FOLLOWING IS A TRANSCRIPT OF EXTRACT FROM:

PROGRAMME	FUTURE TENSE	**STATION**	RTE R1
		DATE & TIME	18/05/04, 8:00
SUBJECT	MEDIA LAB INTERVIEW	**OUR REF.**	B.W. 11/09/04
		DURATION	23 Minutes 24 seconds

PRESENTER

Hello, and welcome to the warm, cavernous surroundings of the old Guinness Brewery, home to Media Lab Europe in Dublin's Liberties. We are here because for the past two days there has been a major international conference on the future of learning in the digital age. What is the potential of digital technology in the classroom? Does it really help the learning experience and what can we learn about it from other European countries? Well, joining me now is Jerome Morrissey, Director of the National Centre for Technology in Education and Dr. Carol Strohecker, head of the everyday learning group here in Media Lab Europe. Jerome, starting with you, what are the aims of this conference?

JEROME MORRISSEY, DIRECTOR, NATIONAL CENTRE FOR TECHNOLOGY IN EDUCATION

Well, I suppose the aim of the conference is really to share expertise, share practice, share observations and push the inclusion of ICT as almost like a silent tool in the classrooms and in the learning environments which may be very different from actual classrooms in the future.

PRESENTER

When we talk about ICT, information and communications technology or digital technologies themselves in the classrooms, what exactly are we talking about? Is it just computers or what is it?

JEROME MORRISSEY

No, not at all, we've gone way beyond that, it's not just about teachers having the practical and the technical skills of computing it's about using information and communications technology, I think the C is very important, we need our young people to use all types of intelligent devices and indeed some of the old devices which have now become digital like radios and like tv and like cameras, etc., etc., but we want to be able to exploit these to mediate aspects of the curriculum and to push and enhance the whole learning experience in the schools.

PRESENTER

Dr. Carol Strohecker, turning to you, will digital technology have deep transformational consequences in the classroom? I mean, is it the case that what we are seeing now will just assist what is already there in the educational system or is it going to be a paradigm shift?

CAROL STROHECKER, MEDIA LAB EUROPE

It could go either way and it's entirely up to us and that's what we hope will be brought out as as very important issue in the conference today and tomorrow and it's also what we will be following up on Wednesday with a select number of delegates who will be going more deeply into some of these questions and the challenge is to be discerning and to look at those projects which are really pushing ideas. I would say that the opportunity has to do with not just using new technologies to do the things that we are already familiar with. We might be able to do them better with new technologies, we might be able to do them worse, I don't know, but leaving that behind, asking questions about what are the kinds of thinking that people need as we move forward in the 21st century, what are the ideas that led researchers 20 years ago to be able to develop these technologies that we are using now? How can children learn these? We know that they can, we've seen it happen in research projects and in educational practice. How can that become more widespread so that those children in their own turn can become the researchers and developers of the future?

JEROME MORRISSEY

I would agree with what Carol has said, absolutely, but I think in the meantime, probably the best persuader to evolve into the revolutionary situation that Carol was talking about is that if we can show and demonstrate that use, creative use of digital technology to deliver the curricular objectives of the present curriculum will be of enormous importance. Seymour Papert said this morning that he thought every single student everywhere should have a lap-top or it's equivalent. Absolutely, we totally agree with that and if they had, it would instantaneously change the entire learning scenario, the entire learning environment both within and without schools. But until such time as we can maybe form partnerships with industry and with the ICT industry in particular to provide this massive amount of ICT equipment, we will still unfortunately be talking about technology and not about the potential in terms of learning gain and in terms of the kinds of assessments that we need to be able to prove that that is happening.

PRESENTER

And finally, Dr. Strohecker as head of the everyday learning group in Media Lab Europe, what you are doing is trying to look at that potential to innovate and find out new ways in the future that this kind of technology can be implemented in the classroom.

CAROL STROHECKER

Indeed we are and I would agree with Jerome that right now the fact that we have to focus so strongly on tech is a bit distracting because what we really want to focus is the learning and on the ideas that people are learning about and I think that we can begin to envision a segue from the existing curricular structures into whatever they will become as the ideas need not be segmented so much along traditional subject lines but through creative uses of new technologies on lap-top but also in the little robotic legos and use of sensor technologies and what have you, we can imagine that things which up until now have been separate need not be. In the same project, someone might be writing, designing, creating, working with

principles of physics, writing a computer programme, these things can go hand in hand very naturally and we've seen children doing it.

