TELL US YOUR DIGITAL STORY

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Abstract

The idea for this research grew from our Anglo-Czech alliance established in 1994. Various major projects funded by the European Union, the British Council and other bodies have strengthened the understanding and friendship between English and Czech colleagues in the MirandaNet Fellowship (mirandanet.ac.uk) that is a professional community of practice in education innovation with 1,200 members.

In this paper we will present the results of our research into the future conducted in MirandaNet context. Our aim is to tell the story of the impact of digital technologies on learning and life and about how MirandaNet Fellows see digital technologies having an impact on our future. We created a questionnaire that we distributed in the UK and the Czech Republic. About half of the participants are teachers, one quarter are students and the others are people who are not in the education system any more. Everyone answered the same questions, but from different perspectives because we wanted to compare the experience of technology in different generations – our participants range from 11 years old to 94. Here we present evaluation of a first respondents indicating that the sophistication of digital users across the generations is growing.

Keywords: Information technologies, education in IT, digital story, future of digital technologies.

1 INTRODUCTION

Two of authors of this paper, both grandmothers, were born thirty years before digital technologies became ubiquitous in our society: watching television, withdrawing money from the bank, shopping in e-shop, using Google translate, driving cars, making a telephone call, reading books on an e-reader or listening to a book read by an actor, connecting with friends in social media and word processing our thank you letters.

The research is about the role of digital technologies in society and education. Yet, defining all things related to computers is not easy at all. In education for example, since the 1980s, we have had the terms ‘Information Technology’, ‘Information and Communications Technology’, ‘Telematics’, ‘Computing’ and more. In England, ‘EdTech’ seems to be the word of the moment in the UK: ‘computing’ in the Czech Republic. In the wider world we use the phrase, ‘digital technologies’, to mean any kind of device, service or software related to computers that impacts on your learning, teaching and life. This is generally the term we use in the questionnaire used in our research.

2 METHODOLOGY

In the context of writing about the impact of digital technologies on society and education, positive and negative, we asked MirandaNet fellows and their friends to tell their stories about how computers have impacted on their life in education, work and leisure and about how they see the future. In this first pilot stage, we have more than thirty answers. In the next stage we are aiming for at least 100 to answer a refined questionnaire.

The questions first interrogate the profile of our pilot cohort. The second section of questionnaire “Learning about digital technologies”, enquires about the participants’ education in the use of technology. Thirdly, we asked about specific examples of the use digital technologies in the respondents’ lives in order to compare generational differences. Finally, we asked what they saw as the benefits and the dangers.
3 FINDING AND DISCUSSION

3.1 Section one: The profile of respondents

First, we asked our sample, who are you? In fact, in this first pilot stage, Fig. 1. shows that 81% of our respondents were university educated. We will ask more people with other type of education in continuing research.

![Figure 1. Respondents education.](image)

Fig. 2 shows the employment of the respondent. Since we first turned with our questionnaire to a MirandaNet community many of them are teachers.

![Figure 2. Respondents employment.](image)

Although there tend to be more women than men involved in computing in our respondents there were more women than men that might have had some influence on these pilot answers. Also most of the respondents were over 40 (Fig. 3).

![Figure 3. Respondents age.](image)

50% of respondents were born in town and 48% still live in the town (Fig. 4.)
3.2 Section two: Learning about digital technologies

The first question about digital education was: what did you learn at basic/primary and/or secondary school about digital technologies? Because more than half our respondents were over 40 it is not surprising that almost all the answers were: Nothing at all at the time. The answer was the same even if lessons about computers had been available. This latter response may need unpicking.

None of the respondents had learnt about digital technologies at college/university in the 1970s but from about 1990 onwards they had developed basic computer skills at home although nothing in formal education. There are some answers:

- Nothing. All work was handwritten.
- Programming, applications, databases etc.
- We had to do some lab work and had to manage printouts with large slow dot matrix printers. We would leave them running overnight and collect the large pile of folded paper in the morning. I suppose it taught me basic principles of accuracy, document storage and things like limiting file names to 8 characters.
- Nothing in the 1970’s but from about 1990 onwards had a basic computer at home -nothing in school
- I learnt nothing at university, but was introduced whilst on an exchange in America to Word as a writing software.
- They had learnt ‘a lot more’ about digital technologies at work
- I am learning all my life, as CS is quickly developing area: new principals, new SW and HW. That is great challenge!
- I’ve worked in digital change in the workplace for almost 15 years now and love that it’s a never-ending cycle. I love it.
- It made my work a lot easier and faster
- Very little. Learnt how to open and write Doc’s and save basic things. Also became very able at browsing the Internet for information.
- To use computers to write reports
- Too much to write down just now

