe have a sense of where we travelled.

To start out, the first scene, there was more than one plate, we started out with two plates and they were tectonic plates and we thought of them colliding. One of them

represented technology and the other one represented society and education, and we thought about how they had collided before, these plates have been here before. They were probably colliding around the time of the printing press and we thought about them maybe bringing great conjunctures, I think Goodman describes them as waves of change that cannot but impact education. So in our first scene we were simply asking about this relationship between technology and also between education and society.

But we also thought about the kind of relationship I think Paul mentioned earlier, because we are engaging as members of society and education with these plates. And they have affordances and we use them, and because this is an ecological kind of relationship, we are kind of developing new tools as we engage with them and as we move forward.

And that led us to the second scene. The second scene is called the balanced diet and I was going to call it the brain, but I didn't want us thinking about that – thinking about the diet and the brain. So the balanced diet here was really about what we offload when we use technology. We talked in our group about the computer as a second brain and then we engaged the same question that other groups have engaged in, wondering what do you offload to your brain and does that empower you or disempower you. And how can you be sure that if you leave your brain at home – if you forget your PDA or your lap-top in your hand or whatever it is – what are you missing? Are you missing something? And we thought it very important that you have a balanced diet.

I think with regard to your diet – maybe this one is relevant here – we also thought that time was really important because you could have the same diet but you could – I suppose you could eat all of the food in different ways over different times. And somebody in our group suggested that with regard to what happens in the classroom, it may not be about taking things out as much as using our time differently. And it might be to some extent reducing that – I think it's the 80-20 statistic we have, as the teacher talking 80 percent of the time and the children about 20. So we thought the balanced diet was also about time.

In the third scene we thought about the healthy heart and in fact we thought about Guinness here as well, so you can add this onto your menu. We were wondering what kind of skills would be important for children in the knowledge society and the information age or the 21st century or whatever we call it, and we did suggest the 3 exs – explore, express, exchange. And we hoped the building in, kind of, habits of heart and mind would be included in this. But in the third scene it was very much about the healthy heart and what you believe, because we thought if teachers could experience technology then they would know the technology. So if to experience is to know, then maybe to know is to value, and maybe to value is to believe – and at that time we all wanted to have a pint of Guinness but there was none in sight so Arthur Guinness believed for us.

And then we moved on to the onion and we began thinking about the onion when we thought about playing with technology and Connor Galvin wanted us to ask, what does it mean to play with technology – and do we really think about what constitutes play? And then Deirdre (Butler) suggested well, maybe this is an onion, this question is about peeling back layers, and maybe if we peel back the layers we are asking the question, what constitutes play? And can we really achieve through play? If we believe in play with technology, maybe we come to a question at the end of that, and the question was – it's the pre-question question, it's the question, Who knows what the ostrich sees in the sand?

And that was Deirdre's question, and we were kind of thinking about moving away from a neat narrative, moving away from just one way to do it, just one way to play with technology or just one way to use ICT in the classroom. But all of this together – thinking of this menu – also led us to think a lot about power and control and so we were trying to think of alternative menus, ones that would kind of displace the old power/control relatives and give some kind of new equation. And we wanted you maybe to have an opportunity to follow the train of thought that we had followed in our conversation, and so we gave you a big question as well – and don't be fooled now, because you might think this is a pithy question; it's not too important – Should we abolish textbooks? We think that if we leave this question with you long enough we'll have a great food journey and – I'm not sure if you want to answer it now.

IDIT HAREL CAPERTON

Let's get a few answers, why not?

SARAH FITZPATRICK

Okay.

QUESTION FROM AUDIENCE

I just have a historical comment, it interests me that in the middle of the 19th century, very shortly after national primary education systems were put in place, there were already in London big educational technology exhibits that were replete with everything of the latest pencils, blackboards, desks and textbooks. And of course Ireland was – you know – oppressed for decades by the national education textbooks that were absolutely prescribed in the classroom – nothing else could be there. So I'm fascinated next January to go to the show that was mentioned in London for educational technologies. But our own group thought that with all due respect, many of the projects that we saw on Monday and Tuesday (in the EU Presidency conference) were simply textbooks translated to ICT. So I would definitely urge a big step backward from textbooks and everything it's linked to, especially assessment.

IDIT HAREL CAPERTON

So are you saying yes?

RESPONSE FROM AUDIENCE

Yes.

SARAH FITZPATRICK

Okay, and a question from Clifford, I think?

QUESTION FROM AUDIENCE

Does it really take you into thinking about epistemology and learning theory when you think about should we use textbooks or not? And we kind of use that image of a little girl intentionally because we want to think about the future – you want to think about the kids that are maybe not even born yet?

CLIFFORD BROWN

I've an even bigger question for you, what is curriculum and why do we need it?