PRESENTER

Dr. Carol Strohecker of Media Lab Europe and Jerome Morrissey, thank you very much indeed. So those are the possibilities for learning in the future. We in Ireland have been good at grasping the possibilities that new technology offers and also in investing in education. This has helped us keep ahead of the posse but there are now 10 new countries in the EU and they are in many cases looking to Ireland as a model. Well, one of those countries is Estonia and N. L. Maggi is director of Tiger Leap, an information and communication programme in Estonia. I spoke to her earlier and began by asking what the Tiger Leap programme is.

N.L. MAGGI, DIRECTOR, TIGER LEAP

Tiger Leap programme was started in 1997 and the main aim at that time was to equip the schools with computers, to build the Internet connections to all the schools, to start producing software and of course one of the most important issues was teacher training and from the year 2001we're working on Tiger Leap Plus programme and this is much more concentrated on the competencies of teachers and on teaching and study materials and software rather than equipping the schools for technology because we have I think good position in this sense that all Estonian schools have opened connection to Internet, ratio of students and computers is 1 to 20, ratio of teachers to computers is 1 to 5 and the ratio of directors to computers is 1 to 1 which doesn't necessarily mean that they all use them.

PRESENTER

In terms of the Tiger Leap programme, what kinds of projects are going on within that, can you give us a couple of examples?

N.L. MAGGI

We have lot of school based programmes or projects in which kids take active part like all kinds of simulation games. You go outside and study the nature and then you actually put the information into way of making presentations and that, and projects like that also that are international projects.

PRESENTER

Have you had any kind of monitoring of how much the digital technology in the classrooms has benefited the children themselves?

N.L. MAGGI

We have been monitoring what's going on with ICT in schools concerning the kids and teachers but we are not very sure that we can give very clear picture that something has become much better with the help of the use of ICT. One thing is clear, that we have to change the whole culture of the school in order to really make use of ICT because ICT doesn't fit together with old teaching and studying. It needs more group work, more research, more project based teaching and studying and this is not yet very clear in Estonian schools. We still have the textbook as a bible and the teacher who is standing in front of a class and telling the ultimate story, the ultimate truth to everybody and kids have to study, but it's changing bit by bit.

PRESENTER

Finally, as a new member state, what would you like to see, what would you like from the European Commission? There are going to be people here from the European Education Directorate, what kinds of things would you like from them?

N.L. MAGGI

I think we would like to have a lot of co-operation in the sense of producing content that can be used and also working out new methodologies how to use ICT, more flexible.

PRESENTER

N.L. Maggi there from Estonia. Another of the key speakers at this conference and a world renowned expert on technology and education is Professor Seymour Papert. He addressed the question, "Will going digital improve or transform education?" when Peter Mooney spoke with him earlier.

PETER MOONEY

Professor Seymour Papert, you began your talk with a very provocative statement. You said that within society, school is a laggard in terms of learning, that people learn more and learn better outside of school. Why is school a laggard?

PROFESSOR SEYMOUR PAPERT

School is a laggard essentially for historical reasons. You've got to understand that there's been a long history of people looking at school, all sorts of philosophers, John Dewey, Montessori, John Piaget, from every country – Voltaire. All sorts of people have looked at school and recognised that this is not the best way to learn, it's too authoritarian, it's too concentrated on having the right answers rather than using the knowledge, all sorts of objections to the structure of school. However, all the reforms that they have broached failed. They reason they failed was that school was actually very well structured for the kind of knowledge, technology, that we had until very recently. It really wasn't really possible to have children learn mathematics or science or history for that matter in an active way because there wasn't any opportunity for using mathematics or scientific knowledge to do the creative

things that we might like to do. And so a culture of non-changing got built into the whole structure of school and thinking about education. So I think basically that's the real reason.

PETER MOONEY

You used the analogy of the Soviet Union as a system that became petrified, inflexible, unchallenged and you said school was in many ways like that. The Soviet Union imploded, do you think there is a danger that with digital technology as a kind of catalyst that school as we know it might implode?