Most admitted to being self-taught in digital technologies. They had achieved this by watching and asking. One respondent said, “I taught myself largely in order to teach others. I enjoyed the help of family and colleagues on the way

- I watch what people are doing and have a go myself.
- Yes, by reading a lot and doing personal research especially on web development and using ICT as a tool for learning
- Husband-taught!
- Professional training
- Yes. 99%.

Clearly I am “self-taught” to some extent, particularly on tools I use outside work
We were surprised that nearly 85% had joined online courses.

![Figure 5. Have you joined online courses?](image)

In addition, despite the lack of digital education in their early life, 64.5% had taught in online courses. This suggests that a large proportion of our sample are now involved in digital education in some way as this is an unlikely result across the general population. Since the sample was drawn from the MirandaNet Fellowship members and their friends there was bound to be a digital innovation bias.

![Figure 6. Have you taught in online courses?](image)

If you have been involved in online learning what are the benefits and the challenges compared with face to face teaching? Few answers:

- The benefits are numerous to me, students can be self-paced, also I think you not under any pressure and are open to ask questions especially when the platform is very friendly.
- You can learn wherever and whenever you can, at a speed that suits you. However, the courses must be well-designed in a suitable SW
- On-demand learning can fit better around other commitments, but can be quite isolating if there is limited integration. Real-time online training making use of video conferencing tools and breakout spaces enable people to work and learn together from different countries and regions.
- As a teacher, the challenge of teaching with no feedback or response. As a user the challenge is staying engaged.

There is a global argument raging about what kind of Computing should be taught in schools today. We enquired, therefore, about the relative importance of three main strands: computer science, information technology and digital literacy. In Figures 7, 8, 9 the columnar charts show the different value the respondents assigned to the three strands of computing in the education of children [1, 2]

**Computer Science** - how computers work and how to code

![Figure 7. Computer science.](image)
Information and Communications Technology - using computers in everyday life like word processing or spread sheets

Digital Literacy also called Media Studies - learning about the provenance of information and about how information can be faked

3.3 Section three: Specific examples of digital technologies use

In this section our interest was in which digital services and tools are most available now and widely used (Fig. 10) and what the opinions of our sample were on the value of these devices. We found that the range of tools used on a Smart phone clearly support our samples personal and work lives.
The cohort was not so clear about how children should use them. Views about whether Smart phones should be banned in schools or not were mixed:

- No; students need to be shown how to use them for safe, respectful and just-in-time reasons
- Yes, because bullying is such a problem

Most of our respondents said they used most of the social media available e.g. Twitter, Facebook, Instagram, WhatsApp and Linked In.

- All of them, but not very often
- Facebook
- Just few answers None

Over two thirds were willing to pay, or considering paying for these services in order to gain more privacy and freedom from adverts (Fig. 11.)

Some itemised the benefits of social media that they could foresee like “easy communication with many” whereas others commented that “these services are more trouble than they are worth”. In this context they identified many dangers of social media.

- over-use for marketing
- the drowning out of real communication
- the potential for trolling created by anonymity

In the worst cases they thought that social media were, in fact, antisocial: promoting fake news, group think as well as superficial and shallow discussion.

Some respondents admitted they had stopped using a digital service: for example:

- I stopped using Facebook as I found I was at a low point and I was just about to rant and thought, no, this is not healthy, left 5 months ago and haven't looked back.

However, there was enthusiasm for robots and virtual assistants in their homes amongst the few who were early adopters comfortable. Robot floor cleaners were mentioned: ‘this is fantastic: more time for us and a cleaner house’. ‘Alexa’ was also valued for storing the shopping lists.

Our sample did not want to see newspapers disappear as more people read their news online. But almost all of them now shop online. Comments about online shopping included:

- All the time now.
- YES. Saves time going for shopping and chance of getting confused is minimized as you choose quickly and more readily in an online store
- Yes. Highly convenient.
- Just browse

In terms of security some revealed concern about the recent online banking problems and data leaks. One person said this information made her more nervous whereas another said he was very careful about security.

