

Hello and welcome to this presentation. My name is Dr. Konstantina Martzoukou, and I'm Associate Professor at the University of Robert Gordon University 0:00

It is a privilege to present this invited talk today as part of the International 0:10

Research Symposium of the National Institute of Library Information Sciences. 0:16

Our interdisciplinary research on empowering students' digital literacy skills. 0:20

addresses the digital technologies and the ICT theme of the symposium so thank you very much for the invitation, 0:25

and I'm delighted to be part of this, connecting with you virtually. 0:32

So what is this project about? Digital literacy started as an institutional project back in 2021 0:36

And it was led by myself in collaboration with leading teams from six different schools at Robert Gordon University. 0:43

So the aim of the project was to drive and support the development of digital literacy 0:50

skills among our students and in line with UK and global strategic priorities 0:56

the project followed different iterations, and as part of this talk, I will discuss the data from the nursing students. 1:02

And so what we plan to do with this project is open dialogue and conversations around the provision of digital literacy enhancement and support 1:12

and the project, to-date has gathered thousands of student data collectively across the different data collection phases of the project. 1:22

So here you can see my collaborator, Dr. Errol Luders, Ms Jane Mair, Mr Neil Johnson and Dr Fiona Work 1:34

from the School of Nursing, midwifery and paramedic practice. 1:40

And why is this project important for healthcare? 1:47

In 2016, the Royal College of Nursing said that every nurse should be an e-nurse 1:51

able to use technology to maximum effect. 1:56

For example, supporting personalised real time monitoring and therapeutic care approaches. 2:01

But in order to achieve that position, it was important to empower a future workforce with digital skills. 2:08

So that was important back then and is equally important today. 2:17

With all the advancements that have taken place in technology, 2:22

especially with the development of artificial intelligence that we talk a lot about today. 2:26

So I thought to start with this infographic because it looked at the everyday life context, 2:33

it has been developed by the Good Things Foundation and it addresses the challenges of inequalities created by the digital world. 2:41

So it is really important because we need to place digital inclusion strategies at the heart of higher education, 2:52

and our students may be easily found in the wrong side of this digital divide. 2:59

For example, 3:08

the International Federation of Libraries Associations says that differences in digital skills levels and attitudes often replicate those in society as a whole. 3:08

So the digital divide for which much the same fault lines as pre-existing, gender, economic, social and education inequalities. 3:21

So in this infographic, you can see that in everyday life in the UK 3:31

one in 14 UK households has no access to the Internet. 3:34

2.5 UK households struggle to afford fixed broadband services. 3:40

But also there are more than 5 million people who are digitally excluded. 3:45

And there are socioeconomic differences that create these digital divides. 3:49

And even at the level of the frontline healthcare professionals and the Good Things Foundation has done some research there, 3:55

and especially in terms of the pandemic, there was a lot of difficulty to cope with healthcare systems and there was an accelerated need
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for more advanced digital skills to cope overall with this transformation within healthcare.
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And these digital divides do not only manifest themselves within the everyday life context, but also with the professional context.
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So moving on from there, we have many different frameworks and projects for the development of digital literacy in health
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However, overall, incorporating digital skills training to healthcare curricula has generally been slow.
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In addition, digital skills or capability frameworks usually look at digital healthcare technologies rather than
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the behavioural and the goal setting and the outcomes and the mindsets around digital skills.
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And what this means is that different frameworks have been looking at technical proficiency issues.
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But how we are addressing digital skills in education have mainly focussed on those
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ICT elements rather than the other dimensions that involve communication,
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collaboration, participation and ongoing self-development, which are equally important behavioural aspects.
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So in terms of the aims and objectives of the project,
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these were the original project objectives and Objective four aimed to develop a number of resources for the upscaling of students,
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because a lot of the frameworks and the self-assessment,
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digital literacy skills toolkits that exist out there stop at the level of self-assessment and there was really not much in terms of upskilling.
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We also did focus groups with different students and at the moment we have different iterations of the survey and we are developing
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the toolkit to be more discipline based and starting with a focus on health and then possibly moving on to other disciplines as well.

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Here you can see the main frameworks we used, the European Digital Competencies
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Framework and also the JISC Digital Capabilities framework. Really these informed
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the different levels of digital skills that we explore.
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And I'm going to show you now these skills and then maybe select some examples.
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Here you can see information literacy is one of them, which is really important for
developing the ability
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to access, evaluate and use healthcare information to support evidence based
practice,
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for example and perform clinical activities but also digital research that has to do
with conducting actual research,
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using survey tools and organising and interpreting research data.
7:02
Beyond those, we've had other areas for example, digital creation and creating
videos,
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infographics, posters which are important in terms of health care provision to
connect with patients and to disseminate health related information effectively,
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and also digital innovation that has to do with health initiatives, either technology,
for example,
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telehealth initiatives, the use of smartphones and health online applications for
remote consultations.
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So all of these digital competencies were self-assessed by students using a digital
competencies scale that had a specific description on it.
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So it would be more comprehensive for the students.
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And we used the survey with many, many different students.
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To-date there have been definitely more than 1000 students who have taken the
survey.
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But we're going to report all the results from that reiteration of the survey with the
nursing students.
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So we've had students representing different generational categories, as you can see here. 8:24