PROFESSOR SEYMOUR PAPERT

Well, certainly school as we know it will implode, I don't see any doubt about that, school as we know it is a highly irrational mismatch to the ways of the modern world and I believe that human irrationality can go to a certain extent but eventually plainly unproductive, mismatched ways of doing things eventually get dropped. Whether it will implode in a dramatic and catastrophic way as the Soviet economy did or whether it will find a way to change gradually, that I think is up to us, it could go one way or the other.

PETER MOONEY

Illich in the 60s talked about de-schooling schools. Do you think that digital technology now presents us with that possibility because it allows learners to learn at their own pace, in their own way, that learners are beginning to challenge the owners of knowledge, in this case the teachers, that the established pedagogy we have of the teacher and the learner may be being reversed, is the possibility of deschooling school on now?

PROFESSOR SEYMOUR PAPERT

I could have mentioned Illich as one of the people who criticised the structure of school. Yes, he did, and indeed, many of the ideas that Illich advanced could now be realised far

more easily and effectively than they could in his time. I mean, just take one simple example, he makes a strong point about how if somebody is working on some project or needs to know something, they are probably many people around the world who could give that knowledge and would love to give that knowledge and he actually proposed to set up an exchange system using telephones. You could get in touch with somebody who could help you with what you wanted to learn now, but the technology made it totally unworkable and it never got very far. That could be done now and in fact it is being done in many areas outside of school.

PETER MOONEY

Do you think that at school apart from learning the technical skills of using whatever digital equipment is available, that young people and perhaps the community as a whole need to be learning new skills that are more appropriate to the 21st century than let's say the traditional subjects that we learned at school?

PROFESSOR SEYMOUR PAPERT

I'm very concerned about the fact that the traditional content doesn't fit anymore, nobody wants to learn it or teach it, but we are not making an alternative content, especially in areas like mathematics and science. In mathematics in fact there has been a very interesting movement called – an interesting phenomenon called the math wars, which opposed two approaches. There are people who have been trying to make mathematics more – I suppose Illich would say convivial, more attractive or more learned centred, more in line with modern ways of thinking about relationships. The mathematics community has recently started protesting against this, saying that you are just making the mathematics too easy, you are taking the guts out of it, you are turning it into what they call fuzzy maths, there has been very little consideration of the possibility that the computer allows a new kind of mathematics that will be both more rigourous than the mathematics of the traditionalists and more engaging than what the reformers are proposing. An example is in the sort of work that there is a lot of in Dublin where there are very young children building and programming mechanisms, robotic devices, tools to say follow a line or go to a light. There is some mathematics in that. There could be a lot more mathematics in that and a lot of very

fundamental ideas in mathematics could be taught and learned very early inside this context that they could be used in practical ways.

PETER MOONEY

Professor Seymour Papert, thank you very much indeed.

PRESENTER

Peter Mooney there talking to Professor Seymour Papert. Well, they are some of the possibilities, but what about the reality in schools in Ireland? Well, just down the road from Media Lab Europe is the Digital Hub and they announced last week further funding for their Diageo sponsored Liberties Learning Initiative which provides education and training for the local community in the Liberties school area in Dublin. Well, last Friday, the pupils from the 11 schools taking part had a showcase of their work, robots, music videos and other creative uses of digital technologies.

There is a lovely project here, the Children of Lir, and it's four swans with huge big wings. What school are you from?

STUDENT 1

Scoil Treasa.

PRESENTER

And tell me, what do these swans do?

STUDENT 1

Their wings go up and down.

PRESENTER

And how do you make them go up and down?

STUDENT 1

Putting the gears and all on.

PRESENTER

So they are flying?

STUDENT 1

Yes.

PRESENTER

And did you do this yourself?

STUDENT 1

No, we were working in a group.

PRESENTER

How did you know about a machine to make the wings go up and down, how did you know about the robotic part of it?

STUDENT 1

Because the first day we got the lego, there was books on it and we looked in it and we saw the wings so we just made them.

PRESENTER

What school are you from?

STUDENT 2

Synge Street.

PRESENTER

And what's your name?

STUDENT 2

Dylan Beatty.

PRESENTER

So we are standing in front of this piece of lego which is like a big wheel from wonderland, and when you press this button it goes around, just like that.