IDIT HAREL CAPERTON

So not textbooks, what is a curriculum?

SARAH FITZPATRICK

I'll answer maybe from my own perspective with the NCCA, National Council for Curriculum and Assessment: we are currently doing a curriculum review and we found that in the responses teachers are giving us to questionnaires and to questions we are asking them in schools, that when we ask them about the curriculum they respond in terms of textbooks. Many of them actually believe the textbooks to be curriculum. They don't maybe think twice about this, and the reason we asked this curriculum – well, textbooks are one manifestation of curriculum but they may not necessarily be compliant with what's proposed in the curriculum. I'm not sure that answers your question?

RESPONSE FROM AUDIENCE

Transform the textbooks, not necessarily abolish, etc. – but you could think about a different concept of that, of textbooks.

SARAH FITZPATRICK

A new kind of textbooks?

RESPONSE FROM AUDIENCE

Yes, a new sense of textbooks.

IDIT HAREL CAPERTON

Yes, when we were thinking about the difference – as Sarah said earlier, do you have the epistemology of fixed knowledge or knowledge that is constructed? You have – are you thinking about an epistemology that is, really – you know – the origin of knowledge? Is – because there is a lot of information, versus the origin of knowledge of anything, whether it is in mathematics or something that you construct. And how does it make you think, therefore, about textbooks – or it transforms textbooks?

RESPONSE FROM AUDIENCE

I think that we will see quite new types of textbooks that will include all the medias. And while the textbooks are constructed like learning objects, if you want to pick out specific parts of it – but I think at least in teachers teaching younger grades, they are quite nervous of completely leaving the textbook. At the secondary, the teachers are much more confident – and what you have seen is a photocopying era now moving out, but some kind of textbooks to help teachers to be secure will be needed. But those who can go free of them and can use them in a better way, okay.

SARAH FITZPATRICK

I think a question maybe here and then over here.

QUESTION FROM AUDIENCE

I think the question in itself is probably a little bit value-laden because it's probably coming from the point of view that it is how they are used that we are actually questioning here. So I think it's raising another question, which is what I would ask: Should we actually transform – somebody said transform – textbooks? Is it teaching we should be transforming, because it's how we teach is the question – fundamental question there.

SARAH FITZPATRICK

I should say we did ask another question, or at least the reason we posed this question was not simply because of how they might be used, but the kind of value system they might promote and the difficulty of a teacher trying to implement one philosophy vis-à-vis one maths textbook on Monday, Tuesday, Wednesdays – a highly directed, tight kind of a basal approach – and then on Thursdays and Fridays subscribe to a very different "religion" in the line of open-ended learning systems. So we were thinking about the values that textbooks are laden with.

QUESTION FROM AUDIENCE

Thinking about the relationship of epistemology to textbooks and technology, I'd maybe pose four questions which maybe extend the two you posed: The first would be the issue of what is the certainty around it, the certitude of knowledge. The second would be around whether knowledge is simple or complex, like you had posed. The third one would be what is the source, what are our sources for knowledge? And the fourth one, then, is what judgements do we make about those sources? And that seems to have stretched the range of questions, epistemological questions we pose in

ways that I'm not sure I could simply answer "yes" or "no" to the textbook or technology question.

IDIT HAREL CAPERTON

When you say "yes" and "no", if you really believe in a particular way of learning or knowing and how you think knowledge is being acquired, can you say "yes" or "no" to a textbook?

RESPONSE FROM AUDIENCE

I'm not sure that I equate the textbook or technology with the particular epistemology in the way you phrased it. It's more about the engagement with the particular medium, I think. I'd maybe hold back from answering the question for the reasons - - -

IDIT HAREL CAPERTON

You don't see - - -

RESPONSE FROM AUDIENCE

No, I don't - - -

IDIT HAREL CAPERTON

You actually say textbook has nothing to do with the epistemology?

RESPONSE FROM AUDIENCE

No, I don't think they have nothing to do with it, but I don't think it's the key question.

IDIT HAREL CAPERTON

Okay.

COMMENT FROM AUDIENCE

(inaudible) ... on textbooks while it provides the key function of this chunk of information to be regurgitated at the examination. You have textbooks because you can predict all the questions in the examination, that's the reason you have textbooks.

IDIT HAREL CAPERTON

Okay, last comment.

COMMENT FROM AUDIENCE

(inaudible)...you know, a number of our Irish publishers have tried to get into the e-learning business and all they are doing are books online, textbooks online. To produce content for schools or for learners is an expensive business, and as long as textbooks are cheap we will have textbooks whether we want them or not.

SARAH FITZPATRICK

Great, thank you, the last food item there was the egg and we hope by engaging in discussion you wouldn't be like Grannies sucking eggs but thank you for that.