And this set of results relates to 184 students. 8:30

Since then, we have another 553 students from nursing. 8:35

We're currently analysing this data and we've also added neurodiversity and other digital divide. 8:39

I would say important considerations for example rurality is one of them 8:49

So there will be some very interesting findings from that analysis as well. 8:55

And also in our survey with the nursing students you can see here that most of them were in a blended mode of study because it was 9:00

during the pandemic when we conducted this survey and most of them were the first year. In terms of the courses they studied 9:08

You can see here the majority of them were nursing courses in different areas. 9:18

And also beyond the course, we had 176 UK students and 39 international students from many different countries from Bahrain, Switzerland, 9:23

Denmark, Cameroon, Hungary, Ireland, India, Lithuania, Nigeria, Poland, Russia and many other countries represented. 9:35

So it's quite interesting to see the results, although we didn't really have the balance there in terms of international students, 9:45

So in a future iteration, we will aim to make some cross comparisons there, In terms of higher areas of self-assessed digital competencies 9:52

You can see the main areas there and this is not surprising, especially around the area of digital wellbeing, because this is an area where 10:03

Health and nursing students generally feel very confident in. 10:12

But when it came to the lower areas, it's important to highlight information literacy, the ability to access, evaluate, 10:18

and use healthcare information, which is very important, and that self- assessed at basic level 10:26

As well as digital creation skills, video creation, infographics, data visualisation and analytics. 10:32

Those created many barrier for students because they self-assessed at a very novice, the lowest category of of skills. 10:39

Also digital research skills and digital innovation are really important and crucial for nursing because students should really be aware of digital 10:48

innovations in their area and be champions actually and lead digital initiatives where they go out there to become nursing professionals. 10:58

And so we need to invest more in this kind of education, research and practice. 11:09

But there was also an overarching question about overall digital abilities and overall as a group self-assessed at intermediate level. 11:16

But bear in mind that they were also first year students. 11:24

So in a way, this helped us to understand where the students really perceive themselves and therefore build more 11:27

support for them. We performed some statistical testing in terms of demographic comparisons. 11:35

And you can see here on the basis of younger students, we found that they self-assess higher, 11:42

but also in terms of pre-registration students and they also self-assessed higher than post-registration students so overall we found that younger students 11:47

self-assessed higher but it would be the effect of the feeling that you are more confident that you really are. 11:56

But it wasn't this a consideration in our project because the main purpose was not really to objectively assess the students, 12:07

but to open up conversations and find out why they self-assess in the way they did. 12:15

So we collected some qualitative data as well as you can see here. 12:20

And very interesting that they they learned mainly through trial and error approaches and being self-taught and also within their domain of training. 12:25

It was really informal learning of family environment rather than so much the more formal e-learning approaches there.

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So there is a lot of opportunity to develop this at higher education levels.

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And also there were many qualitative comments that emphasised the importance
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of digital skills development for students in a number of different areas,
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and this really helped us to understand that different digital skills
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And different digital skills help students in different ways.
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For example, students with special needs, emphasised how important it is to have
support for the development of these skills.
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And that's why in our new one iteration of the survey, we included neurodivergent
students as well,
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Also they emphasised graduate employability, digital collaboration, information
literacy and so on.
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And as well as important here is the transferability of digital skills and to be able to
understand that,
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you know, all these skills are important for students to address challenges in their
academic work,
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but also they reinforce the importance of interacting with others, communication
and flexibility and they help them to boost their employability as well.
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This is the paper that we developed. And so have a look if you are interested to find
more details about the project.
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And now I would like to give you an overview of the Digital Competencies Toolkit
that we have developed.
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It looks like that's your first recommendation.
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It includes internal and external resources training that will collate and we co-create
this with students because it
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is an organic document and obviously knowledge is constantly changing in this
domain as well as the training resources.
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And we are planning to develop and have actually developed the first version of this
using Articulate,
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because our aim is to develop this as part of the new programme at RGU (Robert Gordon University). 14:37

That's called RGU Plus here at the university. 14:41

And so it is based on an extra credit and recognising learning that is done beyond the classroom. 14:45

So we want to build a module. So we have decided to give it another format to this that our students and academics will find it very helpful. 14:55

But this really is all I had to say. 15:07

Please do get in touch with me to find more about the project and even work together if you're interested in those areas. 15:10

What I would like to do now is actually show you a little bit what the toolkit looks like in terms of it's version that is the e-book version 15:17

that we have developed not the Articulate version and so that you can see how it looks like flipping the pages of a book. 15:29

You can flip the pages and you can select the different links. 15:39

And it's good because the students also develop technical skills and they help us to create this on Canva, which is the tool we are using. 15:43

And you can also download this as PDF 15:51

And so we are working more now with the Neurodivergent students to make this more accessible and easier for them as well. 15:54

So this is all I have to say for today. 16:02

Thank you so much for listening to my presentation. I was delighted to be part of this. 16:05

Thank you so much for taking the time and please do get in touch if you're interested in this and I look forward to hearing from you. 16:10

Thank you so much. 16:20