STUDENT 2

Yes, you programme the (inaudible) into the computer and you tell it to go for how many seconds or reverse for how many seconds and like, that didn't come out of a box or anything, like, we built that ourselves.

PRESENTER

That's incredible. And how did you learn what to do?

STUDENT 2

Our teacher, Nigel, showed us but you get used to it, on the lap-tops and that, yeah, you get used to it after a while.

PRESENTER

What about this thing that is going on today, what do you think about this?

STUDENT

Ah, this is great, you get all the schools mixing together and that, just showing off each other's projects, so you get to see what other schools are like, it's good.

PRESENTER

Well done.

STUDENT 2

Thank you.

PRESENTER

Hi, what's your name?

STUDENT 3

Paul.

PRESENTER

Paul. And what's your name?

STUDENT 4

Stephen.

PRESENTER

Paul, Stephen, what school are you from?

STUDENT 3

St. Audeon's.

PRESENTER

Okay, we are sitting in front of two lap-tops, what's going on here, tell me?

STUDENT 3

This is what we do to programme our machines, our lego, and you get a tower which is mainly the part that talks the RCX, that powers all the lego.

PRESENTER

Okay, I'm completely lost, what's RCX?

STUDENT 3

RCX is the brick that you put batteries into it, and it powers everything. You can get a wire, you can get touch sensors or light sensors and you can use it all and as you can see here it's all attached.

PRESENTER

Stephen, what's this here in front of us on the lap-top?

STUDENT 4

DCR is a touch sensor, you get this part here, an RCX block, and you put the touch sensor pin in the RCX block and then you programme it. This is how we programme the crane there.

PRESENTER

We walk over here, what's happening on the lap-top is happening here and this is like a lego - - -

STUDENT 3

A garage – Stephen will tell you more about this.

STUDENT 4

This was going to be a hotel but we decided to make a garage under construction so we put these two pillars there and we put lights on to attract attention and we named – we named the garage after the school and we named this after the principal.

PRESENTER

Yes, Monaghan Construction, who you love so much?

STUDENT 4

Yes.

PRESENTER

And how old are you?

STUDENT 3

I'm 11.

PRESENTER

And how old are you, Stephen?

STUDENT 4

I'm 11.

PRESENTER

And for 11-year-olds you seem to know a huge amount about robots and that kind of thing. Where did you learn all this?

STUDENT 3

We just like – this all came out of – straight out of our heads, so we just thought of ideas and transport. We've got the train there, we've got two cars there, we've got Thomas Edison Ford, and we've got the - - -

STUDENT 4

There's Mr Monaghan there, that fellow.

PRESENTER

Hi there.

STUDENT 3

We're talking about what the crane is named after. This is the transporter which has been made by Daniel Keogh and Danny Abidou.

STUDENT 4

We need a big thing – we needed a truck to deliver parts to the garage.

PRESENTER

So everything moves and lights come on?

STUDENT 3

Yes, do you want to see it?

PRESENTER

I'd love to see it. Right, it's moving by itself.

STUDENT 4

It's called the Cook St. Luas.

PRESENTER

Does the train move?

STUDENT 3

Yes, there it is now. It moves in different directions.

PRESENTER

That is brilliant, isn't it? That must be the only Luas in Dublin that is actually working.

STUDENT 3

To tell you the truth, about 8 people have said that exact same thing.

PRESENTER

I'm so unoriginal, very unoriginal. Mr Monaghan, of Monaghan Construction.

MR MONAGHAN

I've nothing to say.

PRESENTER

This is amazing and your kids are so confident and able and it's just incredible to see what they have done.

MR MONAGHAN

Yes, it surprised me how much interest they had in it and how well they produced the stuff they produced.

PRESENTER

What do you think of this kind of use of digital technology in the classroom, how do you think it affects the kids, does it benefit them?

MR MONAGHAN

Well, it makes teaching easier, kids are interested in coming to school when they are working on this. It adds a new dimension to learning and to teaching.

PRESENTER

And for those who might say it takes the human touch out of teaching, what would you say to them?

MR MONAGHAN

I started teaching 32 years ago and given a roll book and a stick and told to get on with it. I think this is much better than the stick.

PRESENTER

Well done, it's just brilliant.