In terms of computer games there was not much enthusiasm for playing:
I do not play computer games. Only some very simple board games; I like to play Scrabble and Word games on the computer; I get very bored; I'm not interested in games.

However, one of our respondents was one of the first adventure game authors:

I wrote two educational adventure games in the 1980s and believe that they have great potential for learning.

There were fears amongst this highly educated group that the increased use of texting, visuals and video for communication is affecting our language. A small number feared that the everyday use of English grammar and punctuation is being eroded. Others who were not English commented that they were sometimes limited in what they could say because they were not communicating in their mother tongue.

3.4 Section four: Hopes and fears for the future

Finally, in this digital context, the respondents expressed very varied hopes and fears for the future:

I hope people will be able to write by hand when they leave school.

Technology will improve lives and lifestyles. But also technology can begin to control us excessively and absolutely

I hope people will be able to read and write by hand after 15 years.

I will want to say that the basic fear is thinking we can create a complete thinking machine, AI has its limitations, and as long as we see digital technology as an enabler we fine

Fear a future where algorithms are rolled out blindly and developed by a small subset of people. Also that learning will become individualized instead of personalized, losing social and serendipitous learning.

It will improve lifes and lifestyles. Technology can begin to control excessively and absolutely

I worry that social media could undermine face-to-face social relations and enhance the opportunities for the spread of fake news, since the internet is largely unregulated. Against that, the dissemination of knowledge is greatly enhanced e.g. the ability of anyone - not just scholars - to enjoy digitized versions of great art, the contents of museums, videos of distant countries - the list is endless - is clearly a huge advantage.

Less direct communication between people - less conversation - people living in isolation in their own digital world.

Technology can support so many hopes and can be equality based. I would not want decisions to be made by AI - ultimately they are governed by algorithms, largely written by 24-30-year-old men

4 CONCLUSIONS

We believe throughout our work that being in a professional community of learners is very important in arming digital users against the worse dangers of the digital age [4, 5, 6, 7,9]. Because we have drawn our sample from people who are members of the MirandaNet Fellowship and their friends we hoped to trace the value of sharing and learning in professional communities. Debating is vital to encourage wide ownership of the issues [10]

Although the pilot sample is small there are clear indications that our respondents want to learn from each other in the absence of effective information from their education. Nevertheless, what we have learnt from our pilot is that we must aim to target more people who have not attended university and those who are not educators in computer related areas. We will also concentrate on asking more students to reply. However, although the sample is small we can begin to draw some conclusions about the history of computing in education and society and about how digital technologies are impacting on our lives across the generations.
Firstly since half the respondents were aged from 61 to 80 this suggests that they may have more time than younger people – or are they more curious about how they stand in this digital age? Most were over 40 so we need to target more younger people in our next stage to make comparisons.

Not surprisingly given the age of the respondents, 80% said they had not learnt enough at elementary and high school or at the university. Some had left education before technology had begun to have a profound impact on society, but amongst the younger respondents a need was expressed for more and better education in the use of technologies and, particularly, in digital literacy and digital citizenship. In fact, in England there is serious concern that computing education in schools has reduced since 2010 because of a change to a Computer Science curriculum and the problems of staffing this [3, 8].

Despite the lack of formal education in computing 95% of our sample, even the older respondents, now use smart phones to access maps, cameras, alarm clock, photo albums, calculators, internet, e-mail and social networking. One active user is 94 years old. Does this mean that computer use is more about attitude and education than chronological age?

Overall, we found that our grandchildren’s vision of the world through the smartphone screen is very different from the access we had to information outside school. Some benefits do accrue from the application of digital technologies to our leisure and our business activities. For example, self-publication is open to those who have the skills and we can connect more frequently with far-flung relatives and friends through video conferencing, although the paperless society we were promised is a long way off.

But a key concern for our respondents is about the security of their information. In fact, in order to ensure privacy, 85% of our respondents were willing to pay for internet platforms and services. It seems free social networking is now seen as a benefit to the company rather than the user as people become wiser about data collection and the use of algorithms. Our hope is that more sophisticated computer education in schools and universities will increase the sophistication of digital users, reduce the dangers and put them in control of the benefits.

REFERENCES