MR MONAGHAN

It is brilliant.

PRESENTER

A similar initiative is taking place here in Media Lab Europe just around the corner from the Digital Hub. Computer Clubhouse is serving the community of the Liberties by providing a creative and safe after school facility for children to use computers. I spoke earlier to Media Lab's Barry McDarby and began by asking him a bit more about the Computer Clubhouse.

BARRY McDARBY

Basically, it's an after-school learning centre for children that may have dropped out of school and essentially what we use, we use state-of-the-art technologies to enable kids to develop familiarity with ICT and computer technologies. How it works is we have a strong volunteer element, people give their time a couple of hours a week that are experts in animation and multi-media, mixing sound and all that kind of stuff – and they sit down with kids and they show them how to do this kind of stuff, and they work on projects that the kids are passionate about.

PRESENTER

Essentially you are providing facilities for the under-served in the community around here.

BARRY McDARBY

Yes, it's the strongest way we think to connect with the local community. Basically we're a technology innovation lab and how better to show how we can be innovative with technology than to show how we can include people from all dimensions of life.

PRESENTER

It is quite a contrast, you have a high tech facility here with all these innovators and obviously out the door you have areas in Dublin that are quite under-served.

BARRY McDARBY

Yes, the Liberties is a fantastically rich cultural area. In the last few years it has gone through difficult times with the brewery shrinking back and unemployment is quite high and as a consequence that generates its own difficulties so it seems strange to suddenly put a state of the art laboratory into an area with those difficulties without looking at some way in which we can help that community that is very rich and talented and cultural.

PRESENTER

Tell me a bit about the people who go along here, they are not just children, they are also adults?

BARRY McDARBY

Yes, that's true. Initially the Clubhouse evolved for looking at a youth project for young children maybe 11 to 18 working on multi-media projects but the facility is open after school. We don't want to bring children from school but after the school hours we have it open to things like single mums and the aged in the community and we even have a programme with prisons where kids coming out of prison can work with a Garda and look at a programme in the Clubhouse for a couple of weeks.

PRESENTER

And I suppose it's not just something for enjoyment, people learn if they have a passion for something and children do tend to have a passion for computers.

BARRY McDARBY

Well, that's it, the fundamental thing you want to create in a clubhouse is confidence and people love technology, it's great, you can do incredible things. So the idea basically here is

using that interest, they come in and they get passionate about the projects they are working on. They can do cool things, they can edit videos, they can make their own music, they can do web pages, all that kind of stuff. And you are playing on the idea that that is what they want to do and once they come they create the confidence to say, "I can do anything, I can make animations". And once they have the confidence, hopefully they can go on to do other things.

PRESENTER

And I suppose it addresses this idea of the digital divide. We have heard international speakers here talk about how digital technologies can be used in the classroom but for a lot of people, for a lot of schools, they just don't have the money to do that, so it does create this digital divide, yet something like this helps to bring that together.

BARRY McDARBY

Well, the fundamental idea for me is it's not necessarily the technology here, it's the fact that you have people who have gone to Trinity or University College Dublin or whatever, who are sitting down with children who have dropped out of school and I think it's actually crossing the digital divide that this technology is enabling to happen and that's the really powerful thing, because once you have those people mixing and connecting, the perspectives on both sides of the digital divide change and I really believe that we are not going to solve the digital divide issue by throwing technology across the divide, it really has to be about people and this is a great way of enabling that.

PRESENTER

And this is one of 100 Computer Clubhouse worldwide and I gather from what you were talking about earlier, there is going to be another one in Ireland.

BARRY McDARBY

Well, it's not quite there yet. Intel have agreed to fund 100 Clubhouses worldwide. There are actually more than 100 because you don't have to be funded by Intel to join the Clubhouse network. We are in negotiations with Intel at the moment about the possibility of a third Clubhouse in the north of Ireland, specifically in Belfast, and those negotiations are at an advanced stage and we are hopeful of a positive outcome.

PRESENTER

Thank you very much for joining us and when we saw one of the kids earlier in your presentation from the Computer Clubhouse, it was just fabulous.

BARRY McDARBY

Yes, he's fantastic.

PRESENTER

Thank you very much indeed.

BARRY McDARBY

Thank you.

PRESENTER

And that's it for this week.
